PUBLIC REVIEW DRAFT

ENVIRONMENTAL IMPACT REPORT

TRACT MAP 6343

CLOVIS, CALIFORNIA

LSA

January 2024

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Notice of Availability
Tract Map 6343
Draft Environmental Impact Report

DATE: January 19, 2024

TO: Office of Planning and Research, Responsible and Trustee Agencies, Other Public Agencies and Other Interested Parties

SUBJECT: Notice of Availability of a Draft Environmental Impact Report for Tract Map 6343

LEAD AGENCY:
City of Clovis
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COMMENT PERIOD: January 19, 2024 to March 4, 2024

Notice is hereby given that the City of Clovis (City), as the Lead Agency, has completed the Draft Environmental Impact Report (EIR) for Tract Map 6343, which is being distributed for public review pursuant to the California Environmental Quality Act (CEQA) and the California Public Resources Code.

The City has sent a copy of this Draft EIR to the State Clearinghouse and to those who requested a copy by responding to the Notice of Preparation (NOP). The City has also posted a copy of this Notice of Availability at Clovis City Hall and posted in The Business Jourrnal.

PROJECT LOCATION

The Tract Map 6343 Project (Project) site is located directly north of the City of Clovis limit line at the southwest corner of the East Behymer Avenue and North Sunnyside Avenue intersection. The Project site is bounded by East Behymer Avenue to the north, by the Enterprise Canal to the west and south, and by rural residential, a Fresno Metropolitan Flood Control District (FMFCD) ponding basin, and Tract Map 6200 to the east. The Project site is in the northwest quadrant of Section 20, Township 12 South, Range 21 East, Mount Diablo Base and Meridian (MDBM).

PROJECT DESCRIPTION

The proposed Tract Map 6343 would consist of the annexation of 246 acres from Fresno County to the City of Clovis, and the development of 590 residential lots within the 71.54-acre project site. The proposed lots would be developed into single-family residences over time. Sixty-six outlot spaces would be developed into private roads, private parking, pedestrian walkways, landscaping, public utilities, and public park uses. No development is proposed within the remaining 174.46-acre annexation area surrounding the project site. Associated entitlements include Annexation to the City of Clovis and a Planned Development Permit, General Plan Amendment, Prezone, and Tract Map approval to allow for 590 single-family residences. To facilitate the future development of the subject property, the proposed project will also require dedications and/or acquisitions for public street rights-of-way and utility easements, as well as the construction of public facilities and infrastructure. A detailed project description is provided in the Draft EIR.

SIGNIFICANT ENVIRONMENTAL EFFECTS

The Draft EIR has identified the following environmental issue areas as having significant and unavoidable environmental impacts from implementation of the project: Greenhouse Gas Emissions, Transportation and Cumulative Impacts. All other environmental issues were determined to have no impact, less than significant impacts, or less than significant impacts with mitigation measures incorporated into the Project.

Public Review Period

A 45-day public review period for the Draft EIR will commence on January 19, 2024 and end on March 4, 2024. Any written comments on the Draft EIR must be received at the above address within the public review period. Copies of the Draft EIR are available for review at the Attn: Lily Cha-Haydostian, MPA, Senior Planner at the City of Clovis, Planning Division, 1033 Fifth Street, Clovis, CA 93612.The Draft EIR also may be reviewed at the City of Clovis' web site https://cityofclovis.com/planning-and-development/ceqa/. If we do not receive a response from your agency or organization, we will presume that your agency or organization has no response to make.

PUBLIC REVIEW DRAFT

ENVIRONMENTAL IMPACT REPORT

TRACT MAP 6343

CLOVIS, CALIFORNIA

Submitted to:

City of Clovis
Planning Division
1033 Fifth Street
Clovis, California 93612

Prepared by:

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Project No. CIT2201

LSA

January 2024

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TABLE OF CONTENTS

APPENDICES

FIGURES AND TABLES

FIGURES

TABLES

1.0 EXECUTIVE SUMMARY

This chapter provides an overview of the purpose of this Environmental Impact Report (EIR), proposed project and its environmental impacts based on the analysis included in this EIR, including a discussion of alternatives and cumulative project impacts. As required under CEQA, this chapter also includes potential areas of public controversy known to the City of Clovis, the lead agency for the proposed project.

1.1 PURPOSE

This Draft Environmental Impact Report (Draft EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the proposed Tract Map 6343. This EIR has been prepared in conformance with CEQA, California Public Resources Code Section 21000 et seq; the California *CEQA Guidelines* (California Code of Regulations, Title 14, Section 15000 et seq); and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Clovis (herein referred to as the City).

This EIR is intended to serve as an informational document for the public agency decision-makers and the public regarding the potential environmental impacts associated with the construction of the proposed project. In addition to identifying potential environmental impacts, this EIR also identifies potential mitigation measures and alternatives to reduce potential significant environmental impacts.

Environmental impacts cannot always be mitigated to a level that is considered less than significant. In accordance with Section 15093(b) of the *State CEQA Guidelines*, if a lead agency, such as the City of Clovis, approves a project that has significant impacts that are not substantially mitigated (i.e., significant unavoidable impacts), the lead agency shall state in writing the specific reasons for approving the project, based on the final CEQA documents and any other information in the public record for the project. This is identified in Section 15093 of the *State CEQA Guidelines*, "a statement of overriding considerations". These potential impacts are discussed in more detail throughout Chapter 4.0 of this EIR.

1.2 PROJECT SUMMARY

The following provides a summary of the project location, project description, project objectives, potential significant and unavoidable impacts that could result from the proposed project, and a list of the agencies responsible for implementation of the proposed project and approvals required for the project.

1.2.1 Project Location

The City of Clovis is in the central portion of Fresno County, approximately 6.5 miles northeast of the City of Fresno downtown area. The project site is in an unincorporated area of Fresno County. The project site is within the Sphere of Influence of the City of Clovis, and within the Northwest Urban Center area identified in the City's General Plan, now referred to as Heritage Grove. The project site

is bounded by East Behymer Avenue to the north, by the Enterprise Canal to the west and south, and by rural residential, FMFCD ponding basin, and Tract Map 6200 to the east.

1.2.2 Project Description

The proposed project would consist of the annexation of 246 acres by the City of Clovis, and the development of approximately 590 residential lots, averaging approximately 3,329 square feet within the 71.54-acre project site. The proposed lots would be developed into single-family residences over time. The project site would also include 66 outlot spaces that would potentially be developed into private roads, private parking, pedestrian walkways, landscaping, public utilities, and public park uses.

No development is proposed within the remaining 174.46-acre annexation area surrounding the project site. The proposed project would include annexation of the 246-acre area from Fresno County jurisdiction to the City of Clovis. Any future development occurring within the annexation area would require a separate project-specific analysis. The proposed project would be developed in three phases, as described below.

1.2.2.1 Phase 1

Phase 1 would include the development of approximately 136 single-family residential units with an average size of approximately 1,514 square feet per unit. Phase 1 would be located on the southern portion of the project site and would be accessed through one ingress and egress street and one egress street located on Perrin Avenue. Phase 1 would include the construction of approximately 44 parking spaces, an approximately 8,745 square-foot community pool and recreation area, an approximately 13,930 square-foot community park, approximately 0.51 acre of landscaped areas, and drainage and pedestrian infrastructure improvements along Perrin Avenue. The southern extension of North Baron Avenue from East Behymer Avenue and the extension of Perrin and Hammel Avenue within the project site would be constructed during Phase 1.

1.2.2.2 Phase 2

Phase 2 would include the development of approximately 214 single-family residential units with an average size of approximately 2,168 square feet per unit. Phase 2 would be located on the central portion of the project site and would be accessed through one gated ingress and egress street located along the future southern extension of Baron Avenue, and one gated ingress and egress street along Hammel Avenue. Phase 2 would include the construction of an approximately 26-foot-wide drainage channel along Perrin Avenue, approximately 0.35 acre of landscaped areas, as well as storm drainage and pedestrian infrastructure improvements along Perrin Avenue and Hammel Avenue.

1.2.2.3 Phase 3

Phase 3 of the proposed project would include the development of approximately 240 single-family residential units with an average size of approximately 1,514 square feet per unit. Phase 3 would be located on the northern portion of the project site and would be accessed through two gated ingress and egress streets along the future southern extension of Baron Avenue, and through one gated egress street access along the future northern extension of Hammel Avenue. Phase 3 would

include the construction of approximately 91 parking spaces, an approximately 9,985 square-foot pool and recreation area, approximately 0.65 acre of landscaped areas, and drainage and pedestrian infrastructure improvements along Baron Avenue.

In addition, development of the project site would include infrastructure improvements for water services along the East Behymer Avenue frontage and Baron Avenue frontage, as well as stormwater management infrastructure improvements along the Perrin Avenue frontage. The proposed project would also construct a two-lane, approximately 49-foot-wide and 2,650-foot-long extension of Baron Avenue south of East Behymer Avenue.

1.2.3 Project Objectives

The following is a list of objectives for the proposed project:

- Provide residential housing opportunities that are visually attractive and accommodate the future housing demand in Clovis.
- Establish a mixture of housing types, sizes and densities that collectively provide for local and regional housing demand.
- Implement the City's General Plan Land Use Element goal to facilitate annexation of large areas of land.
- Provide infrastructure that meets City standards and is integrated with existing and planned facilities and connections.
- Develop a project that meets City Standards by implementing a logical phasing plan for development of public infrastructure improvements.

1.2.4 Significant Unavoidable Adverse Impacts

The proposed project would result in the following significant unavoidable impacts:

- Transportation – potentially exceed thresholds of levels of service on roadways in conflict with approved General Plan and increase in VMT.

1.2.5 Lead Agency and Trustee Agencies

The lead agency for the proposed project is the City of Clovis. The City is the public agency that has the principal responsibility for certifying the EIR, approving or carrying out the project, or disapproving the project.

The responsible agencies are State and local public agencies other than the lead agency that have authority to carry out or approve a project or that are required to approve a portion of a project for which the lead agency is preparing or has prepared an EIR or Negative Declaration. There are no agencies other than the City of Clovis that have approval or permitting authority for the adoption of the proposed project.

In addition, implementation of the proposed project would involve many responsible agencies depending upon the specifics of the subsequent projects. Following are some of the agencies that could be required to act as responsible agencies for the project:

- County of Fresno/City of Clovis – Williamson Act Contract Cancellation
- Fresno Local Agency Formation Commission – Annexation
- State Water Resources Control Board – National Pollutant Discharge Elimination System (NPDES) General Permit (with requisite Storm Water Pollution Prevention Plan, Conceptual Storm Water Pollution Prevention Plan, and Permanent Control Measures)

1.3 AREAS OF CONTROVERSY

A total of seven written comment letters were submitted in response to the Notice of Preparation (NOP) and are included in Appendix B of this EIR. Four verbal comments were received at the public scoping session held on January 13, 2023. Comments in response to the NOP generally identified the following areas of potential concern:

- Acceptance of proposed annexation with residents in the vicinity of project area
- The project's potential to result in traffic impacts on the existing bridge across Enterprise Canal on Behymer Avenue
- The project's potential to result in traffic impacts on the Behymer/Fowler and Behymer/ Minnewawa intersections
- The impact of the proposed extension of Baron Avenue on existing traffic operational deficiencies in the project area
- The timing of the Transportation analysis prepared for the project and whether it accounted for school-related traffic
- The project's potential long-term impacts to water supplies, the water table and existing wells in the vicinity of the project area
- The project's potential impacts to biological resources, particularly the California tiger salamander
- The timing of the biological analysis prepared for the project, and its influence on the presence of special status species in the project area during field surveys
- The "less than significant" determination for impacts on agricultural resources in the Initial Study

- The project's LESA model prepared to assess impacts to agricultural land, and whether it is reviewed and approved by a monitoring agency.

- The project's potential to expose nearby residents to elevated noise levels.

- Evaluation of project construction and operational emissions.

- Evaluation of potential health risk impacts on surrounding receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) and mitigation of any potentially significant risk to help limit exposure of sensitive receptors to emissions.

- Direct and indirect environmental impacts of VMT associated with the project, including impacts to air quality, pedestrian, cyclist, and public transit user safety, ambient noise levels, aesthetics, and road quality.

- Evaluation of cumulative impacts and existing environmental conditions of the area.

The analyses included in the EIR are based on current regulatory requirements, including the current *State CEQA Guidelines*. Comments related to impacts to special status species were considered and addressed in the Section 3.4, Biological Resources, of the Initial Study prepared for this EIR. Comments pertaining to potential impacts to agricultural resources were addressed in Section 4.1, Agricultural Resources, of this EIR. An evaluation of the project's construction and operational emissions and health risk impacts were considered and addressed in Section 4.2, Air Quality. Potential noise impacts were considered and addressed in Section 4.4, Noise. Potential VMT impacts were considered and addressed in Section 4.5, Transportation. Evaluation of cumulative impacts and existing environmental conditions were considered and addressed throughout the EIR and finally, comments related to alternatives to the project were considered and addressed in Chapter 5.0, Alternatives.

1.4 SUMMARY OF IMPACTS AND MITIGATION MEASURES

This summary provides an overview of the analysis contained in Chapter 4.0, Evaluation of Environmental Impacts, and Chapter 6.0, Other CEQA Considerations, of this EIR. In determining that an EIR was the appropriate environmental document, the City also determined that the following environmental resource topics would be analyzed in detail for the proposed project: Agricultural Resources, Air Quality, Greenhouse Gas Emissions, Noise and Transportation. Other environmental resource topics not included in Chapter 4.0 of the EIR are analyzed in the Initial Study. The environmental resource topics discussed in the Initial Study include Aesthetics, Biological Resources, Cultural Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, Tribal Cultural Resources, Utilities and Service Systems and Wildfire.

1.4.1 Significant Impacts

CEQA defines a significant impact on the environment as "…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." As discussed in more detail in Chapter 4.0, Evaluation of Environmental Impacts, impacts in the following areas would be potentially significant without the implementation of mitigation measures but would be reduced to a less than significant level if the mitigation measures recommended in this report are implemented: Section 4.1 Agricultural Resources; Section 4.2 Air Quality; Section 4.3 Greenhouse Gas Emissions; and Section 4.4 Noise. Additionally, as discussed in the Initial Study prepared for the project (Appendix A), the following areas would be potentially significant without the implementation of mitigation measures but would be reduced to a less than significant level if the mitigation measures recommended in the Initial Study are implemented: Biological Resources, Cultural Resources, Geology and Soils and Tribal Cultural Resources.

1.4.2 Significant Unavoidable Impacts

The proposed project would result in significant and unavoidable impacts to the following environmental resource topic areas:

- Transportation – potentially exceed thresholds of levels of service on roadways in conflict with approved General Plan and increase in VMT.

1.4.3 Cumulative Impacts

CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that are individually limited, but cumulatively significant. These impacts can result from the proposed project when combined with other past, present, or reasonably foreseeable future projects. As described in Chapter 4.0 of this EIR, the cumulative impacts analysis in this EIR is based on information provided by the City on currently planned, approved, or proposed projects and regional projections for the project area.

1.4.4 Alternatives to the Project

In accordance with CEQA and the *State CEQA Guidelines* (Section 15126.6), an EIR must describe a reasonable range of alternatives to the project, or to the project's location, that could attain most of the project's basic objectives while avoiding or substantially lessening any of the significant adverse environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives that are feasible and necessary to permit a reasoned choice. *State CEQA Guidelines* state that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative."

The alternatives to the proposed project that are discussed and analyzed in Chapter 5.0, Alternatives, of this EIR are:

- **No Project Alternative**: Under the No Project Alternative, the project site would not be developed, and existing land uses would remain. No modifications to existing site access or infrastructure would occur.

- **Reduced Project Alternative:** Under the Reduced Project Alternative, the proposed project would reduce the proposed density of 8.25 dwelling units per acre for (DU/acre) to 4.12 DU/acre, for a total of 295 residential units. Proposed site access and infrastructure improvements would remain the same as those identified for the proposed project.

- **Increased Phase Density Alternative:** Under the Increased Phase Density Alternative 590 residential units would be constructed within the 71.54-acre project site, but the residential units would be constructed on approximately 24 acres on northern portion of the project site and 24 acres on the southern portion of the project site to reduce the overall construction period. The remaining approximately 23 acres of the project would be developed as public open space. Overall density of the project site would remain the same as the proposed project (8.25 DU/acre), but each 24-acre development area would have density of 12.3 DU/acre. Proposed site access and infrastructure improvements would remain the same as those identified for the proposed project.

Each alternative is compared to the proposed project and discussed in terms of its various mitigating or adverse effects on the environment. Analysis of the alternatives focuses on those topics for which significant adverse impacts would result from the proposed project.

1.5 EXECUTIVE SUMMARY MATRIX

Table 1.A, below, summarizes the impacts, mitigation measures, and resulting level of significance after mitigation for the relevant environmental issue areas evaluated in the Initial Study document (Appendix B) prepared for this EIR, and in this Draft EIR. Table 1.A is intended to provide an overview; narrative discussions for the issue areas are included in the corresponding sections of this Draft EIR. Table 1.A is included in the Draft EIR pursuant to *State CEQA Guidelines* Section 15123(b)(1).

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Environmental Impact Report			
4.1: AGRICULTURAL RESOURCES			
Impact AG-1: The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impact AG-2: The project would conflict with existing zoning for agricultural use or a Williamson Act contract.	Potentially Significant Impact.	**Mitigation Measure AG-2:** Prior to issuance of building permits, the Project Applicant would need to petition the County of Fresno Board of Supervisors for cancellation of the Williamson Act contract at APN 556-030-014S. The Project Applicant would have to make the required statutory findings a set forth under Government Code Section 51282(a) to cancel the Williamson Act contract. If the County of Fresno determines the required findings are met, the Project Applicant would be required to pay a cancellation fee equal to 12.5 percent of the unrestricted market value of the parcels to the County of Fresno as set forth under Government Code Section 51283(b). After approval of the cancellation petition by the County of Fresno Board of Supervisors, the Williamson Act contract would then be cancelled on APN 556-030-014S, and the Project Applicant would be able to develop uses that comply with the zoning designation of the parcel per the City of Clovis Zoning Code without the proposed development being inconsistent with a Williamson Act contract.	Less than Significant Impact.
Impact AG-3: The project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.	Less than Significant Impact.	**Regulatory Compliance Measure AG-3:** Pursuant to California Civil Code 3482.5 and Fresno County Ordinance Code §17.04.100, prior approval of building occupancy permits, the Project Applicant shall provide residents of the project site Right-To-Farm notifications. The Right-To-Farm notification would advise future occupants of the project site that they are residing adjacent to agricultural land that has been active for 3 or more years and that they should expect continued activities associated with agricultural production. The Right-to-Farm	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		notice shall include the following: • It is the declared policy of Fresno County to preserve, protect, and encourage development of its agricultural land and industries for the production of food and other agricultural products. Residents of property in or near agricultural districts or agriculturally zoned land or active agricultural land should be prepared to accept the inconveniences and discomfort associated with normal farm activities. Such inconveniences and discomfort could include but is not limited to the following: Dust generation, heavy equipment operation, noise from heavy equipment operation, dust cropping activity using aircraft, insecticide/ pesticide application, no trespassing signage posted on active agricultural land, and the use of crop warmers during cold nights. Consistent with California Civil Code 3482.5 (right-to-farm law), this Right-To- Farm notification provides that an agricultural pursuit, as defined, maintained for commercial uses shall not be or become a nuisance to adjacent land occupied by non-agricultural uses due to a changed condition in a locality after such agricultural pursuit has been in operation for three years.	
Impact AG-4: The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to agricultural resources.	Potentially Significant Impact	Refer to Mitigation Measure AG-2 and Regulatory Compliance Measure AG-3, above.	Less than Significant Impact
4.2: AIR QUALITY			
Impact AIR-1: The project would not conflict with or obstruct implementation of the applicable air quality plan	Less than Significant.	Refer to Regulatory Compliance Measure AIR-2, below.	Less than Significant.
Impact AIR-2: Implementation of the proposed project would not result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment under an applicable federal or State ambient air quality standards.	Less than Significant	**Regulatory Compliance Measure AIR-2:** Consistent with SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions), the following controls are required to be included as specifications for the proposed project and implemented at the construction site: • All disturbed areas, including storage piles, which are not	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover. • All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. • All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. • When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained. • All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.) • Following the addition of materials to, or the removal of materials from, the surface of out-door storage piles, said piles shall be effectively stabilized of fugitive dust emission utilizing sufficient water or chemical stabilizer/suppressant.	
Impact AIR-3: Implementation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impact AIR-4: The project would not result in significant odors that could adversely affect a substantial number of people.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impact AIR-5: The proposed project, in combination with past, present, and reasonably foreseeable projects, would not contribute to a significant cumulative impact with respect to air quality.	Less than Significant impact.	Refer to Regulatory Compliance Measure AIR-2, above.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.3: GREENHOUSE GAS EMISSIONS			
Impact GHG-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Potentially Significant Impact.	**Mitigation Measure GHG-1:** In order to meet the 2022 Scoping Plan greenhouse gas (GHG) requirements, consistent with State GHG reduction and equity prioritization goals, each residential unit shall provide electric vehicle charging capabilities as part of the final project designs.	Less than Significant Impact.
Impact GHG-2: The project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Potentially Significant Impact.	Refer to Mitigation Measure GHG-1 above.	Less than Significant Impact.
Impact GHG-3: The proposed project, in combination with past, present, and reasonably foreseeable projects, would not contribute to a significant cumulative impact with respect to greenhouse gas emissions.	Potentially Significant Impact.	Refer to Mitigation Measure GHG-1 above.	Less than Significant Impact.
4.4: NOISE			
Impact NOI-1: The project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Potentially Significant Impact.	**Mitigation Measure NOI-1.1:** The project contractor shall implement the following measures during construction of the proposed project: • Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards. • Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the active project site. • Locate equipment staging in areas that would create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the active project site during all construction activities. • Ensure that all general construction related activities are restricted to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturday and Sunday. From June 1st through September 15th, permitted construction activity may commence after 6:00 a.m. Monday through Friday,	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		consistent with the City's Noise Ordinance. • Designate a "disturbance coordinator" at the City who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem.	
		Mitigation Measure NOI-1.2: The project contractor shall implement the following measures during construction of the proposed project: • In order for windows and doors to remain closed, mechanical ventilation such as air conditioning shall be provided for all units. • All windows and glass doors shall be rated STC 26 or higher such that the noise reduction provided will satisfy the interior noise standard of 45 dBA CNEL.	
Impact NOI-2: The project would not generate excessive groundborne vibration or groundborne noise levels.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the proposed project would not expose people residing or working in the project area to excessive noise levels.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impact NOI-4: The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to noise.	Potentially Significant Impact.	Refer to Mitigation Measures NOI-1.1 and NOI-1.2 above.	Less than Significant Impact.
4.5: TRANSPORTATION			
Impact TRA-1: The project would conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	Potentially Significant Impact.	No feasible mitigation measures are available.	Significant and Unavoidable.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact TRA-2: The proposed project would conflict or be inconsistent with *State CEQA Guidelines* section 15064.3, subdivision (b).	Potentially Significant Impact.	No feasible mitigation measures are available.	Significant and Unavoidable.
Impact TRA-3: The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impact TRA-4: The project would not result in inadequate emergency access.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impact TRA-5: The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to transportation.	Potentially Significant Impact.	No feasible mitigation measures are available.	Significant and Unavoidable.
Initial Study			
AESTHETICS			
The proposed project would not have a substantial adverse effect on a scenic vista.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	No Impact.	No mitigation is required.	No Impact.
The proposed project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point), and due to the location of the project in an urbanized area, the project would conflict with applicable zoning and other regulations governing scenic quality.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
BIOLOGICAL RESOURCES			
Impact BIO-1: 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 Wildlife or U.S. Fish and Wildlife Service.	Potentially Significant Impact.	**Mitigation Measure BIO-1: Nesting Bird Surveys and Active Nest Avoidance.** Any initial ground disturbance or tree pruning, or removal should take place outside of the active nesting bird season (i.e., February 1–September 30), when feasible, to avoid impacts to nesting birds protected under the California Fish and Game Code and Migratory Bird Treaty Act. Should phased construction require tree removal or initial ground disturbance to ruderal areas, a qualified biologist shall conduct a nesting bird survey no more than 15 days prior to each phase of clearing activities. If nesting birds are discovered during preconstruction surveys, the biologist shall identify an appropriate buffer where no clearing, grading, or construction activities with potential to have direct or indirect impacts on the nesting bird(s) are allowed to take place until after the nest is no longer active (e.g., the young birds have fledged), or as otherwise determined by the qualified biologist. **Mitigation Measure BIO-2: Conduct Surveys for Swainson's Hawk Nests and Implement** **Avoidance and Minimization Measures.** The qualified biologist will conduct surveys for Swainson's hawk (*Buteo swainsoni*) during the nesting season (February 1 to August 31) along the existing trees within the project site. No sooner than 30 days prior to any ground disturbing activity, the qualified biologist will conduct preconstruction surveys of nests identified during the earlier surveys to determine if any are occupied. The initial nesting season surveys and subsequent preconstruction nest surveys will follow the protocols set out in the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee [SHTAC] 2000) or guidance current at the time of project implementation. Available database records	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		will be used to support the survey. Any active Swainson's hawk nests (defined as a nest used one or more times in the last 5 years) found within the existing trees on site during the nesting season will be monitored daily by the qualified biologist to assess whether the nest is occupied. If the nest is occupied, the qualified biologist will establish no-work buffers following California Department of Fish and Game's 1994 Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California, and the status of the nest will be monitored until the young fledge or for the length of construction activities, whichever occurs first. Adjustments to the buffer(s) may be made in consultation with the California Department of Fish and Wildlife (CDFW). If an occupied Swainson's hawk nest site is to be removed, an incidental take permit under the California Endangered Species Act (CESA) will be obtained, and impacts will be minimized through permitting with the CDFW and fully mitigated. **Mitigation Measure BIO-3: Conduct Pre-construction Clearance Surveys for Burrowing Owl.** A pre-construction clearance survey will be conducted in the vicinity of the existing residence on site, as well as within the disturbed annual grassland and embankments of the Enterprise No. 109 Canal by a qualified biologist for burrowing owl (*Athene cunicularia*) no more than 30 calendar days prior to initiation of ground disturbance activities. All surveys will follow the California Department of Fish and Game 2012 Staff Report on Burrowing Owl Mitigation methodology, or guidance current at the time of project implementation, and results shall be delivered to CDFW and the City of Clovis. If the survey results find an active burrow, the Project Applicant must coordinate	

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		with the CDFW to obtain applicable agency approval/permit prior to any ground disturbance activities on the site. **Mitigation Measure BIO-4: Passive Relocation Measures for Burrowing Owl.** If burrowing owl (*Athene cunicularia*) are detected during the pre-construction surveys, occupied burrows will not be disturbed during the nesting season (February 1 through August 31 for owls and other raptors). The non-disturbance buffer will include a minimum 330-foot (100-meter) buffer zone around any occupied burrow unless a qualified biologist approved by the CDFW verifies through non-invasive methods that either (1) burrowing owls have not begun egg laying and incubation, or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. The sizes of individual buffers may be modified through coordination with the CDFW based on site-specific conditions and existing disturbance levels. During the non-nesting season or if the qualified biologist determines either (1) or (2) above, the Project Applicant will coordinate with the CDFW to construct artificial burrows and passively relocate the owl(s). Passive relocation is defined as encouraging owls to move from occupied burrows to alternate natural or artificial burrows that are beyond approximately 160 feet (50 meters) from the impact zone and that are within or contiguous to a minimum of 6.5 acres of foraging habitat for each pair of relocated owls (California Burrowing Owl Consortium 1993). If passive relocation is required, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and Mitigation Land Management Plan in accordance with the CDFW 2012 Staff Report on Burrowing Owl Mitigation and for review by CDFW prior to passive relocation activities. Owls shall be excluded from burrows in the immediate impact zone and within an approximately 160-foot (50-meter) buffer zone	

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		by installing one-way doors in burrow entrances. One-way doors shall be left in place for 48 hours to ensure owls have left the burrow before excavation. One alternate natural or artificial burrow shall be provided for each burrow that will be excavated in the project impact zone. The project site shall be monitored daily for 1 week to confirm owl use of alternate burrows before excavating burrows in the immediate impact zone. Whenever possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe or burlap bags shall be inserted into the tunnels.	
The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would 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.	Potentially Significant Impact.	**Regulatory Compliance Measure BIO-1: Agency Coordination for Enterprise No. 109 Canal.** Prior to any modifications to Enterprise No. 109 Canal, it is recommended to consult with the United States Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB) to verify the feature's jurisdictional status and obtain applicable permit(s) and/or authorization(s). If direct modifications to the canal are proposed, a notification of streambed alteration shall be submitted to the CDFW in accordance with Section 1602 of the California Fish and Game Code. Unless categorically excluded under effective definitions or existing documentation confirms that no permit is needed, the Central Valley RWQCB and Sacramento District of the USACE shall be consulted regarding potential permitting needs under the California Water Code and federal Clean Water Act, respectively, associated with the proposed Enterprise No. 109 Canal modifications.	Less than Significant Impact.
The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
migratory wildlife corridors, or impede the use of native wildlife nursery sites.			
The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	No Impact.	No mitigation is required.	No Impact.
CULTURAL RESOURCES			
Impact CUL-1: The project would cause substantial adverse change in the significance of a historical resource pursuant to §15064.5	Potentially Significant Impact.	**Mitigation Measure CUL-1: Consultation with Qualified Historical Specialist for Resources Found During Project Construction.** If previously unknown resources are encountered before or during grading activities, construction shall stop within 50 feet of the find and a qualified historical resources specialist shall be consulted to determine whether the resource requires further study. The qualified historical resources specialist shall make recommendations to the City of Clovis on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the *State CEQA Guidelines*. If the resources are determined to be unique archeological resources as defined under Section 15064.5(c)(1) of the *State CEQA Guidelines*, measures shall be identified by a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology and recommended to the Lead Agency. Appropriate measures for significant resources could include avoidance or capping, incorporation of green space, parks, or open space in undeveloped areas of the project site, or data recovery excavations of the finds.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		No further grading shall occur in the area of the discovery until the Lead Agency approves the protection measures. Any historical artifacts recovered as a result of mitigation shall be provided to a City of Clovis-approved institution or person who is capable of providing long-term preservation to allow future scientific study. A report of findings shall also be submitted to the Southern San Joaquin Valley Information Center.	
The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5	Potentially Significant Impact.	Refer to Mitigation Measure CUL-1 above.	Less than Significant Impact.
Impact CUL-2: The project would disturb any human remains, including those interred outside of formal cemeteries	Potentially Significant Impact.	**Mitigation Measure CUL-2** In the event that human remains are unearthed during excavation and grading activities of any future development project, all activity shall cease immediately. Pursuant to Health and Safety Code Section 7050.5, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98(a). If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the Native American Heritage Commission (NAHC). The NAHC shall then contact the most likely descendant of the deceased Native American, who shall then serve as the consultant on how to proceed with the remains. Pursuant to PRC Section 5097.98(b), upon the discovery of Native American remains, the Project Applicant shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the Project Applicant has discussed and conferred with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The Project Applicant shall discuss and confer with the	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		descendants all reasonable options regarding the descendants' preferences for treatment.	
ENERGY			
The project would result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
GEOLOGY AND SOILS			
Directly or Indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			
Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Strong seismic ground shaking.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Seismic-related ground failure, including liquefaction.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Landslides.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Result in substantial soil erosion or the loss of topsoil.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water	No Impact.	No mitigation is required.	No Impact.
Impact GEO-1: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant Impact.	**Mitigation Measure GEO-1:** If any potentially significant paleontological resources are discovered during grading activities, all construction activities shall stop within 50 feet of the find and a certified professional paleontologist shall provide recommendations and mitigation measures to protect the resource. If a potentially significant resource is encountered, then the qualified professional paleontologist, the City of Clovis, and the Project Applicant shall arrange for either (1) total avoidance of the resource or (2) test excavations to evaluate eligibility and, if eligible, total data recovery. The determination shall be formally documented in writing and submitted to the City of Clovis as verification that the provisions for managing unanticipated discoveries have been met.	Less than Significant Impact.
HAZARDS AND HAZARDOUS MATERIALS			
The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous material	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
The project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the proposed project would not expose people residing or working in the project area to excessive noise levels.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
HYDROLOGY AND WATER QUALITY			
The project would violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			
Result in substantial erosion or siltation on or off site	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impede or redirect flood flows.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
LAND USE AND PLANNING			
The project would physically divide an established community.	No Impact.	No mitigation is required.	No Impact.
The project would cause significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
MINERAL RESOURCES			
The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
POPULATION AND HOUSING			
The project would induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses or indirectly (for example, through extension of roads or other infrastructure)	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
PUBLIC SERVICES			
The project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for the following public services:			
Fire protection	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Police protection	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Schools	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Parks	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Other Public Facilities	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
RECREATION			
The project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
TRIBAL CULTURAL RESOURCES			
The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural			

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
value to a California Native American tribe, and that is:			
Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).	Potentially Significant Impact.	Refer to Mitigation Measure CUL-1 and CUL-2, above.	Less than Significant Impact.
A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Potentially Significant Impact.	Refer to Mitigation Measure CUL-1 and CUL-2, above.	Less than Significant Impact.
UTILITY AND SERVICE SYSTEMS			
The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would comply with federal, state, and local management and reduction statutes and regulations	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
related to solid waste.			
WILDFIRE			
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, the project would:			
Substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

APN = Assessor's Parcel Number
CEQA = California Environmental Quality Act
CNEL = Community Noise Equivalent Level
dBA = A=weighted decibels
PM_{10} = particulate matter 10 microns or less in diameter
RWQCB = Regional Water Quality Control Board
SJVAPCD = San Joaquin Valley Air Pollution Control District
STC = sound transmission class
USACE = United States Army Corps of Engineers

2.0 INTRODUCTION

2.1 PURPOSE OF THIS EIR

The California Environmental Quality Act (CEQA) requires that all State and local government agencies consider the environmental consequences of programs and projects over which they have discretionary authority before taking action on them. This Environmental Impact Report (EIR) has been prepared in accordance with CEQA to evaluate the potential environmental impacts associated with implementation of Tract Map 6343 (herein referred to as the proposed project) for the City of Clovis. This EIR has been prepared in conformance with CEQA, California Public Resources Code Section 21000 et seq; the California CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq); and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Clovis (herein referred to as the City).

This EIR is intended to serve as an informational document for the public agency decision-makers and the public regarding the potential environmental impacts associated with the construction the proposed project. This EIR identifies potential environmental impacts resulting from the proposed project, and identifies potential mitigation measures and alternatives to reduce potential environmental impacts.

Environmental impacts cannot always be mitigated to a level that is considered less than significant. In accordance with Section 15093(b) of the State CEQA Guidelines, if a lead agency, such as the City of Clovis, approves a project that has significant impacts that are not substantially mitigated (i.e., significant unavoidable impacts), the lead agency shall state in writing the specific reasons for approving the project, based on the final CEQA documents and any other information in the public record for the project. This is identified in Section 15093 of the State of CEQA Guidelines, "a statement of overriding considerations." These potential impacts are discussed in more detail throughout Chapter 4.0 of this EIR.

2.2 ENVIRONMENTAL REVIEW PROCESS

The City of Clovis, serving as Lead Agency responsible for administering the environmental review for the proposed project, determined that preparation of an EIR was required for the proposed project.

CEQA requires that, before a decision can be made to approve a project that could result in adverse physical effects, an EIR must be prepared that fully describes the environmental effects of the project. The EIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental impacts of a project, to recommend mitigation measures to lessen or eliminate significant adverse impacts, and to examine feasible alternatives to the project. The information contained in the EIR must be reviewed and considered by the City of Clovis Planning Commission, City Council, and other approving bodies prior to a decision to approve, disapprove, or modify the project.

As part of the consideration of the proposed project, an agency must prepare findings that identifies that all environmental effects of the project are supported by substantial evidence in the record. CEQA requires that agencies shall neither approve nor implement a project unless the project's significant environmental effects have been reduced to a less-than-significant level, essentially "eliminating, avoiding, or substantially lessening" the potentially significant impacts, except when certain findings are made. If an agency approves a project that will result in the occurrence of significant adverse impacts that cannot be mitigated to less-than-significant levels, the agency must state the reasons for its action in writing, demonstrate that its action is based on the EIR or other information in the record, and adopt a Statement of Overriding Considerations.

2.3 INTENDED USES OF THIS EIR

As noted above and described in the CEQA Guidelines, public agencies are charged with the duty to avoid or substantially lessen significant environmental effects, where feasible. In undertaking this duty, a public agency has an obligation to balance a project's significant effects on the environment with its benefits, including economic, social, technological, legal, and other non-environmental characteristics.

This EIR is intended as an informational document to: evaluate the proposed project and the potential for significant impacts on the environment; examine methods of reducing adverse environmental impacts; identify any significant and unavoidable adverse impacts that cannot be mitigated; and identify reasonable and feasible alternatives to the proposed project that would eliminate any significant adverse environmental effects or reduce the impacts to a less-than-significant level. The Lead Agency is required to consider the information in the EIR, along with any other relevant information, in making its decisions on the proposed project. This analysis, in and of itself, does not determine whether a project will be approved, but aids the planning and decision-making process by disclosing the potential for significant and adverse impacts.

In conformance with CEQA and the CEQA Guidelines, this EIR provides objective information addressing the environmental consequences of the project and identifies possible means of reducing or avoiding significant impacts, either through mitigation measures or feasible project alternatives. The City of Clovis must certify the Final EIR prior to project approval and implementation. Under CEQA Guidelines Section 15168, this is a project-level EIR. This type of EIR examines a specific project and considers potential construction and operational impacts of implementing the project.

The CEQA Guidelines help define the role and standards of this EIR, as follows:

- **Information Document.** An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect(s) of a project, identify possible ways to minimize significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency (CEQA Guidelines Section 15121(a)).

- **Degree of Specificity.** The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR. An EIR on a development project will necessarily be more detailed in its discussion of specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy (CEQA Guidelines Section 15146(a)).

- **Standards for Adequacy of an EIR.** An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information, which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure (CEQA Guidelines Section 15151).

Section 15382 of the CEQA Guidelines defines a significant effect on the environment as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…" Therefore, in identifying the significant impacts of the project, this EIR focuses on the substantial physical effects and mitigation measures to avoid, reduce, or otherwise alleviate those effects.

2.4 PROPOSED PROJECT

The proposed project would consist of the annexation of 246 acres by the City of Clovis and the development of approximately 590 residential lots, averaging approximately 3,329 square feet within the 71.54-acre project site. The proposed lots would be developed into single-family residences over time. Sixty-six outlot spaces that would potentially be developed into private roads, private parking, pedestrian walkways, landscaping, public utilities, and public park uses would also be included within the project site.

No development is proposed within the remaining 174.46-acre annexation area surrounding the project site. The proposed project would include annexation of the 246-acre area from Fresno County jurisdiction to the City of Clovis. Any future development occurring within the annexation area would require a separate project-specific analysis. See Chapter 3.0, Project Description of this EIR for a more complete description of the proposed project.

2.5 EIR SCOPE

A Notice of Preparation (NOP) of the EIR and Initial Study was circulated for 30 days on December 19, 2022, to help identify the types of impacts that could result from implementation of the proposed project, as well as potential areas of controversy. The NOP was mailed to public agencies, organizations, and individuals likely to be interested in the project and its potential impacts. Additionally, a public scoping meeting to inform interested parties and the public about the proposed project was held on January 13, 2023. A total of seven written comment letters regarding the NOP were received, in addition to the four verbal comments provided at the scoping session.

The NOP and Initial Study are included in Appendix A, and copies of the public comment letters received in response to the NOP are included in Appendix B.

The Initial Study prepared for this EIR evaluated the environmental issue topics required by CEQA. The individual environmental topics evaluated in the Initial Study include the following:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

The Initial Study identified potentially significant environmental issue topics that will be analyzed in more detail in this Draft EIR. The topics include:

- Agricultural Resources
- Air Quality
- Greenhouse Gas Emissions
- Noise
- Transportation

2.6 REPORT ORGANIZATION

This EIR is organized into the following chapters:

- **Chapter 1.0 – Executive Summary**: Provides a summary of the impacts that would result from implementation of the proposed project, describes mitigation measures recommended to reduce or avoid significant impacts, and describes the alternatives to the proposed project.

- **Chapter 2.0 - Introduction**: Discusses the overall EIR purpose, provides a summary of the proposed project, describes the EIR scope, and summarizes the organization of the EIR.

- **Chapter 3.0 - Project Description**: Provides a description of the project site, the project objectives, the proposed project, and intended uses of this EIR.

- **Chapter 4.0 – Evaluation of Environmental Impacts**: Describes the following for each environmental technical topic: existing conditions (setting), potential environmental impacts and their level of significance, and mitigation measures recommended to mitigate identified impacts. Potential adverse impacts are identified by levels of significance, as follows: less-than-significant impact (LTS), significant impact (S), and significant and unavoidable impact (SU). The significance

of each impact is categorized before and after implementation of any recommended mitigation measures(s). Cumulative impacts are also addressed.

- **Chapter 5.0 - Alternatives**: Provides an evaluation of the alternatives to the proposed project in addition to the CEQA-required No Project alternative.

- **Chapter 6.0 – CEQA-Required Assessment Conclusions**: Provides an analysis of effects found not to be significant, growth-inducing impacts, unavoidable significant environmental impacts, and significant irreversible changes.

- **Chapter 7.0 - Report Preparation**: Identifies preparers of the EIR, and the persons and organizations contacted.

- **Chapter 8.0 - References:** Provides reference list of sources used for the preparation of this EIR.

- **Appendices***:* The appendices contain the NOP and Initial Study, comment letters on the NOP, technical calculations, and other documentation prepared in conjunction with this EIR.

2.7 PUBLIC PARTICIPATION

The CEQA Guidelines encourage public participation in the planning and environmental review processes. The City will provide opportunities for the public to present comments and concerns regarding the CEQA and planning processes. These opportunities will occur during the Draft EIR public review and comment period and public hearings before the City of Clovis Planning Commission and City Council.

This Draft EIR, in compliance with Section 15105 of the CEQA Guidelines, has been distributed to responsible and trustee agencies, and other interested organizations, agencies and individuals for review and comment on the adequacy of the environmental analysis.

The Draft EIR 46-day public review and comment period for this project began on January 12, 2024 and will end on February 26, 2024.

Written public comments may be submitted to the Planning and Development Department during the specified public review and comment period, and oral comments may be presented at the Draft EIR public hearing before the City of Clovis Planning Commission and City Council. Written comments should be delivered in person or by courier service, or be sent by mail or email to:

Lily Cha-Haydostian, Senior Planner
Planning Division
City of Clovis
1033 Fifth Street
Clovis, CA 93612
(559) 324-2335
lilyc@cityofclovis.com

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3.0 PROJECT DESCRIPTION

The following describes the proposed residential subdivision Tract Map 6343 (project), and associated entitlements proposed by Wilson Premier Homes, Inc. (Project Applicant). The proposed project would consist of developing a 71.54-acre project site into an approximately 590-lot single-family residential development, and the annexation of 246 acres by the City of Clovis. The City of Clovis (City) is the lead agency for review of the proposed project under the California Environmental Quality Act (CEQA).

3.1 PROJECT AREA LOCATION AND SETTING

The following section describes the location and characteristics of the project site and annexation area and provides a brief overview of the existing land uses within, and near, the proposed project.

3.1.1 Location

The project site is located on Assessor's Parcel Number (APNs) 556-040-07S, -08S, and 556-030-14S, within the Northwest Urban Center area identified in the 2014 City of Clovis General Plan, now referred to as Heritage Grove. The project site is bounded by East Behymer Avenue to the north, by the Enterprise Canal to the west and south, and by rural residential, a Fresno Metropolitan Flood Control District (FMFCD) ponding basin, and Tract Map 6200 to the east. The annexation area encompasses the project site, as well as APNs 556-040-06S, - 09S, -13ST, -15S, -16S, -17ST, -18S, -20S, -22ST, -23S, -24S and 556-050-35S. The annexation area is located on the southwest quadrant of the intersection between East Behymer Avenue and North Sunnyside Avenue. Figure 3-1 shows the proposed project's regional and local context.

3.1.2 Project Site and Annexation Area Characteristics and Existing Conditions

The project site is approximately 71.54 acres in size and is currently being used for agriculture and contains one rural residence. Parcel APN 556-030-14S is currently under a Williamson Act contract[1], while all other parcels within the project site are not under a Williamson Act contract. Agriculture crops that have been historically grown on the project site include pistachios, almonds, wheat, cotton, grapes, and oranges.[2] There is one existing dwelling unit in the project site, consisting of a single-family residence and three agriculture-related outbuilding structures.

The Enterprise Canal borders the project site's western and southern boundaries. The Enterprise Canal is owned and operated by the Fresno Irrigation District (FID) and serves to deliver water for irrigation, recharge, conveyance of stormwater flows, and municipal use for Fresno and Clovis. Within the annexation area and adjacent to the project site, the Enterprise Canal is approximately 4,300 feet in length, 30 feet wide, lined, and elevated above adjacent ground.

1 A petition for the cancellation of the Williamson Act Contract for APN 556-030-14S is currently in progress, pursuant to conditions set forth in Government Code (GC) § 51280 et seq.

2 United States Department of Agriculture. 2021. National Agriculture Statistics Service. CropScape-Cropland Data Layer. Website: https://nassgeodata.gmu.edu/CropScape/ (accessed May 26, 2022).

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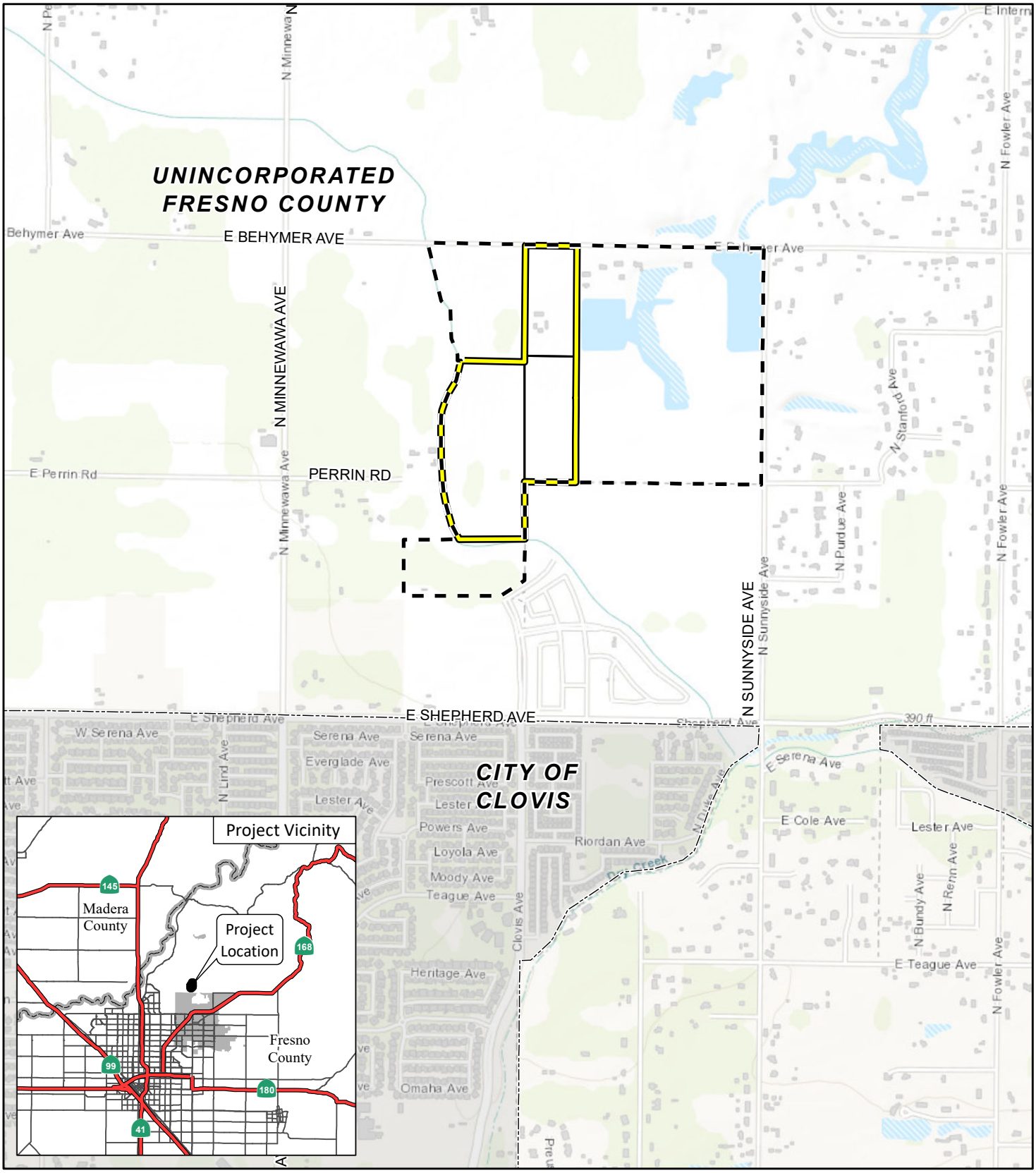

LSA

LEGEND

- Project Location
- Parcel Boundary
- Annexation Boundary
- Clovis City Limit

0 750 1500
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SOURCE: Esri Streetmap (2021)

\\lsaazfiles.file.core.windows.net\images\CIT2201\GIS\MXD\Regional_Local_Context.mxd (12/6/2022)

FIGURE 3-1

Tract Map 6343

Regional and Local Context

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The 246-acre annexation area of the proposed project includes existing rural residential and agricultural uses. Approximately 88 acres of the annexation area are currently used for agricultural production. The rural residential uses are located on the northern boundary of the annexation area and consist of five approximately 2.3-acre lots, and one 4.7-acre lot. The remaining 141.8 acres of the annexation area are not currently used in agricultural production or contain rural residential uses.

The proposed annexation boundary is located within the City of Clovis' Sphere of Influence (SOI) as established in the City's 2014 General Plan. Located in the Northwest Urban Center or Heritage Grove area for Clovis, the project area and surrounding properties to the north and west have been identified for future development. Heritage Grove is planned for more compact type development inclusive of residential and mixed-use land use designations. Lands within the project boundary have been designated for future residential development, exclusive of the water basin that will remain. The City has adopted design guidelines to direct future development and improvement of the Heritage Grove area.

Parcels 556-040-13ST, -17ST, and 22ST, east of the project site, are owned by the FMFCD and are the location of stormwater retention Basin BY. Basin BY retains stormwater in Drainage Area BY, an area bounded by East Copper Avenue to the north, North Sunnyside Avenue to the east, East Shepherd Avenue and the Enterprise Canal to the south, and North Minnewawa to the west.

3.1.3 Surrounding Land Uses

The project site and annexation area are surrounded by agricultural and single-family residential uses to the south, rural residential and agricultural uses to the east, agricultural and commercial uses to the west, and agricultural and rural residential uses to the north. The closest schools to the project site include Woods Elementary School, which is located approximately 0.75 mile south of the project, Buchanan High School is located approximately 1 mile southwest of the project site, and Alta Sierra Intermediate School is located approximately 1.2 miles from the project site. Figure 3-2 shows the project site, annexation area, and surrounding land uses.

3.1.4 Zoning

The project site and annexation area are located within the Exclusive Agricultural Zoning District (AE-20) of Fresno County. According to the Fresno County Ordinance Code, this district is intended to protect the welfare of the agricultural community of the County from encroachment of non-related uses of the land that could be detrimental to the physical and economic well-being of the community. The project proposes to pre-zone the project site to the City of Clovis' R-1 Zone District (R-1-PRD).

3.1.5 General Plan Land Use

The designated land uses for the project site and annexation area, according to the City of Clovis General Plan, include Medium Density Residential, Very Low Density Residential, and Water. The land use of the project site would be amended to Medium High Density Residential.[3]

[3] City of Clovis, 2014. General Plan. Land Use Element. Figure LU-2: Land Use Diagram. Website: https://cityofclovis.com/wp-content/uploads/2018/10/Figure-LU-2.pdf. (accessed April 19, 2022).

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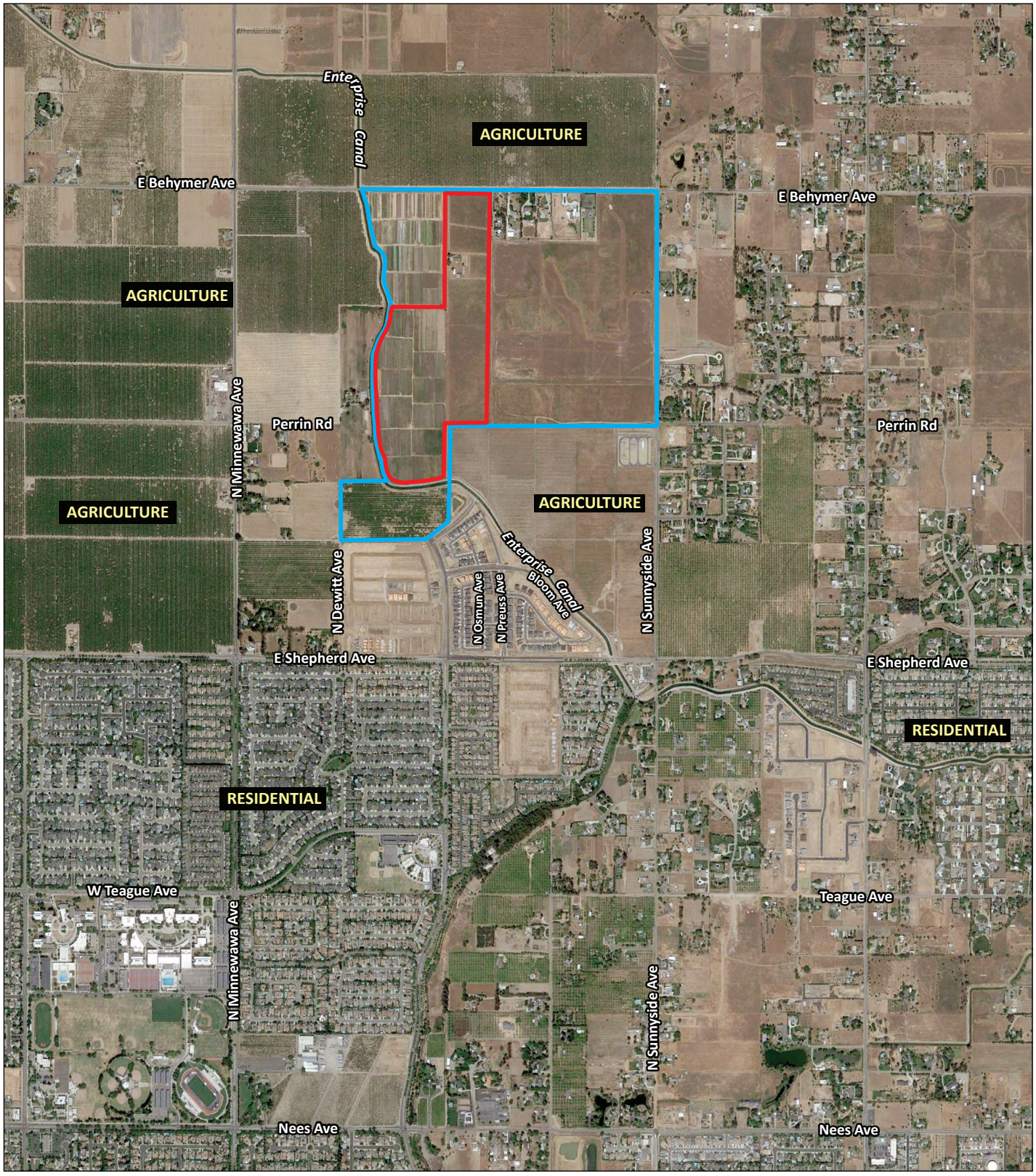

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Project Site TM-6343 Boundary

Annexation Boundary

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FIGURE 3-2

Tract Map 6343

Aerial Photograph of the Project Site and Surrounding Land Uses

SOURCES: Google Earth 4/21/2021; LSA, 2022

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3.2 PROJECT OBJECTIVES

The following is a list of project objectives of the proposed project:

- Provide residential housing opportunities that are visually attractive and accommodate the future housing demand in Clovis.
- Establish a mixture of housing types, sizes and densities that collectively provide for local and regional housing demand.
- Implement the City's General Plan Land Use Element goal to facilitate annexation of large areas of land.
- Provide infrastructure that meets City Standards and is integrated with existing and planned facilities and connections.
- Develop a project that meets City Standards by implementing a logical phasing plan for development of public infrastructure improvements.

3.3 PROPOSED PROJECT

The proposed project would consist of the annexation of 246 acres by the City of Clovis, and the development of approximately 590 residential lots, averaging approximately 3,329 square feet within the 71.54-acre project site. The proposed lots would be developed into single-family residences over three phases, as described below. Additionally, sixty-six outlot spaces would be included within the project site. Although the project site plan does not provide details on what would be constructed in these spaces, potential uses would include private road, private parking, private pedestrian, private landscaping, public utility, and public park uses. The proposed project would include the removal of one existing 2,679 square-foot dwelling unit and garage, an existing propane tank, a 2,000 square-foot pole barn, two sheds totaling 1,785 square feet and 2,250 square feet, and an existing driveway on the project site. Figure 3-3 shows the proposed project's site plan.

No development is proposed within the remaining 174.46-acre annexation area surrounding the project site. The proposed project would include annexation of the 174.46-acre area from Fresno County jurisdiction to the City of Clovis. Any future development occurring within the annexation area would require a separate project-specific analysis.

3.3.1 Building Program

3.3.1.1 Phase 1

Phase 1 of the proposed project would include the development of approximately 136 single-family residential units with an average size of approximately 1,514 square feet per unit. Phase 1 would be located on the southern portion of the project site and would be accessed through one ingress and egress street and one egress street on Perrin Avenue. Phase 1 would include the construction of

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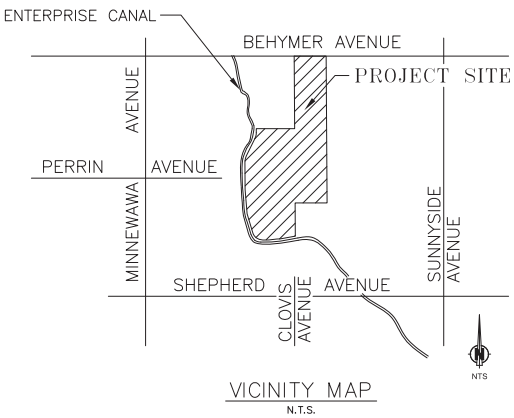

VICINITY MAP
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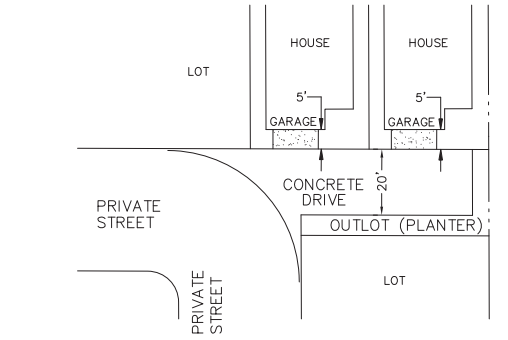

TYPICAL FINGER ROAD DETAIL
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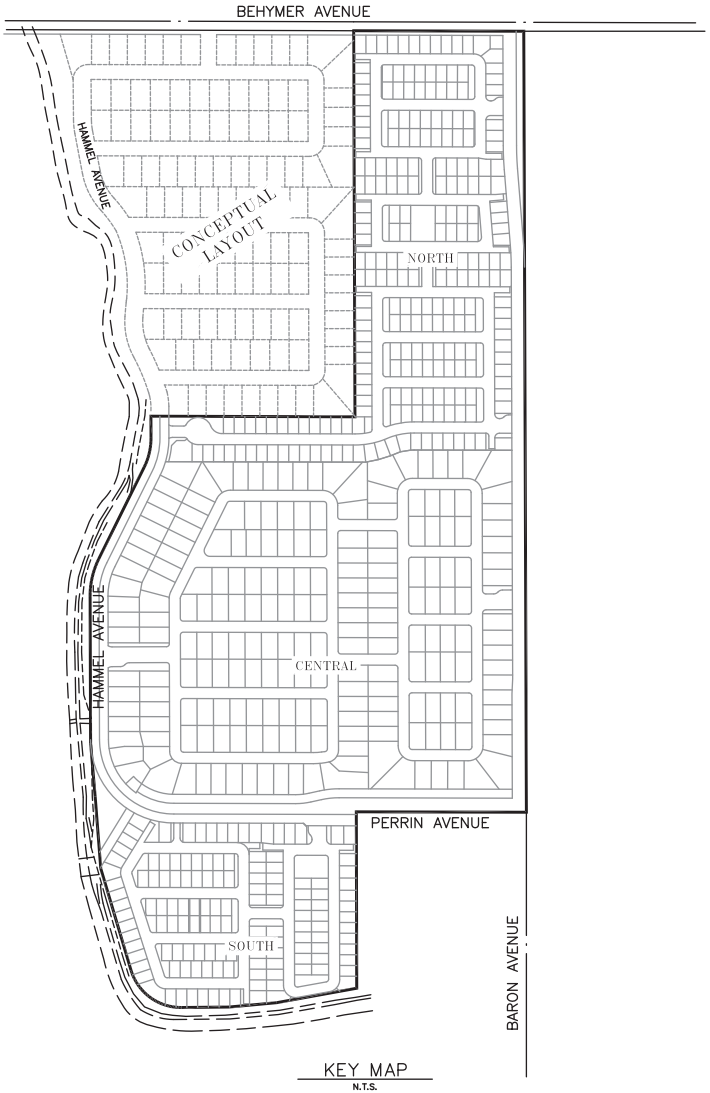

KEY MAP
N.T.S.

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FIGURE 3-3

NOT TO SCALE

SOURCE: Harbor & Associates, January 2022

:\CIT2201\G\Fig 3-3_General Site Plan.ai (4/14/2022)

Tract Map 6343
General Site Plan

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approximately 44 parking spaces, an approximately 8,745-square-foot community pool and recreation area, an approximately 13,930-square-foot community park, approximately 0.51 acre of landscaped areas, and drainage and pedestrian infrastructure improvements along Perrin Avenue.

The southern extension of North Baron Avenue from East Behymer Avenue and the extension of Perrin Avenue and Hammel Avenue within the project site would be constructed during Phase 1. Figure 3-4 shows a site plan of Phase 1 of the proposed project.

3.3.1.2 Phase 2

Phase 2 of the proposed project would include the development of approximately 214 single-family residential units with an average size of approximately 2,168 square feet per unit. Phase 2 would be located on the central portion of the project site and would be accessed through one gated ingress and egress street along the future southern extension of North Baron Avenue, and one gated ingress and egress street along Hammel Avenue. Phase 2 would include the construction of a 26-foot-wide drainage channel along Perrin Avenue, approximately 0.35 acre of landscaped areas, and storm drainage and pedestrian infrastructure improvements along Perrin Avenue and Hammel Avenue. Figure 3-5 shows a site plan of Phase 2 of the proposed project.

3.3.1.3 Phase 3

Phase 3 of the proposed project would include the development of approximately 240 single-family residential units with an average size of approximately 1,514 square feet per unit. Phase 3 would be located on the northern portion of the project site and would be accessed through two gated ingress and egress streets located along the future southern extension of North Baron Avenue, and through one gated egress street access located along the future northern extension of Hammel Avenue. Phase 3 would include the construction of approximately 91 parking spaces, an approximately 9,985-square-foot pool and recreation area, approximately 0.65 acre of landscaped areas, and drainage and pedestrian infrastructure improvements along North Baron Avenue Figure 3-6 shows a site plan of Phase 3 of the proposed project.

3.3.2 Landscaping

The proposed project would include the removal of eight existing trees in the project site, and the addition of approximately 1.51-acres of landscaped areas. The proposed project would include front yard landscaping for all the residential lots in the project site, as well as landscaping for the proposed recreation areas to be constructed on the project site. Landscaping would also be included along the project frontage with Behymer Avenue, Baron Avenue, Perrin Avenue and Hammel Avenue. All landscaping included in the proposed project would comply with landscaping and water efficiency standards and requirements of Chapter 6.5: Water System, Article 5: Water Efficient Landscape Requirements and Chapter 9.28: Landscaping Standards of the Clovis Municipal Code.

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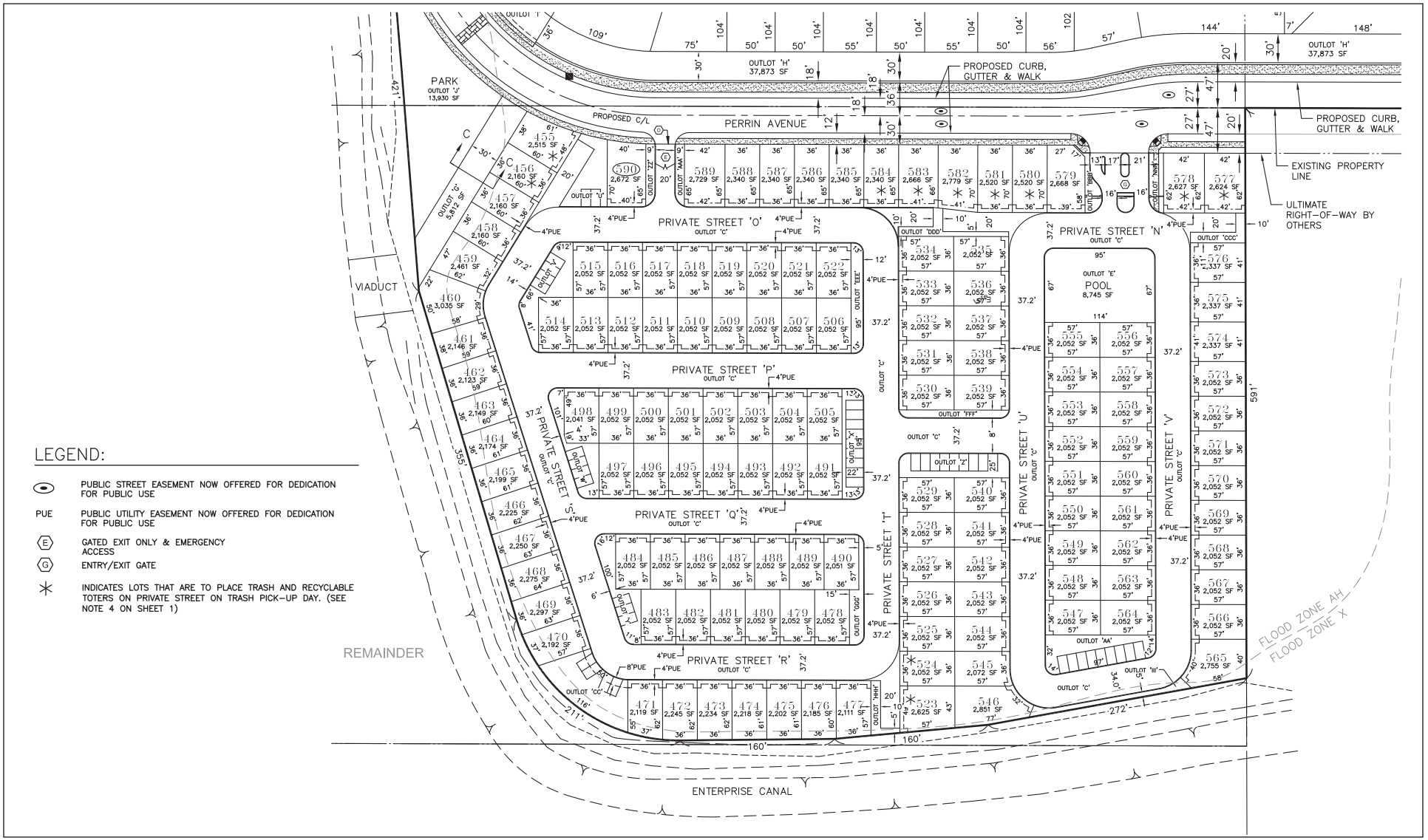

FIGURE 3-4

Tract Map 6343
South: Phase 1

SOURCE: Harbor & Associates, January 2022

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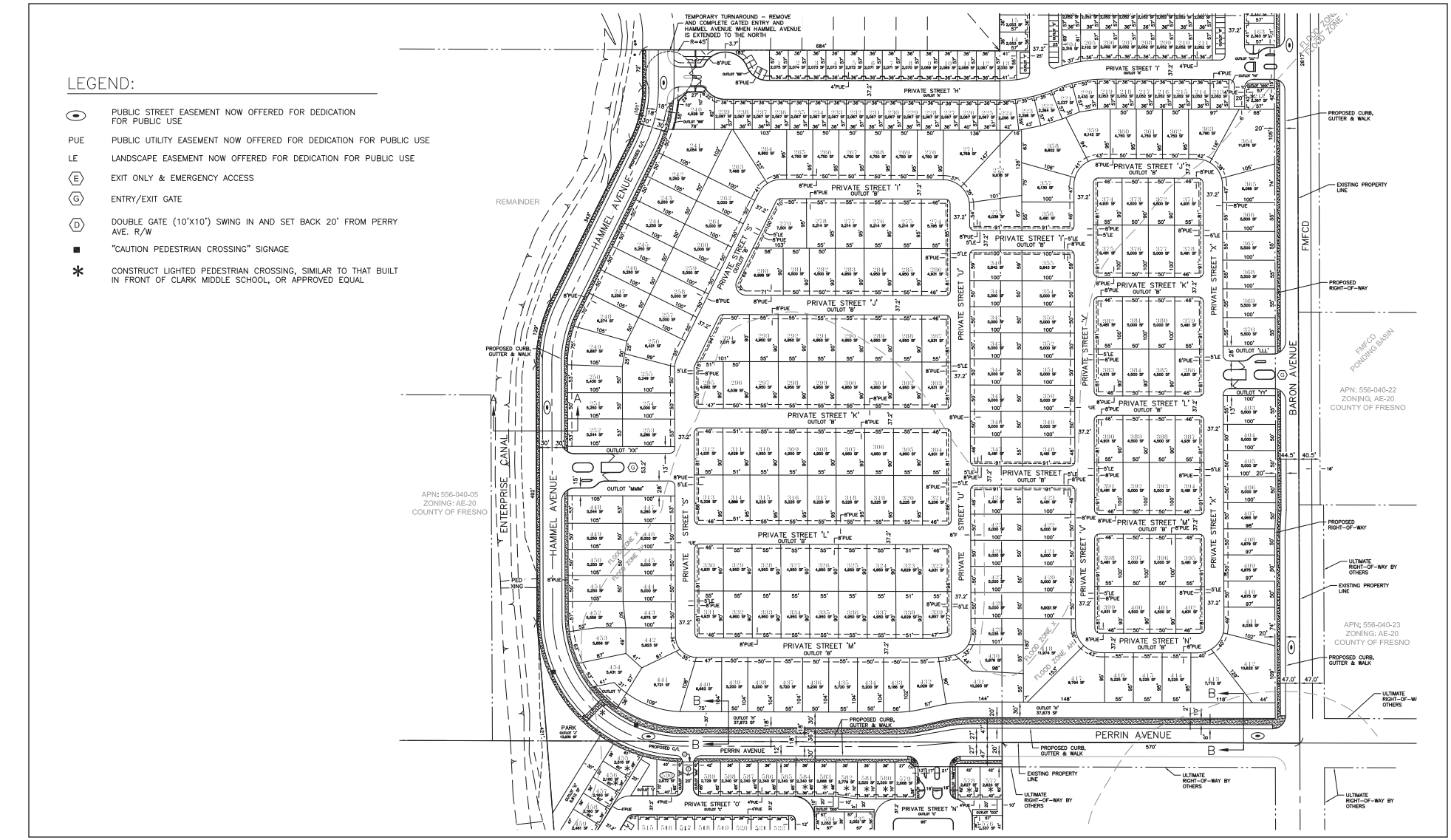

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FIGURE 3-5

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SOURCE: Harbor & Associates, January 2022

Tract Map 6343
Central: Phase 2

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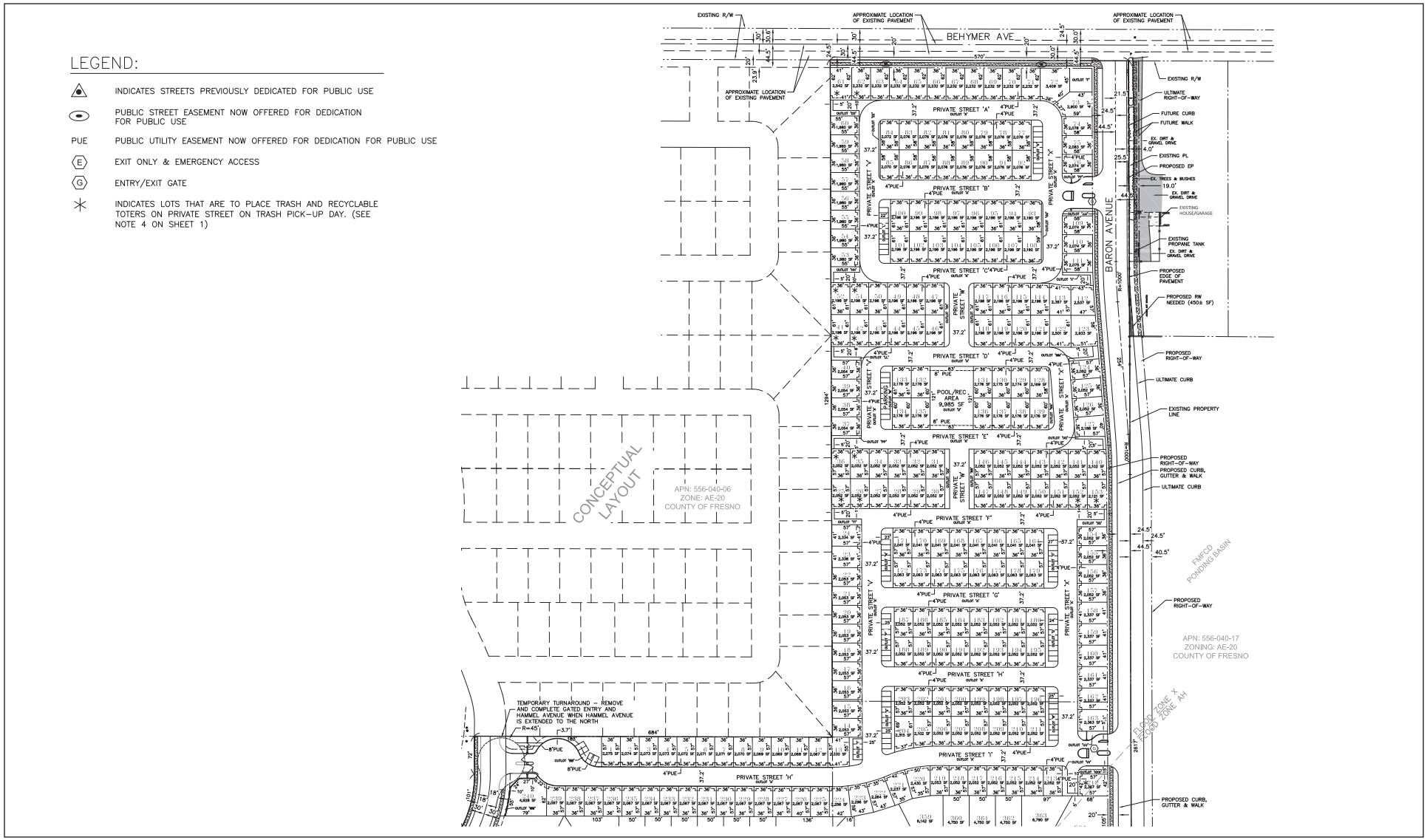

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FIGURE 3-6

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Tract Map 6343
North: Phase 3

SOURCE: Harbor & Associates, January 2022

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3.3.3 Open Space

As described above the proposed project would include the construction of an approximately 8,745 square-foot community pool and recreation area with concrete paving, restrooms, and a shade structure, and an approximately 13,930 square-foot community park with pedestrian pathways, outdoor benches, and shade trees within Phase 1. In addition, the proposed project would include the construction of an approximately 9,985 square-foot pool and recreation area with concrete paving, restrooms, and a shade structure within Phase 3.

3.3.4 Lighting

The proposed project would introduce new sources of light into the project site. All permanent street lights would be installed consistent with City standards.

3.3.5 Utilities and Infrastructure

3.3.5.1 Water

Water supply for the proposed project would be provided by the City of Clovis. The project would require the construction of a 24-inch water main along Behymer Avenue from the west limits of the Tract 6343 project site to Baron Avenue. Additionally, the project would construct a 24-inch main along Baron Avenue, from Behymer Avenue to Perrin Avenue. The proposed improvements would be consistent with the City's Water Master Plan and the City's specifications on materials, depth, and resurfacing.

3.3.5.2 Wastewater

Wastewater services for the proposed project would be provided by the City of Clovis. The proposed project would connect to an existing wastewater main within the right-of-way of North Baron Avenue.

3.3.5.3 Stormwater Management

The FMFCD would provide flood control and urban storm water services to the project site. Stormwater from the project site would be drained through surface and subsurface drainage infrastructure located along Baron, Perrin and Hammel Avenues as well as along internal roadways in the project site and redirected towards FMFCD ponding Basin BY, which is adjacent to the project site's eastern boundary.[4]

In addition, a 1,300-foot long, 26-foot-wide drainage channel would be constructed along the north side of the Perrin Avenue extension to direct stormwater flows west from the project site, towards drainage infrastructure along the Enterprise Canal.

[4] Fresno Metropolitan Flood Control District. 2019. Storm Drainage and Flood Control Master Plan. Website: https://www.fresnofloodcontrol.org/wp-content/uploads/2021/03/exhibit-A-11x17-1.pdf (accessed April 19, 2022).

Storm drainage pipelines would be constructed along North Baron Avenue and along interior roadways in the project site to drain stormwater from the project site towards Basin BY. These storm drainage facilities would be constructed pursuant to requirements of the FMFCD Master Plan.

3.3.5.4 Solid Waste

Solid waste collection for the project site would be provided by the City of Clovis, and recycling and green waste collection would be provided by Republic Services.

3.3.5.5 Electricity and Telecommunication

Electricity for the proposed project would be supplied by the Pacific Gas and Electric Company (PG&E) through connections to existing service lines. The proposed project would rely on electricity for all power needs, and natural gas would not be provided to the project site. Telecommunication services to the project site would be provided by Comcast and AT&T.

3.3.6 Site Access and Circulation

Access to the project site would be provided by East Behymer Avenue and by a southern extension of North Baron Avenue, to be constructed during Phase 1 of the proposed project along the eastern boundary of the project site. The proposed project would construct approximately 2,650 feet of North Baron Avenue south of East Behymer to connect with the existing stretch of North Baron Avenue located southeast of the project site. This portion of North Baron Avenue would be approximately 49 feet wide and have two lanes, a turn lane, and one bike lane and shoulder along the east side.

An approximately 20-foot-wide parkway containing an approximately 6-foot-wide pedestrian sidewalk and landscaped areas would be included along the western side of North Baron Avenue along the project site. An approximately 16-foot-wide parkway containing an approximately 6-foot-wide pedestrian sidewalk and landscaped area that is reduced from the Heritage Grove Neighborhood Boulevard Street section would be included along the eastern side of North Baron Avenue, along the FMFCD Basin BY frontage. The eastern side of North Baron Avenue that is north of Basin BY will ultimately be built out with an approximately 20-foot-wide parkway, matching the Heritage Grove Neighborhood Boulevard Street section. However, this section of the parkway will not be constructed with Tract 6343 in order to minimize the impact on the adjacent rural residential property. The pedestrian walk and bike lane will continue north of Basin BY to East Behymer Avenue with Tract 6343, but the improvements will be temporary until the adjacent rural residential parcel on the east side of North Baron Avenue develops further, at which point they will be modified. The exact configuration will be approved by the City Engineer with the project design plans.

To access the project site, three gated ingress and egress streets would be constructed along the southern extension of North Baron Avenue. One gated ingress and egress driveway would also be constructed along Hammel Avenue. A temporary secondary access connecting Hammel Avenue to North Baron Avenue would be constructed along the northern end of Hammel Avenue during Phase 3. One gated ingress and egress street and one gated egress access street would be constructed along Perrin Avenue.

Vehicle circulation within the project site would be provided by a network of two-way, 37.2-foot-wide private streets. Internal roadways within the project site would include Hammel Avenue, which is located along the project site's western boundary, and Perrin Avenue, which crosses the project site west to east.

3.3.7 Construction

Construction of the proposed project is expected to take place in three phases over a period of 33 months starting in December 2023. Construction is expected to take place consecutively, with each phase constructed separately. Site preparation would include demolition of existing structures, and removal of rocks, debris, and vegetation from the project site. Grading would require the import of approximately 41,000 cubic yards of soil to level the project site.

3.4 DISCRETIONARY ACTIONS AND USES OF THIS EIR

A number of permits and approvals, including discretionary actions, are listed in Table 3.A and would be required prior to implementation of the proposed project. As lead agency for the proposed project, City of Clovis would be responsible for the majority of the approvals required for development. Other agencies may also have some authority related to the project and its approvals.

Table 3.A: Required Permits and Approvals

Agency	Permit/Approval
County of Fresno/City of Clovis	Williamson Act Contract Cancellation
Fresno Local Agency Formation Commission (LAFCo)	Annexation
State Water Resources Control Board (SWRCB)	National Pollutant Discharge Elimination System (NPDES) General Permit (with requisite Storm Water Pollution Prevention Plan, Conceptual Storm Water Pollution Prevention Plan, and Permanent Control Measures)

Source: Compiled by LSA (2023).

The proposed project would include annexation of approximately 246 acres, including the 71.54-project site. No development is proposed within the remaining approximately 174.46-acre annexation area surrounding the project site, and any future development occurring within the annexation area would require separate, project-specific analysis and approvals.

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4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

This chapter contains an analysis of each potentially significant environmental issue that has been identified for Tract Map 6343 ("proposed project"). The following: (1) identifies how a determination of significance is made; (2) identifies the environmental issues addressed in this chapter; (3) describes the context for the evaluation of cumulative effects; (4) lists the format of the topical issue section; and (5) provides an evaluation of each potentially significant issue in Sections 4.1 through 4.5.

DETERMINATION OF SIGNIFICANCE

Under the California Environmental Quality Act (CEQA), a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The CEQA Guidelines direct that this determination be based on scientific and factual data. The impact evaluation in this chapter is prefaced by criteria of significance, which are the thresholds for determining whether an impact is significant. These criteria of significance are based on the CEQA Guidelines and applicable City policies.

ISSUES ADDRESSED IN THE DRAFT EIR

Sections 4.1 through 4.5 of this chapter describe the environmental setting of the project as evaluated in this Environmental Impact Report (EIR) and the impacts that are expected to result from implementation of the proposed project. Mitigation measures are proposed to reduce potential impacts, where appropriate.

4.1 Agricultural Resources
4.2 Air Quality
4.3 Greenhouse Gas Emissions
4.4 Noise
4.5 Transportation

ENVIRONMENTAL SETTING

This chapter has been prepared in accordance with CEQA Guidelines Section 15125, which states: "An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. The environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to provide an understanding of the physical effects of the proposed project and its alternatives."

The Notice of Preparation (NOP) of an EIR for the proposed project was published on December 19, 2022. Thus, each of the environmental topical sections in this chapter includes a discussion of physical conditions in the vicinity of the project site on or around this date.

CUMULATIVE ANALYSIS CONTEXT

CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable, or which can compound to increase other environmental impacts." Section 15130 of the CEQA Guidelines requires that an EIR evaluate potential environmental impacts when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of "reasonably foreseeable probable future" projects, per CEQA Section 15355. Cumulative impacts can result from a combination of the proposed project together with other closely related projects that cause an adverse change in the environment. Cumulative impacts can result from individually minor but collectively significant projects taking place over time.

The methodology used for assessing cumulative impacts typically varies depending on the specific topic being analyzed. CEQA requires that cumulative impacts be discussed using either a list of past, present, and probable future projects producing related or cumulative impacts, or a summary of projections contained in an adopted local, regional, or Statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. This EIR uses both approaches to evaluate cumulative impacts, and the particular approach used depends on the topical area under consideration. Refer to the cumulative discussion in the individual topic sections for further discussion and the identification of the cumulative study for each topic.

FORMAT OF ISSUE SECTIONS

The environmental topical section comprises two primary parts: (1) Environmental Setting, and (2) Impacts and Mitigation Measures. An overview of the general organization and the information provided in the two parts is provided below:

- **Environmental Setting.** The Environmental Setting section for the environmental topic generally provides a description of the applicable physical setting (e.g., existing land uses, existing traffic conditions) for the project site. An overview of regulatory considerations that are applicable to each specific environmental topic is also provided.

- **Impacts and Mitigation Measures.** The Impacts and Mitigation Measures section for the environmental topic presents a discussion of the impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts from the proposed project and mitigation measures, as appropriate. Cumulative impacts are also addressed.

Impacts are numbered and shown in bold type, and the corresponding mitigation measures are numbered and indented. Impacts and mitigation measures are numbered consecutively and begin with an acronymic or abbreviated reference to the impact section (e.g., TRA for Transportation). The following symbols are used for individual topics:

AG	Agricultural Resources
AIR	Air Quality
GHG	Greenhouse Gas Emissions
NOI	Noise
TRA	Transportation

Impacts are also categorized by type of impact, as follows: No Impact, Less-Than-Significant, Less-Than-Significant with Mitigation Incorporated, and Potentially Significant.

ENVIRONMENTAL ISSUES

Sections 4.1 through 4.5 of this chapter describe the environmental setting of the project as it relates to each specific environmental topic evaluated in the EIR and the impacts that are expected to result from implementation of the proposed project. Mitigation measures are proposed to reduce potential impacts, where appropriate.

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4.1 AGRICULTURAL RESOURCES

The analysis in this section is based on information from the Farmland Impact Assessment prepared for the Heritage Grove Senate Bill (SB) 2 Grant Technical Studies Project[1] (Farmland Impact Assessment), LESA model prepared for the proposed project site[2] (Appendix C) and the Agriculture and Forestry Resources section of the Clovis General Plan Environmental Impact Report (EIR).[3]

4.1.1 Environmental Setting

4.1.1.1 Project Area

The proposed project includes annexation of 246 acres by the City of Clovis, 71.54 acres of which is proposed to be developed as residential uses. The 71.54-acre project site is on Assessor's Parcel Numbers (APNs) 556-040-07S, -08S, and 556-030-14S, within the Northwest Urban Center area, now referred to as Heritage Grove, which has been identified for development in the 2014 City of Clovis General Plan. The project site is currently used for agriculture and contains one rural residence. The project site is bounded by East Behymer Avenue to the north, by the Enterprise Canal to the west and south, and by rural residential, a Fresno Metropolitan Flood Control District (FMFCD) ponding basin, and Tract Map 6200 to the east. The project site and adjacent parcels would become urbanized as development of the Heritage Grove Specific Plan Area takes place.

Parcel APN 556-030-14S is currently under a Williamson Act contract[4], while all other parcels within the project site are not under a Williamson Act contract. Agriculture crops that have been historically grown on the project site include pistachios, almonds, wheat, cotton, grapes, and oranges.[5] There is one existing dwelling unit in the project site, consisting of a single-family residence and three agriculture-related outbuilding structures.

4.1.2 Regulatory Setting

The applicable federal, State, regional, and local regulatory framework is discussed below.

4.1.2.1 Federal Regulations

United States Department of Agriculture - Natural Resource Conservation Service. The United States Department of Agriculture's Natural Resource Conservation Service (NRCS) was originally established by Congress in 1935 as the Soil Conservation Service (SCS). In 1994, SCS's name was

1 LSA. 2022. Farmland Impact Assessment, Heritage Grove SB 2 Grant Technical Studies Project, City of Clovis, California. February.

2 LSA. 2023a. Land Evaluation and Site Assessment Model (LESA Model) for the Tract Map (TM) 6343 Project. August 22.

3 City of Clovis. 2014. General Plan and Development Code Update PEIR. Agriculture and Forestry Resources. Website: https://cityofclovis.com/wp-content/uploads/2018/10/Chapter-05-02-Agriculture-and-Forestry-Resources.pdf (accessed April 2023).

4 A petition for the cancellation of the Williamson Act Contract for APN 556-030-14S is currently in progress, pursuant to conditions set forth in Government Code (GC) § 51280 et seq.

5 United States Department of Agriculture. 2021. National Agriculture Statistics Service. CropScape-Cropland Data Layer. Website: https://nassgeodata.gmu.edu/CropScape/ (accessed April 2023).

changed to the Natural Resources Conservation Service to better reflect the broadened scope of the agency's concerns.

The Natural Resources Conservation Service (NRCS) Soil Survey Division is the lead agency for the National Cooperative Soil Survey (NCSS), a joint effort of Federal and State agencies, universities, and professional societies. The NRCS Soil Survey Division maps and describes soils by land area, such as a City or county, which are compiled into a document called a "Soil Survey." The soil surveys contain information about each soil including the acreage and extent of each soil type in a given area, its classification, its physical and chemical properties, its land capability classification (LCC) and the Storie Index.

Land Capability Classification. The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receive the highest rating (Class I) (refer to Table 4.1.A). Specific subclasses are also utilized to further characterize soils. Capability subclasses are designated by adding a letter (i.e., e, w, s or c) to the class number (refer to Table 4.1.B). For example, the letter e indicates that the main limitation of the soil being erosion unless close-growing plant cover is maintained; w indicates that water in or on the soil interferes with plant growth or cultivation; s indicates that the soil is limited mainly because it is shallow, droughty, or stony; and c, used in only some part of the United States, indicates that the chief limitation is climate that is very cold or very dry.[6]

Storie Index. The Storie Index provides a numeric rating (based upon a 100 point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are considered in the index rating. The factors are profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity).[7] [8]

4.1.2.2 State Regulations

California Department of Conservation Farmland Mapping and Monitoring Program. In 1982, the Department of Conservation (DOC) began coordinating with the United States Department of Agriculture (USDA) Soil Conservation Service in the preparation and completion of Important Farmland mapping for California through the establishment of the Farmland Mapping and Monitoring Program (FMMP). The FMMP created a greater level of mapping compared to the USDA Soil Conservation Service by modifying the federal criteria for use in California and incorporating

[6] Klingebiel, A.A. (Albert Arnold), and P.H. (Paul Hooper) Montgomery. 1961. Land-Capability Classification. *Agricultural Handbook No. 210*. Soil Conservation Service, U.S. Department of Agriculture. Website: https://naldc.nal.usda.gov/catalog/CAT10310193 (accessed May 2023).

[7] Storie, R. 1932. *An index for rating the agricultural values of soils*. Bulletin 556. Berkeley: California Agricultural Experiment Station.

[8] Storie, R. 1978. Storie index soil rating. Oakland: *University of California Division of Agricultural Sciences Special Publication* 3203.

Table 4.1.A: USDA Land Capability Classifications

United States Department of Agriculture Land Capability Classifications	
Class	**Definition**
Class I (1)	Soils have slight limitations that restrict their use.
Class II (2)	Soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.
Class III (3)	Soils have severe limitations that reduce the choice of plants or require special conservation practices, or both.
Class IV (4)	Soils have very severe limitations that restrict the choice of plants or require very careful management, or both.
Class V (5)	Soils have little or no hazard of erosion but have other limitations, impractical to remove, that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
Class VI (6)	Soils have severe limitations that make them generally unsuited to cultivation and that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
Class VII (7)	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife.
Class VIII (8)	Soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, or water supply or for esthetic purposes.

Source: Soil Conservation Service, U.S. Department of Agriculture (1961).

Table 4.1.B: Land Capability Subclass Units

United States Department of Agriculture Land Capability Subclass Units	
Unit	**Definition**
e	Subclass e is made up of soils for which the susceptibility to erosion is the dominant problem or hazard affecting their use. Erosion susceptibility and past erosion damage are the major soil factors that affect soils in this subclass.
w	Subclass w is made up of soils for which excess water is the dominant hazard or limitation affecting their use. Poor soil drainage, wetness, a high water table, and overflow are the factors that affect soils in this subclass
s	Subclass s is made up of soils that have soil limitations within the rooting zone, such as shallowness of the rooting zone, stones, low moisture-holding capacity, low fertility that is difficult to correct, and salinity or sodium content.
c	Subclass c is made up of soils for which the climate (the temperature or lack of moisture) is the major hazard or limitation affecting their use.

Source: Soil Conservation Service, U.S. Department of Agriculture (1961).

irrigation criteria for farmland significance. The primary purpose of the FMMP is to monitor the conversion of California's agricultural lands. The DOC Division of Land Resource Protection works with landowners, local governments, and researchers to conserve California's farmland and open space resources based on information provided in the FMMP.

The DOC FMMP produces maps and statistical data used for analyzing impacts on agricultural resources. Agricultural land is categorized according to soil quality and irrigation status. The maps are updated every 2 years through review of aerial photographs, a computer mapping system,

public review, and field reconnaissance. The latest countywide data available are for the period from 2014 to 2016. The FMMP categories are defined as follows:

- **Prime Farmland.** The best combination of physical and chemical features and able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- **Farmland of Statewide Importance.** Similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- **Unique Farmland.** Lesser-quality soils used for production of the state's leading agricultural crops. This land is usually irrigated but may include nonirrigated orchards or vineyards. Land must have been cultivated at some time during the four years prior to the mapping date.

- **Farmland of Local Importance.** Land of importance to the local economy, as defined by each county's local advisory committee and adopted by its board of supervisors. In Fresno County, this refers to all farmable lands in the county that do not meet the definitions of Prime, Statewide, or Unique. This includes land that is or has been used for irrigated pasture, dryland farming, confined livestock and dairy, poultry facilities, aquaculture, and grazing land.

- **Grazing Land.** Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

- **Urban and Built Up Land.** Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

- **Other Land.** Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

California Land Conservation (Williamson) Act. The California Land Conservation Act, better known as the Williamson Act, has been the State's most important agricultural land protection program since its enactment in 1965. Fundamentally, the Williamson Act is a State policy administered by local governments. Local governments are not mandated to administer the act, but those that do have some latitude to tailor the program to suit local goals and objectives.

Williamson Act contracts have a minimum term of 10 years, with renewal occurring automatically each year (local governments can establish initial contract terms for longer periods of time). The contracts run with the land and are binding on all successors in interest of the landowner. Only land located within an agricultural preserve is eligible for Williamson Act contracts. An agricultural preserve defines the boundary of an area within which a city or county would enter into contracts with landowners. The boundary is designated by resolution of the board of supervisors or city council having jurisdiction. The rules of each agricultural preserve specify the uses allowed. Generally, any commercial agricultural uses would be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted with a use permit.

California Environmental Quality Act. The California State Legislature adopted CEQA in 1970 to identify, protect, and minimize impacts to the State's environmental resources. CEQA is codified as Section 21000 of the State's Public Resources Code. CEQA vests the primary responsibility of carrying out its objectives to local municipalities. In determining whether a proposed project may have a significant effect on agricultural resources, the City of Clovis uses the thresholds provided in Appendix G of the CEQA Guidelines. **Public Resources Code 21095 - California Agricultural Land Evaluation and Site Assessment Model.** LESA is a term used to define an approach for rating the relative quality of agricultural land based upon specific measurable features. The formulation of a California LESA Model is the result of Senate Bill 850 (Chapter 812/1993), which charges the Resource Agency (in consultation with the Governor's Office of Planning and Research) with developing an amendment to Appendix G of the *State CEQA Guidelines* concerning agricultural lands. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095).

A LESA analysis is based on the following definition of agricultural land contained in CEQA, Public Resources Code Section 21060.1:

> *21060.1 (a) "Agricultural land" means prime farmland, farmland of statewide importance, or unique farmlands, as defined by the United States Department of Agriculture land inventory and monitoring criteria as modified for California.*
>
> *21060.1 (b) In those areas of the state where lands have not been surveyed for the classifications specific in subdivision (a), "agricultural land" means land that meets the requirement of "prime agricultural land" as defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code [the Williamson Act].*

Public Resources Code 12220 (g) – Forest Land. "Forest land" is land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

Public Resources Code 4526 - Timberland. "Timberland" means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and

other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis.

Public Resources Code 51104 (g) – Timberland Production Zone. "Timberland production zone" or "TPZ" means an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses.

California Civil Code 3482.5 – "Right-to-Farm" Law. No agricultural activity, operation, or facility, or appurtenances thereof, conducted or maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards, as established and followed by similar agricultural operations in the same locality, shall be or become a nuisance, private or public, due to any changed condition in or about the locality, after it has been in operation for more than three years if it was not a nuisance at the time it began.

4.1.2.3 Regional Regulations

Fresno County Ordinance Code §17.04.100 – Right-to-farm notice. If a subdivision is at any point within three hundred feet of an AE (Exclusive Agriculture), AL (Limited Agriculture), TPZ (Timberland Preserve) or RC (Resource Conservation) Zone District, the approval of the tentative and final subdivision map shall be conditional upon the recordation with the Fresno County recorder of a notice in substantially the following form:

> *FRESNO COUNTY RIGHT-TO-FARM NOTICE*
>
> *It is the declared policy of Fresno County to preserve, protect, and encourage development of its agricultural land and industries for the production of food and other agricultural products. Residents of property in or near agricultural districts should be prepared to accept the inconveniences and discomfort associated with normal farm activities. Consistent with this policy, California Civil Code 3482.5 (right-to-fate law) provides that an agricultural pursuit, as defined, maintained for commercial uses shall not be or become a nuisance due to a changed condition in a locality after such agricultural pursuit has been in operation for three years.*

4.1.2.4 Local Regulations

City of Clovis General Plan. The City of Clovis General Plan is the official policy statement of the City Council to guide private and public development of the City, as well as the City's own operations and decisions. The General Plan helps to ensure that land use decisions are in conformance with the long-range program designed to protect and further the public interest related to the City of Clovis' growth and development. Table 4.1.C lists the City of Clovis General Plan policies related to agricultural resources.

Table 4.1.C: City of Clovis General Plan Policies Related to Agricultural Resources

Policy/Action Item Number	Policy/Action Item
Open Space and Conservation Element	
Policy 2.1	**Stewardship.** Promote responsible planning and management of land and resources among property owners.
Policy 2.4	**Agricultural lands.** Preserve the city's agricultural legacy through the Agricultural land use designation, memorialize agricultural history and culture, and facilitate thoughtful conversion of lands to development.
Policy 2.5	**Right to farm.** Support, encourage, and protect agricultural operations within Clovis and recognize their right to farm.
Policy 2.8	**Urban forest.** Maintain and enhance a diverse and healthy urban forest on public and private lands.

Source: City of Clovis General Plan (August 2014).

4.1.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to agricultural resources that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the recommended mitigation measures. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed. A brief discussion about why a detailed analysis of potential impacts to forestry resources is not included in this section is also included below.

4.1.3.1 Significance Criteria

Based on *State CEQA Guidelines* Appendix G, the proposed project would have a significant impact on agricultural resources if it would:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract; or

c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

4.1.3.2 Project Impacts

The following discussion describes the potential impacts related to agricultural resources that could result from implementation of the proposed project.

a. **Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use**

The project site is approximately 71.54 acres in size, contains one rural residence that occupies approximately 1.6 acres, and is being used for agriculture. The agricultural crops that have been historically grown on the project site include pistachios, almonds, wheat, cotton, grapes, and oranges.[9] In 2022, a Farmland Impact Assessment was prepared for the Heritage Grove SB 2 Grant Technical Studies Project[10] and potential impacts to Important Farmland in the Heritage Grove area of Clovis were assessed. The Heritage Grove Farmland Impact Assessment included the TM 6343 project site. Table 4.1.D contains the total acreage of Farmland as designated by the FMMP that would be directly impacted by the development of the Heritage Grove Study Area, as assessed by the Farmland Impact Assessment.

Table 4.1.D: Farmland Mapping and Monitoring Program Farmland Designations in the Heritage Grove Study Area

FMMP Designations	Acres in Heritage Grove Study Area
Prime Farmland	745.0
Farmland of Statewide Importance	84.6
Unique Farmland	252.7
Farmland of Local Importance	352.0
Total	**1,434.2**

Source: California Department of Conservation, Farmland Mapping and Monitoring Program, 2018 Fresno County. Website: https://gis.conservation.ca.gov/portal/home/group.html?id=b1494c705cb34d01acf78f4927a75b8f#overview (accessed October 26, 2021).
FMMP = Farmland Mapping and Monitoring Program

As shown in Table 4.1.D, The FMMP identifies approximately 1,434.2 acres of farmland within the Heritage Grove Study Area. Additionally, the Heritage Grove Farmland Impact Assessment confirmed through the preparation of a LESA Model that conversion of farmland in the Heritage Grove Area would be a significant impact.

According to the FMMP, 1.15 acres of the project site is designated as Prime Farmland, 3.41 acres is designated as Farmland of Statewide Importance, 35.40 acres is designated as Unique Farmland, and 31.56 acres is designated as Farmland of Local Importance.[11] To narrow down potential project-level impacts to agricultural resources, comply with General Plan resource evaluation requirements for projects that would convert farmland, and determine the significance of conversion of Important Farmland (i.e., prime farmland, farmland of statewide importance, or unique farmlands) within the

[9] United States Department of Agriculture. 2021. National Agriculture Statistics Service. CropScape-Cropland Data Layer. Website: https://nassgeodata.gmu.edu/CropScape/ (accessed April 2023).

[10] LSA. 2022. Farmland Impact Assessment, Heritage Grove SB 2 Grant Technical Studies Project, City of Clovis, California. February.

[11] LSA. 2023a. Land Evaluation and Site Assessment Model (LESA Model) for the Tract Map (TM) 6343 Project. August 22.

project site boundaries to non-agricultural uses, a California LESA Model was prepared for the project site.

The LESA Model is composed of a Land Evaluation (LE) portion, which measures soil quality, and the Site Assessment (SA) portion, which evaluates other factors that contribute to the project site's agricultural importance (e.g., parcel size and on-farm investments). The final LESA score for the project site is provided below in Table 4.1.E.

Table 4.1.E: Land Evaluation and Site Assessment Scoring for TM 6343 Project

Factor Name	Factor Rating (0-100 Points)	×	Factor Weighting (Total = 1.00)	=	Weighted Factor Rating
Land Evaluation					
1. Land Capability Classification	40	×	0.25	=	10
2. Storie Index Rating	61.09	×	0.25	=	15.27
Land Evaluation (LE) Subscore					**25.27**
Site Assessment					
1. Project Size	20	×	0.15	=	3
2. Water Resource Availability	20	×	0.15	=	3
3. Surrounding Agricultural Land	90	×	0.15	=	13.5
4. Protected Resource Lands	0	×	0.05	=	0
Site Assessment (SA) Subscore					**19.5**
Total LESA Score (LE + SA)					**44.77**

Source: Land Evaluation and Site Assessment Model (LESA Model) for the Tract Map (TM) 6343 Project (LSA. 2023a).

A Final LESA Score of 0 to 39 points is not considered significant. A final score between 40 to 59 points is considered significant only if the LE and SA subscores are each greater than or equal to 20 points. A final score between 60 to 79 points is considered significant unless either the LE or SA subscores is less than 20 points. A final score between 80 to 100 points is considered significant.

The proposed project achieved a Final LESA Score of 44.77 points, with an LE subscore of 25.27 points, and SA subscore of 19.5 points. Because the SA subscore was below 20 points, the LESA Model concluded that the conversion of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance associated with implementation of the proposed project would not be considered significant and would not represent a significant impact to agricultural resources under CEQA.

The City's General Plan EIR included Mitigation Measure 2-3, described below, to address the conversion of agricultural land in the City:

Mitigation Measure 2-3 Pending adoption of a regional agricultural preservation program or local FFP, or if a regional agricultural preservation program or local FFP is not in place by June 25, 2017, the following requirements shall apply:

1) Project applicants for properties that include more than 20 acres designated Prime Farmland, Farmland of Statewide Importance, or Unique Farmland shall prepare or fund an agricultural resource evaluation prior to project approval.

2) The resource evaluation shall use generally accepted methodologies (such as the Land Evaluation and Site Assessment Model) to identify the potentially significant impact of the loss of agricultural land.

3) If the loss of agricultural land is determined to be a potentially significant impact, the resource evaluation shall consider the economic viability of future agricultural use of the property.

4) If the agricultural resource is considered significant (based on LESA or other accepted methodology) and future agricultural use is considered economically viable, the conversion will be deemed significant, the City shall require mitigation by one of the following methods:

    a) Mitigation at a 1:1 ratio of converted to preserved acreage through a regional conservation easement, or payment of its valuation equivalent if a fee mitigation program is established. If 1:1 mitigation is determined to be economically infeasible, based upon all of the evidence, the ratio may be reduced to an economically feasible ratio or no further mitigation shall be required. This determination shall be made by the City's Director of Planning and Development Services based upon substantial evidence in the record; or

    b) Other potential mitigation which achieves the same mitigating effect as the measures identified above, consistent with the CEQA Statutes and Guidelines. This determination shall be made by the City's Director of Planning and Development Services based upon substantial evidence in the record.

Development of the project site would result in the conversion of Important Farmland delineated on the latest California Department of Conservation maps[12] to non-agricultural uses. Pursuant to the General Plan Mitigation Measure 2-3, the project site has been evaluated through the preparation of a site specific LESA that identified that conversion of farmland associated with the project would

[12] LSA. 2023a. Land Evaluation and Site Assessment Model (LESA Model) for the Tract Map (TM) 6343 Project. August 22.

not result in a significant impact. As such, General Plan Mitigation Measure 2-3 requirements have been fulfilled. Impacts associated with future development of the project site and the conversion of Important Farmland to non-agricultural use would be less than significant.

Impact AG-1: The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

Level of Significance Without Mitigation: Less Than Significant Impact.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The project site is currently zoned within the Exclusive Agricultural Zoning District (AE-20) of Fresno County. This district is intended to protect the welfare of the agricultural community of the county from encroachment of non-related uses of the land that could be detrimental to the agricultural community's physical and economic well-being. As previously discussed, the project site is located within the Heritage Grove Area. The City of Clovis has identified Heritage Grove for development, and as such plans on annexing land within Heritage Grove into the City of Clovis. Once annexation has been completed, the parcels within the Heritage Grove Area will be zoned in accordance with the Chapter 9.08, Zoning District, of the Municipal Code and designated land uses for the Heritage Grove parcels will be established as outlined in the City's General Plan. The designated land use for the project site, according to the City of Clovis General Plan, includes Medium Density Residential.[13] Once the project site and the remaining Heritage Grove Area are annexed to the City, there will be no parcels zoned for agricultural use at the project site and vicinity. As such, future development occurring in the project site would not conflict with agricultural zoning. This impact would be less than significant.

Assessor's Parcel Number 556-030-014S on the project site is currently under a Williamson Act contract. The proposed project would include the construction of a 590-unit residential development, which is not a compatible use for land under a Williamson Act contract.[14][15] As APN 556-030-014S is identified for development pursuant to the General Plan, a Williamson Act cancellation process for the parcel would take place prior to issuance of building permits for the proposed project. As such, Mitigation Measure AG-2 would be implemented to ensure compliance with the required procedure for cancellation of the Williamson Act contract at APN 556-030-014S. With implementation of Mitigation Measure AG-2, by the time project development begins at the project site, there would be no parcels within the project site under a Williamson Act contract. Therefore, the proposed project would not conflict with zoning for agriculture or a Williamson Act contract, and the impact would be less than significant with mitigation.

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13 City of Clovis. 2014. General Plan. Land Use Element. Figure LU-2: Land Use Diagram. Website: https://cityofclovis.com/wp-content/uploads/2018/10/Figure-LU-2.pdf. (accessed April 2023).

14 California Government Code of the State of California Sections 51201, 51231, 51238 or 51238.1.

15 County of Fresno. 2013. Board Briefing Report, *Status Report Regarding Administration of the Williamson Act Program*, Alan Weaver, Director Department of Public Works and Planning. February 21, 2013.

Impact AG-2: The project would conflict with existing zoning for agricultural use or a Williamson Act contract.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure AG-2 Prior to issuance of building permits, the Project Applicant would need to petition the County of Fresno Board of Supervisors for cancellation of the Williamson Act contract at APN 556-030-014S. The Project Applicant would have to make the required statutory findings a set forth under Government Code Section 51282(a) to cancel the Williamson Act contract. If the County determines the required findings are met, the Project Applicant would be required to pay a cancellation fee equal to 12.5 percent of the unrestricted market value of the parcels to the County of Fresno as set forth under Government Code Section 51283(b). After approval of the cancellation petition by the Fresno County Board of Supervisors, the Williamson Act contract would then be cancelled on APN 556-030-014S, and the Project Applicant would be able to develop uses that comply with the zoning designation of the parcel per the City of Clovis Zoning Code without the proposed development being inconsistent with a Williamson Act contract.

Level of Significance With Mitigation**:** Less than Significant with implementation of Mitigation Measure AG-2.

c. **Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

The proposed project would result in the construction of 590 residential units in the project site. Currently, there are some parcels directly west and south of the project site, across the Enterprise Canal, and north of the project site, across East Behymer Avenue, that have existing agricultural operations. As such, development of the proposed project could result in land use compatibility issues with adjacent uses. However, as discussed in the Farmland Impact Assessment[16], the project site and these adjacent parcels are located within the Heritage Grove area, and are anticipated to be annexed into the City and converted to non-agricultural land as the City of Clovis builds out pursuant to the General Plan. Such conversion would not be driven by development within the project site. Furthermore, the City would require a separate environmental review for other projects considering such actions. Therefore, incompatibility between agricultural designations and surrounding designations would not drive the conversion of farmland to non-agricultural use.

[16] LSA. 2022. Farmland Impact Assessment Heritage Grove SB 2 Grant Technical Studies Project, City of Clovis, California. February.

However, given that development within the Heritage Grove area would be phased over time, it is possible that once the proposed project is constructed, some adjacent agricultural uses would continue to operate until other projects occupying these parcels are approved. Agricultural operations adjacent to residential uses could be subject to nuisance complaints from neighboring residents and, if escalation to nuisance lawsuits occur, this would create conflict that would hinder continuing agricultural operations at these locations. The City's General Plan contains policies to aid in the preservation of agricultural land, including Policies 2.4 and 2.5 of the General Plan's Open Space and Conservation Element, pursuant to Fresno County Ordinance Code §17.04.100 and the California Civil Code 3482.5. Regulatory Compliance Measure AG-3 would be implemented to ensure notification of Right-To Farm to future residents of the project site, such that residents would be prepared to accept inconveniences and discomfort associated with normal farm activities in parcels adjacent to the project site. Issuance of Right-to-Farm notifications would prevent agricultural operations from being the subject of nuisance complaints and being forced to cease or curtail operations. As such, implementation of the proposed project would not influence the conversion of farmland to non-agricultural uses and impacts associated with changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use would be less than significant.

Impact AG-3: The project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

Level of Significance Without Mitigation: Less Than Significant Impact. No mitigation is required. The following regulatory compliance measure pertaining to issuance of Right-to-Farm notifications is applicable to the proposed project.

Regulatory Compliance Measure AG-3 Pursuant to California Civil Code 3482.5 and Fresno County Ordinance Code §17.04.100, prior approval of building occupancy permits, the Project Applicant shall provide residents of the project site Right-To-Farm notifications. The Right-To-Farm notification would advise future occupants of the project site that they are residing adjacent to agricultural land that has been active for 3 or more years and that they should expect continued activities associated with agricultural production. The Right-to-Farm notice shall include the following:

- *It is the declared policy of Fresno County to preserve, protect, and encourage development of its agricultural land and industries for the production of food and other agricultural products. Residents of property in or near agricultural districts or agriculturally zoned land or active agricultural land should be prepared to accept the inconveniences and discomfort associated with normal farm activities. Such inconveniences and*

discomfort could include but is not limited to the following: Dust generation, heavy equipment operation, noise from heavy equipment operation, dust cropping activity using aircraft, insecticide/pesticide application, no trespassing signage posted on active agricultural land, and the use of crop warmers during cold nights. Consistent with California Civil Code 3482.5 (right-to-farm law), this Right-To- Farm notification provides that an agricultural pursuit, as defined, maintained for commercial uses shall not be or become a nuisance to adjacent land occupied by non-agricultural uses due to a changed condition in a locality after such agricultural pursuit has been in operation for three years.

Level of Significance With Mitigation: Less Than Significant Impact. Implementation of Regulatory Compliance Measure AG-3 would further reduce project-related impacts to a less than significant level.

4.1.3.3 Forestry Resources.

Appendix G of the *State CEQA Guidelines* usually groups analysis for agricultural and forestry resources. However, the Initial Study (included in Appendix A) prepared for this EIR discussed potential impacts on forestry resources resulting from the proposed project. Significance criteria used to evaluate impacts on forestry resources was based on *State CEQA Guidelines* Appendix G and determined that the proposed project would have a significant impact on forestry resources if it would:

a. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))

b. Result in the loss of forest land or conversion of forest land to non-forest use

c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

As described in the Initial Study, the project site is not currently used for timberland production, nor is it zoned for forest land or timberland or is in the vicinity of forest lands or timberland. Additionally, the project site is zoned within the Exclusive Agricultural Zoning District (AE-20) of Fresno County. Therefore, the proposed project would have no impact on forest land or timberland. As such, this topic will not be further discussed in this section of the EIR.

4.1.3.4 Cumulative Impacts

The proposed project would have a significant effect on the environment if – in combination with other projects – it would contribute to a significant cumulative impact related to agriculture. The cumulative impact area is the County of Fresno, which contains lands identified as Important Farmland.

Development of the proposed project would result in the construction of approximately 590 residential units in the project site, which would convert an existing agricultural use to a non-agricultural use. As discussed above, the proposed project is within the Heritage Grove Area, formerly known as Northwest Urban Center, which has been designated for development in the City's General Plan. Although the proposed project would result in the conversion of agricultural resources to non-agricultural uses, because the General Plan has identified that buildout of the General Plan would result in the conversion of agricultural uses to non-agricultural uses, the project would not result in additional impacts that were not previously identified in the General Plan. Additionally, pursuant to Mitigation Measure 2-3 from the General Plan EIR, a site-specific LESA Model was prepared for the project. The site-specific LESA Model determined that conversion of agricultural land associated with the project would be a less than significant impact. As such, requirements of Mitigation Measure 2-3 were fulfilled and the proposed project would not result in new impacts related to the conversion of agricultural land that had not been identified in a previous environmental assessment document.

The City's General Plan EIR identifies that buildout of the General Plan would result in cancellation and nonrenewal of contracts on Prime Agricultural Lands where the land use designation is changed to a nonagricultural or agriculture-incompatible use. Given that the public policy of protecting farmland is embodied in the Williamson Act, the nonrenewal or cancellation of additional lands bearing these contracts to nonagricultural or incompatible uses would be a significant impact. The project site contains APN 556-030-014S, which is currently under a Williamson Act contract. Although the proposed project includes uses not compatible with land under a Williamson Act contract, as the project site is designated for development in the General Plan, cancellation of the contract would take place prior to building permits for the project. Mitigation Measure AG-2 would be implemented to ensure compliance with the required procedure for cancellation of the Williamson Act contract at APN 556-030-014S. Although the cancellation of the Williamson Act contract at APN 556-030-014S would contribute to a significant cumulative impact related to conversion of agricultural land to non-agricultural uses, this impact has already been identified as significant and unavoidable in the General Plan EIR. As such, the proposed project would not result in new impacts related to the conversion of agricultural land that had not been identified in a previous environmental assessment document.

Finally, the project is within the Heritage Grove area, which is marked for development in the City's General Plan. As such, development within the project site would not directly drive the conversion of adjacent agricultural operations to non-agricultural uses. Furthermore, to avoid conflicts between adjacent agricultural operations and residents of the project site throughout the phased buildout of the Heritage Grove area, the project would implement Regulatory Compliance Measure AG-3, which requires notification of Right-to-Farm to future residents of the site to prevent agricultural operations from being the subject of nuisance complaints and being forced to cease or curtail

operations. Therefore, implementation of the proposed project would not drive the conversion of farmland to non-agricultural uses.

Cumulative development located within the City of Clovis and immediately adjacent jurisdictions, such as development that would occur within the City of Fresno and Fresno County, is anticipated to convert agricultural uses to non-agricultural uses, as well as conflict with existing agricultural zoning and Williamson Act contracts. The General Plan EIR has identified that planned development pursuant to the General Plan, which includes the proposed project, would contribute to significant and unavoidable impacts related to conversion of farmland and cancellation of Williamson Act contracts. As a result, the project would not result in new contributions to significant cumulative impacts to agricultural resources.

Impact AG-4: The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to agricultural resources.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure AG-2 and Regulatory Compliance Measure AG-3 above.

Level of Significance With Mitigation: Less Than Significant Impact. The project would contribute to cumulative impacts related to conversion of farmland through development of agricultural land uses to non-agricultural uses and cancellation of a Williamson Act contract, which is a public policy meant to protect farmland from conversion. However, the City of Clovis General Plan EIR previously identified that conversion of farmland and cancellation of Williamson Act contracts resulting from development of the General Plan would result in significant and unavoidable impacts. As such, the project would not result in new significant impacts that would contribute to cumulative impacts to agricultural resources.

4.2 AIR QUALITY

This section has been prepared using the methodologies and assumptions contained in the San Joaquin Valley Air Pollution Control District's (SJVAPCD) Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI). This section describes existing air quality and the regulatory framework for air quality. The section also describes the potential air quality effects of the proposed project, including the effects of construction and operational traffic on regional pollutant levels and health risks. The analysis in this section is based on the California Emissions Estimator Model version 2022.1 (CalEEMod) and the findings of a construction health risk assessment (Appendix D and E, respectively).

4.2.1 Environmental Setting

The following discussion provides an overview of existing air quality conditions in the region and in the City of Clovis. Ambient air quality standards and the regulatory framework are summarized and climate, air quality conditions, and typical air pollutant types and sources are also described.

4.2.1.1 Project Area

The project site is located on the City of Clovis, in the San Joaquin Valley Air Basin (SJVAB). The SJVAB consists of Tulare, Kings, Madera, San Joaquin, Merced, Stanislaus, and Fresno counties, as well as a portion of Kern County. The local agency with jurisdiction over air quality in the SJVAB is the San Joaquin Valley Air Pollution Control District (SJVAPCD). Regional and local air quality is impacted by topography, dominant airflows, atmospheric inversions, location, and season.

4.2.1.2 Air Pollutants and Health Effects

Both State and federal governments have established health-based ambient air quality standards for six criteria air pollutants: carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Two criteria pollutants, O_3 and NO_2, are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO_2, and Pb are considered local pollutants that tend to accumulate in the air locally.

The primary pollutants of concern in the City are O_3, CO, and suspended particulate matter. Significance thresholds established by an air quality district are used to manage total regional and local emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual development projects that would contribute to regional and local emissions and could adversely affect or delay the air basin's projected attainment target goals for nonattainment criteria pollutants.

Because of the conservative nature of the significance thresholds, and the basin-wide context of individual development project emissions, there is no direct correlation between a single project and localized air quality-related health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds

are those with regional effects, such as ozone precursors like nitrogen oxides (NO_X) and reactive organic gases (ROG).

Further, by its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to by itself result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, the air quality districts have considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Occupants of facilities such as schools, daycare centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise.

Air pollutants and their health effects, and other air pollution-related considerations are summarized in Table 4.2.A and are described in more detail below.

Ozone. Ozone (O_3) is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_X. The main sources of ROG and NO_x, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. Automobiles are typically the largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide. CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. CO transport is limited – it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Extremely high levels of CO, such as those generated when a vehicle is running in an unventilated garage, can be fatal.

Table 4.2.A: Sources and Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	● Precursor sources:[1] motor vehicles, industrial emissions, and consumer products.	● Respiratory symptoms. ● Worsening of lung disease leading to premature death. ● Damage to lung tissue. ● Crop, forest, and ecosystem damage. ● Damage to a variety of materials, including rubber, plastics, fabrics, paints, and metals.
Particulate Matter Less than 2.5 Microns in Diameter ($PM_{2.5}$)	● Cars and trucks (especially diesels). ● Fireplaces, woodstoves. ● Windblown dust from roadways, agriculture, and construction.	● Premature death. ● Hospitalization for worsening of cardiovascular disease. ● Hospitalization for respiratory disease. ● Asthma-related emergency room visits. ● Increased symptoms, increased inhaler usage.
Particulate Matter Less than 10 Microns in Diameter (PM_{10})	● Cars and trucks (especially diesels). ● Fireplaces, woodstoves. ● Windblown dust from roadways, agriculture, and construction.	● Premature death and hospitalization, primarily for worsening of respiratory disease. ● Reduced visibility and material soiling.
Nitrogen Oxides (NO_X)	● Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	● Lung irritation. ● Enhanced allergic responses.
Carbon Monoxide (CO)	● Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	● Chest pain in patients with heart disease. ● Headache. ● Light-headedness. ● Reduced mental alertness.
Sulfur Oxides (SO_X)	● Combustion of sulfur-containing fossil fuels. ● Smelting of sulfur-bearing metal ores. ● Industrial processes.	● Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits.
Lead (Pb)	● Contaminated soil.	● Impaired mental functioning in children. ● Learning disabilities in children. ● Brain and kidney damage.
Toxic Air Contaminants (TACs)	● Cars and trucks (especially diesels). ● Industrial sources, such as chrome platers. ● Neighborhood businesses, such as dry cleaners and service stations. ● Building materials and products.	● Cancer. ● Reproductive and developmental effects. ● Neurological effects.

Source: California Air Resources Board (2018).

[1] Ozone is not generated directly by these sources. Rather, chemicals emitted by these precursor sources react with sunlight to form ozone in the atmosphere.

Particulate Matter. Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from human-made and natural sources. Particulate matter is categorized in two size ranges: PM_{10}, for particles less than 10 microns in diameter, and $PM_{2.5}$, for particles less than 2.5 microns in diameter. Motor vehicles are the primary generators of particulates, through tailpipe emissions as well as brake pad, tire wear, and entrained road dust. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According

to the California Air Resources Board (CARB), studies in the United States and elsewhere have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks, and studies of children's health in California have demonstrated that particle pollution may significantly reduce lung function growth in children.[1] Statewide attainment of particulate matter standards could reduce premature deaths, hospital admissions for cardiovascular and respiratory disease, asthma-related emergency room visits, and episodes of respiratory illness in California.

Nitrogen Dioxide. NO_2 is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide. SO_2 is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease. SO_2 also reduces visibility and the level of sunlight at the ground surface.

Lead. Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery factories. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the United States Environmental Protection Agency (USEPA) established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of USEPA regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Toxic Air Contaminants. In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. Some examples of TACs include: benzene, butadiene, formaldehyde, and hydrogen sulfide. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the USEPA, CARB, and the SJVAPCD. In 1998, the CARB identified particulate matter from diesel-fueled engines as a TAC. The

[1] California Air Resources Board (CARB). 2020. *Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10})*. Website: ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health (accessed September 2022).

CARB has completed a risk management process that identified potential cancer risks for a range of activities and land uses that are characterized by use of diesel-fueled engines.[2] High volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources—primarily "off-road" sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as trucks and buses traveling on freeways and local roadways.

The CARB Diesel Risk Reduction Plan is intended to substantially reduce diesel particulate matter emissions and associated health risks through introduction of ultra-low-sulfur diesel fuel—a step already implemented—and cleaner-burning diesel engines.[3] The technology for reducing diesel particulate matter emissions from heavy-duty trucks is well established, and both State and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions.

High Volume Roadways. Air pollutant exposures and their associated health burdens vary considerably within places in relation to sources of air pollution. Motor vehicle traffic is perhaps the most important source of intra-urban spatial variation in air pollution concentrations. Air quality research consistently demonstrates that pollutant levels are substantially higher near freeways and busy roadways, and human health studies have consistently demonstrated that children living within 100 to 200 meters (328 to 656 feet) of freeways or busy roadways have reduced lung function and higher rates of respiratory disease. At present, it is not possible to attribute the effects of roadway proximity on non-cancer health effects to one or more specific vehicle types or vehicle pollutants. Engine exhaust, from diesel, gasoline, and other combustion engines, is a complex mixture of particles and gases, with collective and individual toxicological characteristics.

Valley Fever. Valley fever is a fungal infection caused by coccidioides organisms. It can cause fever, chest pain and coughing, among other signs and symptoms. The coccidioides species of fungi that cause valley fever are commonly found in the soil in certain areas. These fungi can be stirred into the air by anything that disrupts the soil, such as farming, construction and wind. The fungi can then be breathed into the lungs and cause valley fever, also known as acute coccidioidomycosis. A mild case of valley fever usually goes away on its own. In more severe cases of valley fever, doctors prescribe antifungal medications that can treat the underlying infection. Valley Fever is not contagious and therefore does not spread from person to person. Most cases (approximately 60

[2] CARB. 2000a. *Fact Sheet – California's Plan to Reduce Diesel Particulate Matter Emissions*. October. Website: www.arb.ca.gov/diesel/factsheets/rrpfactsheet.pdf (accessed September 2022).

[3] CARB. 2000b. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October. Prepared by the Stationary Source Division and Mobile Source Control Division. Website: www.arb.ca.gov/diesel/documents/rrpFinal.pdf (accessed September 2022).

percent) have no symptoms or only very mild flu-like symptoms and do not see a doctor. When symptoms are present, the most common are fatigue, cough, fever, profuse sweating at night, loss of appetite, chest pain, generalized muscle and joint aches particularly of the ankles and knees. There may also be a rash that resembles measles or hives but develops more often as tender red bumps on the shins or forearms.

4.2.1.3 National and State Ambient Air Quality Standards

Both State and federal governments have established health-based ambient air quality standards for criteria air pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Both the USEPA and the CARB have established ambient air quality standards for the following common pollutants: CO, O_3, NO_2, SO_2, Pb, and suspended particulate matter. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. These ambient air quality standards are levels of contaminants that avoid specific adverse health effects associated with each pollutant.

Federal standards include both primary and secondary standards. Primary standards establish limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, and damage to animals, crops, vegetation, and buildings. State and federal standards for the criteria air pollutants are listed in Table 4.2.B.

4.2.1.4 Existing Climate and Air Quality

The following provides a discussion of the local and regional air quality and climate in the project area.

Regional and Local Air Quality. Air quality is a function of both local climate and local sources of air pollution. The amount of a given pollutant in the atmosphere is determined by the amount of the pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain, and for photochemical pollutants, sunshine.

The project site is located within the SJVAB and is under the jurisdiction of the SJVAPCD. A region's topographic features have a direct correlation with air pollution flow and therefore are used to determine the boundary of air basins. The SJVAB is comprised of approximately 25,000 square miles and covers of eight counties including Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare, and the western portion of Kern. The SJVAB is defined by the Sierra Nevada mountains in the east (8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapi mountains in the south (6,000 to 8,000 feet in elevation). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits where the San Joaquin-Sacramento Delta empties into San Francisco Bay.

Table 4.2.B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]		Federal Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary[c,f]	Method[g]
Ozone (O3)[h]	1-Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10)[i]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter (PM2.5)[i]	24-Hour	-		35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m³)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO2)[j]	Annual Arithmetic Mean	0.03 ppm (57 µg/m³)	Gas Phase Chemi-luminescence	53 ppb (100 µg/m³)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m³)		100 ppb (188 µg/m³)	-	
Lead (Pb)[l,m]	30-Day Average	1.5 µg/m³	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m³ (for certain areas)[l]	Same as Primary Standard	
	Rolling 3-Month Average[i]	–		0.15 µg/m³		
Sulfur Dioxide (SO2)[k]	24-Hour	0.04 ppm (105 µg/m³)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m³)	
	1-Hour	0.25 ppm (655 µg/m³)		75 ppb (196 µg/m³)[k]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[k]	–	
Visibility-Reducing Particles[l]	8-Hour	See footnote n	Beta Attenuation and Transmittance through Filter Tape.	No Federal Standards		
Sulfates	24-Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[j]	24-Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Source: California Air Resources Board (2016).
Footnotes are provided on the following page.

[a] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact USEPA for further clarification and current national policies.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.

[h] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[i] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[j] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[k] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[l] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[m] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[n] In 1989, the CARB 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.

°C = degrees Celsius
µg/m^3 = micrograms per cubic meter
CARB = California Air Resources Board
mg/m^3 = milligrams per cubic meter
ppb = parts per billion
ppm = parts per million
USEPA = United States Environmental Protection Agency

An aerial view of the SJVAB would simulate a "bowl" opening only to the north. These topographic features restrict air movement through and out of the basin.

Although marine air generally flows into the basin from the San Joaquin River Delta, the Coast Range hinders wind access into the SJVAB from the west, the Tehachapi Mountains prevent southerly passage of air flow, and the high Sierra Nevada range is a significant barrier to the east. These topographic features result in weak air flow which becomes blocked vertically by high barometric pressure over the SJVAB. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500 to 3,000 feet).

Local climatological effects, including wind speed and direction, temperature, inversion layers, precipitation and fog, can exacerbate the air quality in the SJVAB. Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing vertically and by transporting it to other locations. For example, in the summer, wind usually originates at the north end of the SJVAB and flows in a south-southeasterly direction through the SJVAB, through Tehachapi pass, into the Southeast Desert Air Basin. In the winter, wind direction is reversed and flows in a north-northwesterly direction. In addition to the seasonal wind flow, a sea breeze flows into SJVAB during the day and a land breeze flowing out of the SJVAB at night. The diversified wind flow enhances the pollutant transport capability within SJVAB.

The annual average temperature varies throughout the SJVAB, ranging from the low 40s to high 90s, measured in degrees Fahrenheit (°F). With a more pronounced valley influence, inland areas show more variability in annual minimum and maximum temperatures than coastal areas. The climatological station closest to the site is the Fresno Yosemite International Airport Station (043257). The monthly average maximum temperature recorded at this station from January 1948 to June 2016 ranged from 54.6°F in January to 98.3°F in July, with an annual average maximum of 76.5°F. The monthly average minimum temperature recorded at this station ranged from 35.3°F in December to 65.7°F in July, with an annual average minimum of 50.4F.[4] These levels are still representative of the project area. January and December are typically the coldest months and July is typically the warmest month in this area of the SJVAB.

The majority of annual rainfall in the SJVAB occurs between November and March. Summer rainfall is minimal and is generally limited to scattered thundershowers in desert regions and slightly heavier showers near the lower portion of the Basin and along the Sierra Nevada mountains to the east. Average monthly rainfall during that period varied from 0.01 inches in July and August to 2.09 inches in January, with an annual total of 10.89 inches.[5] Patterns in monthly and yearly rainfall totals are predictable due to the recognizable differences in seasons within the valley.

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4 Western Regional Climate Center. n.d. Fresno Yosemite International Airport (043257), Period of Record Monthly Climate Summary. Website: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3257 (accessed January 2023).

5 Ibid.

The vertical dispersion of air pollutants in the SJVAB is limited by the presence of persistent temperature inversions. Because of cooling of the atmosphere, air temperature usually decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Inversions can exist at the surface, or at any height above the ground. The height of the base of the inversion is known as the "mixing height." This is the level within which pollutants can mix vertically. Air above and below the inversion base does not mix because of the differences in air density. Semi-permanent systems of high barometric pressure fronts frequently establish themselves over the SJVAB, preventing low pressure systems that might otherwise bring rain and winds that clean the air.

Inversion layers are significant in determining ozone formation, and CO and PM_{10} concentrations. Ozone and its precursors will mix and react to produce higher ozone concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as carbon monoxide. PM_{10} is both directly emitted and created in the atmosphere as a chemical reaction. Concentration levels of pollutants are directly related to inversion layers due to the limitation of mixing space.

Surface or radiation inversions are formed when the ground surface becomes cooler than the air above it during the night. The earth's surface goes through a radiative process on clear nights, where heat energy is transferred from the ground to a cooler night sky. As the earth's surface cools during the evening hours, the air directly above it also cools, while air higher up remains relatively warm. The inversion is destroyed when heat from the sun warms the ground, which in turn heats the lower layers of air; this heating stimulates the ground level air to float up through the inversion layer.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. Periods of low inversions and low wind speeds are conditions favorable to high concentrations of CO and PM_{10}. In the winter, the greatest pollution problems are CO and NO_x because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form photochemical smog.

Attainment Status. The USEPA and the 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 value exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard 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 basin are shown in Table 4.2.C.

Table 4.2.C: San Joaquin Valley Air Basin Air Quality Attainment Status

Pollutant	State	Federal
Ozone (1-hour)	Severe/Nonattainment	Not Applicable
Ozone (8-hour)	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment (Maintenance)
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Attainment (Maintenance)
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Lead	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard

Source: California Air Resources Board and USEPA (2023).

Air Quality Monitoring Results. Air quality monitoring stations are located throughout the nation and maintained by the local air pollution control district and state air quality regulating agencies. Ambient air data collected at permanent monitoring stations are used by the USEPA to identify regions as attainment or nonattainment depending on whether the regions met the requirements stated in the primary National Ambient Air Quality Standards (NAAQS). Attainment areas are required to maintain their status through moderate, yet effective air quality maintenance plans. Nonattainment areas are imposed with additional restrictions as required by the USEPA. In addition, different classifications of attainment such as marginal, moderate, serious, severe, and extreme are used to classify each air basin in the state on a pollutant-by-pollutant basis. Different classifications have different mandated attainment dates and are used as guidelines to create air quality management strategies to improve air quality and comply with the NAAQS by the attainment date. A region is determined to be unclassified when the data collected from the air quality monitoring stations do not support a designation of attainment or nonattainment, due to lack of information, or a conclusion cannot be made with the available data.

The SJVAPCD, together with CARB, maintains ambient air quality monitoring stations in the SJVAB. The air quality monitoring stations closest to the project area are 908 N. Villa Avenue in Clovis and 3727 N. First Street in Fresno, California.

Pollutant monitoring results for years 2019 to 2021 at the Clovis and Fresno monitoring stations, shown in Table 4.2.D indicate that air quality in the vicinity of the City has generally been moderate.

As indicated in the monitoring results, the federal PM_{10} standard was exceeded one time in 2020 only. The State PM_{10} standard was exceeded 11 times in 2019, 114 times in 2020, and 111 times in 2021. $PM_{2.5}$ levels exceeded the federal standard 1 time in 2019, 40 times in 2020, and 22 times in 2021. The State 1-hour ozone standards were exceeded 6 times in 2019, 12 times in 2020, and 9 times in 2021. The State 8-hour ozone standards were exceeded 30 times in 2019, 41 times in 2020, and 37 times in 2021. The federal 8-hour standards were exceeded 27 times in 2019, 36 times in 2020, and 34 times in 2021. The CO, SO_2, and NO_2 standards were also not exceeded in this area during the 3-year period.

Table 4.2.D: Ambient Air Quality at Nearby Monitoring Stations

Pollutant	Standard	2019	2020	2021
Carbon Monoxide (CO)				
Maximum 1-hour concentration (ppm)		10.0	2.9	1.3
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		2.0	2.6	1.2
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O_3)				
Maximum 1-hour concentration (ppm)		0.103	0.142	0.123
Number of days exceeded:	State: > 0.09 ppm	6	12	9
Maximum 8-hour concentration (ppm)		0.080	0.108	0.100
Number of days exceeded:	State: > 0.07 ppm	30	41	37
	Federal: > 0.07 ppm	27	36	34
Coarse Particulates (PM_{10})				
Maximum 24-hour concentration (µg/m^3)		155.7	296.0	208.8
Number of days exceeded:	State: > 50 µg/m^3	11	114	111
	Federal: > 150 µg/m^3	0	1	0
Annual arithmetic average concentration (µg/m^3)		32.6	50.8	43.2
Exceeded for the year:	State: > 20 µg/m^3	Yes	Yes	Yes
	Federal: > 50 µg/m^3	No	No	No
Fine Particulates ($PM_{2.5}$)				
Maximum 24-hour concentration (µg/m^3)		39.1	193.7	104.6
Number of days exceeded:	Federal: > 35 µg/m^3	1	40	22
Annual arithmetic average concentration (µg/m^3)		10.2	18.4	18.0
Exceeded for the year:	State: > 12 µg/m^3	No	Yes	Yes
	Federal: > 15 µg/m^3	No	Yes	Yes
Nitrogen Dioxide (NO_2)				
Maximum 1-hour concentration (ppm)		0.057	0.054	0.049
Number of days exceeded:	State: > 0.250 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.008	0.009	0.007
Exceeded for the year:	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2)[1]				
Maximum 1-hour concentration (ppm)		0.0089	0.0162	0.0075
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Maximum 24-hour concentration (ppm)		0.0021	0.0022	0.0027
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.00042	0.00046	0.00043
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No

Sources: CARB (2022) and USEPA (2022).

[1] Data for SO_2 was taken from 3727 N. First Street, Fresno monitoring station. All other data was taken from 908 N. Villa Avenue, Clovis Monitoring Station.

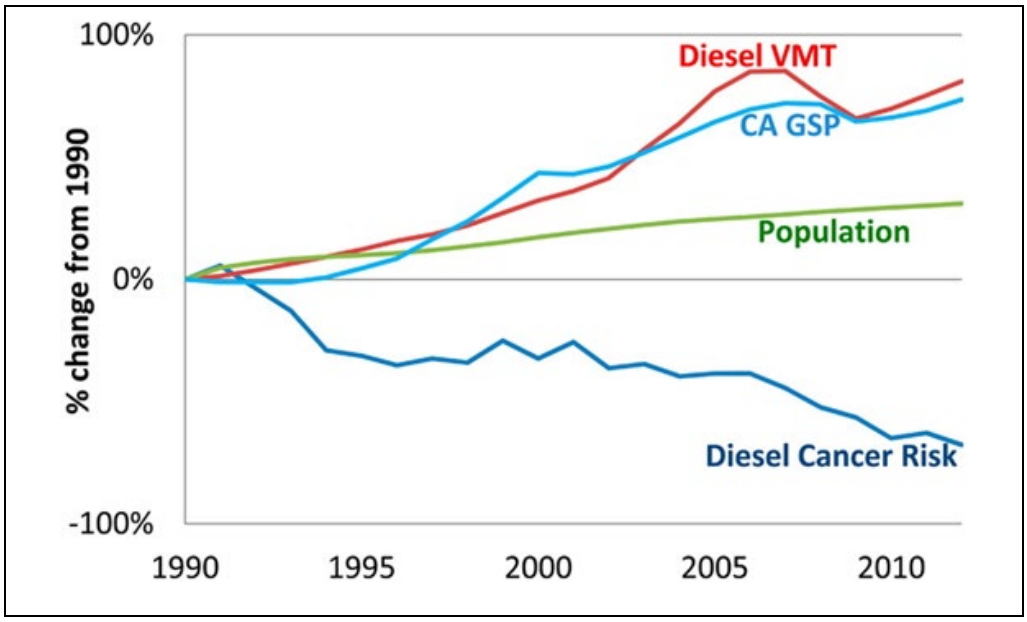
CARB = California Air Resources Board

ND = No data. There were insufficient (or no) data to determine the value.

ppm = parts per million

USEPA = United States Environmental Protection Agency

Toxic Air Contaminant Trends. In 1984, the CARB adopted regulations to reduce TAC emissions from mobile and stationary sources, as well as consumer products. A CARB study showed that ambient concentrations and emissions of the seven TACs responsible for the most cancer risk from airborne exposure declined by 76 percent between 1990 and 2012.[6] Concentrations of diesel particulate matter, a key TAC, declined by 68 percent between 1990 and 2012, despite a 31 percent increase in State population and an 81 percent increase in diesel vehicle miles traveled (VMT), as shown on Figure 4.2-1, below. The study also found that the significant reductions in cancer risk to California residents from the implementation of air toxics controls are likely to continue.



Source: Ambient and Emission Trends of Toxic Air Contaminants in California (Propper, Ralph, et al. 2015).

Figure 4.2-1: California Population, Gross State Product (GSP), Diesel Cancer Risk, and Diesel Vehicle Miles Traveled (VMT) Regulatory Context

The USEPA and the CARB regulate direct emissions from motor vehicles. The SJVAPCD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

4.2.2 Regulatory Setting

The USEPA and CARB regulate direct emissions from motor vehicles. The SJVAPCD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g.,

[6] Propper, Ralph, Patrick Wong, Son Bui, Jeff Austin, William Vance, Álvaro Alvarado, Bart Croes, and Dongmin Luo. 2015. Ambient and Emission Trends of Toxic Air Contaminants in California. *American Chemical Society: Environmental Science & Technology*. Website: pubs.acs.org/doi/full/10.1021/acs.est.5b02766 (accessed January 2023).

factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

The applicable federal, State, regional, and local regulatory framework is discussed below.

4.2.2.1 Federal Regulations

Federal Clean Air Act. At the federal level, the USEPA has been charged with implementing national air quality programs. The USEPA air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required the USEPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The FCAA Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The USEPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAA and determine if implementation will achieve air quality goals. If the USEPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area, which imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions on transportation funding and stationary air pollution sources in the air basin.

The USEPA is also required to develop National Emission Standards for Hazardous Air Pollutants, which are defined as those which may reasonably be anticipated to result in increased deaths or serious illness, and which are not already regulated. An independent science advisory board reviews the health and exposure analyses conducted by the USEPA on suspected hazardous pollutants prior to regulatory development.

4.2.2.2 State Regulations

The CARB is the lead agency for implementing air quality regulations in the State. Key efforts by the State are described below.

California Clean Air Act. In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain California ambient air quality standards (CAAQS) for carbon monoxide, ozone, sulfur dioxide and nitrogen dioxide by the earliest practical date. The California Clean Air Act provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

Legal authority for California to regulate sources of air pollution is found in federal and State law. The CARB is charged with coordinating regional and local efforts to attain and maintain State and nation air quality standards. The CARB has been given authority to regulate many sources that would normally be pre-empted by federal regulations through the issuance of waivers.

Pursuant to these authorities, CARB has adopted the world's most stringent standards for passenger cars, light-duty trucks, and medium-duty vehicles. CARB has also adopted regulations establishing standards for heavy-duty vehicles, offroad vehicles and engines, offroad recreational vehicles, off road diesel engines and equipment, offroad gasoline and liquefied petroleum gas (LPG) engines and equipment, and marine pleasure craft. Descriptions of these regulations are provided below.

Low-Emission Vehicle Program. The CARB first adopted Low-Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 State Implementation Plan (SIP). In 2012, CARB adopted the LEV III amendments to California's Low- Emission Vehicle (LEV) regulations. These amendments include more stringent emission standards for both criteria pollutants and greenhouse gases for new passenger vehicles.

Air Quality Land Use Handbook. The CARB has developed an Air Quality and Land Use Handbook[7] which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. According to the CARB Handbook, recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that county and city planning agencies strongly consider proximity to these sources when finding new locations for "sensitive" land uses such as homes, medical facilities, daycare centers, schools and playgrounds.

Land use designations with air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners and large gasoline service stations. Key recommendations in the CARB Handbook include taking steps to avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day;
- Within 1,000 feet of a major service and maintenance rail yard;

[7] California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries;
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet); and
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

The CARB Handbook specifically states that its recommendations are advisory and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

The recommendations are generalized and do not consider site specific meteorology, freeway truck percentages or other factors that influence risk for a particular project site. The purpose of the land use compatibility analysis is to further examine the project site for actual health risk associated with the location of new housing on the project site.

4.2.2.3 Regional Regulations

San Joaquin Valley Air Pollution Control District. The SJVAPCD is responsible for controlling emissions primarily from stationary sources. The SJVAPCD maintains air quality monitoring stations throughout the basin. The SJVAPCD, in coordination with the eight county transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the Air Basin. The SJVAPCD also has roles under CEQA.

Guide for Assessing and Mitigating Air Quality Impacts. The SJVAPCD provides guidance and thresholds for CEQA air quality and greenhouse gas analyses. The result of this guidance as well as State regulations to control air pollution is an overall improvement in the Basin. In particular, the SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) states the following:

The SJVAPCD's Air Quality Attainment Plans include measures to promote air quality elements in county and city general plans as one of the primary means of reducing indirect emissions such as those from land use development projects. The approved 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.

The SJVAB is classified nonattainment for ozone, PM_{10}, and $PM_{2.5}$. The SJVAPCD had adopted project level thresholds based on a cumulative contribution of ozone precursors ROG and NO_x of 10 tons per year and thresholds for PM_{10} and $PM_{2.5}$ of 15 tons per year.

Current Air Quality Plans. The SJVAPCD is responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. The SJVAPCD does not have one single AQMP for criteria pollutants, rather the SJVAPCD address each criteria pollutant with its own Plan. The SJVAPCD has the following AQMPs:

- 2022 Plan for the 2015 8-Hour Ozone Standard
- 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards
- 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ standard
- 2016 Plan for the 2008 8-Hour Ozone Standard
- 2013 Plan for the Revoked 1-Hour Ozone Standard
- 2007 PM_{10} Maintenance Plan
- 2004 Revision to the California State Implementation Plan for Carbon Monoxide

The SJVAPCD's AQMPs incorporate the latest scientific and technological information and planning assumptions, including updated emission inventory methodologies for various source categories. The SJVAPCD's AQMPs included the integrated strategies and measures needed to meet the national ambient air quality standards (NAAQS), implementation of new technology measures, and demonstrations of attainment of the 1-hour and 8-hour ozone NAAQS as well as the latest 24-hour and annual $PM_{2.5}$ standards.

The SJVAPCD's current air quality plans are discussed below.

Ozone Plans. The SJVAPCD's Governing Board approved the 2022 Plan for the 2015 8-hour ozone standard on December 15, 2022. The comprehensive strategy in this plan will reduce NO_x emissions by 72 percent by 2037 and will bring the San Joaquin Valley into attainment of USEPA's 2015 8-hour ozone standard as expeditiously as practicable by the 2037 attainment deadline.

Particulate Matter Plans. The SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007 to assure the SJVAB's continued attainment of the USEPA's PM_{10} standard. The USEPA designated the valley as an attainment/maintenance area for PM_{10}.

The 2008 $PM_{2.5}$ Plan builds upon the comprehensive strategy adopted in the 2007 Ozone Plan to bring the Basin into attainment of the 1997 national standards for $PM_{2.5}$. The USEPA has identified NO_x and SO_2 as precursors that must be addressed in air quality plans for the 1997 $PM_{2.5}$ standards. The 2008 $PM_{2.5}$ Plan is a continuation of the SJVACPD's strategy to improve the air quality in the SJVAB.

The SJVAPCD prepared the 2012 $PM_{2.5}$ Plan to bring the San Joaquin Valley into attainment of the USEPA's most recent 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$. The CARB approved the SJVAPCD's 2012 $PM_{2.5}$ Plan at a public hearing on January 24, 2013. The plan, approved by the SJVAPCD Governing Board on December 20, 2012, will bring the Valley into attainment of USEPA's 1997 $PM_{2.5}$ standard as expeditiously as practicable, but no later than, December 31, 2020.

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018. This plan addresses the USEPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable.

Rules and Regulations. The SJVAPCD rules and regulations that may apply to projects that will occur during buildout of the Plan Area include but are not limited to the following:

- Rule 2280—Portable Equipment Registration. Portable equipment used at project sites for less than six consecutive months must be registered with the SJVAPCD. The SJVAPCD will issue the registrations 30 days after receipt of the application.

- Rule 2303-Mobile Source Emission Reduction Credits. A project may qualify for SJVAPCD vehicle emission reduction credits if it meets the specific requirements of Rule 2303 for any of the following categories:

    - Low-Emission Transit Buses
    - Zero-Emission Vehicles
    - Retrofit Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles
    - Retrofit Heavy-Duty Vehicles

- Rule 4102 – Nuisance. The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials.

- Rule 4601 – Architectural Coatings. The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling.

- Rule 4641 – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. The paving operations for new development and existing paved surfaces will be subject to Rule 4641.

- Rule 8011—General Requirements: Fugitive Dust Emission Sources. Fugitive dust regulations are applicable to outdoor fugitive dust sources. Operations, including construction operations, must control fugitive dust emissions in accordance with SJVAPCD Regulation VIII. According to Rule 8011, the SJVAPCD requires the implementation of control measures for fugitive dust emission sources. For projects in which construction-related activities would disturb equal to or greater than 1 acre of surface area, the SJVAPCD recommends that demonstration of receipt of an SJVAPCD-approved Dust Control Plan or Construction Notification Form, before issuance of the first grading permit, be made a condition of approval.

- Regulation VIII – Fugitive PM_{10} Prohibitions. Rules 8011-8081 are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

- Rule 9410 – Employer Based Trip Reduction. The purpose of this rule is to reduce vehicle miles traveled (VMT) from private vehicles used by employees to commute to and from their worksites in order to reduce emissions of NO_x, VOC and PM. The rule requires larger employers (those with 100 or more eligible employees) to establish employee trip reduction programs to reduce VMT, reducing emissions associated with work commutes. The rule uses a menu-based Employer Trip Reduction Implementation Plan and periodic reporting requirements to evaluate performance on a phased-in compliance schedule.

- Rule 9510 – Indirect Source Review. This rule reduces the impact of NO_x and PM_{10} emissions from new development projects. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through onsite mitigation, offsite SJVAPCD-administered projects, or a combination of the two. Compliance with SJVAPCD Rule 9510 reduces emissions impacts through incorporation of onsite measures as well as payment of an offsite fee that funds emission reduction projects in the Air Basin. The emissions analysis for Rule 9510 is detailed and is dependent on the exact project design that is expected to be constructed or installed. Compliance with Rule 9510 is separate from the CEQA process, though the control measures used to comply with Rule 9510 may be used to mitigate significant air quality impacts.

- Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc., warrant the closest scrutiny, but consideration could also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas. While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD.

  Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor. The SJVAPCD has determined the common land use types that are known to produce odors in the Basin. These types are shown in Table 4.2.E.

Table 4.2.E: Screening Levels for Potential Odor Sources

Odor Generator	Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: San Joaquin Valley Air Pollution Control District (2015b).

Fresno Council of Governments. Fresno Council of Governments (FCOG) is responsible for regional transportation planning in Fresno county and participates in developing mobile source emission inventories used in air quality attainment plans.

Regional Transportation Plan/Sustainable Communities Strategy. Regional Transportation Plans (RTPs) are State-mandated plans that identify long-term transportation needs for a region's transportation network. Fresno Council of Governments' (FCOG) 2018 RTP charts the long-range vision of regional transportation in Fresno county through the year 2042. The RTP identifies existing and future transportation related needs, while considering all modes of travel, analyzing alternative solutions, and identifying priorities for the anticipated available funding for the 1,100 projects and multiple programs included within it. Senate Bill 375 (SB 375), which went into effect in 2009, added statutes to the California Government Code to encourage planning practices that create sustainable communities. It calls for each metropolitan planning organization to prepare a Sustainable Communities Strategy (SCS) as an integrated element of the RTP that is to be updated every four years. The SCS is intended to show how integrated land use and transportation planning can lead to lower greenhouse gas (GHG) emissions from autos and light trucks. Fresno COG has included the SCS in its 2018 RTP.

Transportation Conformity. FCOG must ensure that transportation plans and projects comply with Federal Transportation Conformity. Transportation conformity is a way to ensure that Federal funding and approval are given to those transportation activities that are consistent with air quality goals. It ensures that these transportation activities do not worsen air quality or interfere with the "purpose" of the State Implementation Plan, which is to meet the NAAQS. Meeting the NAAQS often requires emissions reductions from mobile sources. According to the Clean Air Act, transportation plans, programs, and projects cannot:

- Create new NAAQS violations;
- Increase the frequency or severity of existing NAAQS violations; or
- Delay attainment of the NAAQS.

In practice, air quality plans include criteria pollutant emission budgets required for attainment of air quality standards by mandated deadlines. The budgets must not be exceeded considering projected growth in mobile source activity. The FCOG 2019 Conformity Analysis determined that the conformity tests for ozone, PM10 and PM2.5 revealed that all years are projected to be less than the approved emissions budgets and, as such, the conformity tests are satisfied.

4.2.2.4 Local Regulations

City of Clovis General Plan. The City of Clovis addresses air quality in the Air Quality Element of the General Plan. The Air Quality Element provides goals, policies, and action items that work to meet or exceed all State and federal air quality standards. Applicable air quality policies and action items from the Air Quality Element are listed in Table 4.2.F below.

Table 4.2.F: City of Clovis General Plan Policies Related to Air Quality

Policy/Action Item Number	Policy/Action Item
Air Quality Element	
Policy 1.1	**Land use and transportation.** Reduce greenhouse gas and other local pollutant emissions through mixed use and transit-oriented development and well-designed transit, pedestrian, and bicycle systems.
Policy 1.3	**Construction activities.** Encourage the use of best management practices during construction activities to reduce emissions of criteria pollutants as outlined by the San Joaquin Valley Air Pollution Control District (SJVAPCD).
Policy 1.6	**Alternative fuel infrastructure.** Encourage public and private activity and employment centers to incorporate electric charging and alternative fuel stations.
Policy 1.8	**Trees.** Maintain or plant trees where appropriate to provide shade, absorb carbon, improve oxygenation, slow stormwater runoff, and reduce the heat island effect.
Policy 2.1	**Regional coordination.** Support regional efforts to reduce air pollution (criteria air pollutants and greenhouse gas emissions) and collaborate with other agencies to improve air quality at the emission source and reduce vehicle miles traveled.
Policy 2.6	**Innovative mitigation.** Encourage innovative mitigation measures to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties.

Source: City of Clovis General Plan (August 2014).

4.2.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to air quality that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the recommended mitigation measures. Mitigation measures are recommended, as appropriate, for

significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed.

4.2.3.1 Significance Criteria

Based on CEQA Guidelines Appendix G, the proposed project would have a significant impact on air quality if it would:

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 is nonattainment under an applicable federal or state ambient air quality standard;

c. Expose sensitive receptors to substantial pollutant concentrations; or

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

4.2.3.2 Regional Emissions Thresholds

A threshold of significance is defined by the SJVAPCD in its GAMAQI[8] as an identifiable quantitative, qualitative, or performance level of a particular environmental effect. Non-compliance with a threshold of significance means the effect will normally be determined to be significant. Compliance with a threshold of significance means the effect normally will be determined to be less than significant. The SJVAPCD has established thresholds of significance for criteria pollutant emissions generated during construction and operation of projects as shown in Table 4.2.G below.

Table 4.2.G: SJVAPCD Construction and Operation Thresholds of Significance (Tons per Year)

	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
Construction Thresholds	100	10	10	27	15	15
Operation Thresholds	100	10	10	27	15	15

Source: Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2015a).

The emissions thresholds in the SJVAPCD GAMAQI were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emission thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

[8] San Joaquin Valley Air Pollution Control District. 2015a. Guidance for Assessing and Mitigating Air Quality Impacts. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF (accessed January 2023.

4.2.3.3 Health Risk Thresholds

Both the State and federal governments have established health-based ambient air quality standards (AAQS) for seven air pollutants. For other air pollutants without defined significance standards, the definition of substantial pollutant concentrations varies. For TACs, "substantial" is taken to mean that the individual health risk exceeds a threshold considered to be a prudent risk management level.

The following limits for maximum individual cancer risk (MICR) and noncancer acute and chronic Hazard Index (HI) from project emissions of TACs are considered appropriate for use in determining the health risk for projects in the Basin:

- **MICR:** MICR is the estimated probability of a maximum exposed individual (MEI) contracting cancer as a result of exposure to TACs over a period of 70 years for adults and 9 years for children in residential locations, 350 days per year. The SJVAPCD's *Update to the District's Risk Management Policy to Address the OEHHA Revised Risk Assessment Guidance Document* states that emissions of TACs are considered significant if an HRA shows an increased risk of greater than 20 in 1 million.

- **Chronic HI:** Chronic HI is the ratio of the estimated long-term level of exposure to a TAC for a potential MEI to its chronic reference exposure level. The chronic HI calculations include multi-pathway consideration when applicable. The project would be considered significant if the cumulative increase in total chronic HI for any target organ system would exceed 1.0 at any receptor location.

- **Acute HI:** Acute HI is the ratio of the estimated maximum 1-hour concentration of a TAC for a potential MEI to its acute reference exposure level. The project would be considered significant if the cumulative increase in total acute HI for any target organ system would exceed 1.0 at any receptor location.

4.2.3.4 Project Impacts

The following discussion describes the potential impacts related to air quality that could result from implementation of the proposed project.

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

An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a nonattainment area. The main purpose of the air quality plan is to bring the area into compliance with the requirements of the federal and State air quality standards. To bring the San Joaquin Valley into attainment, the SJVAPCD adopted the 2022 Plan for the 2015 8-hour

ozone standard in December 2022 to satisfy Clean Air Act requirements and ensure attainment of the 70 parts per billion (ppb) 8-hour ozone standard.[9]

To ensure the SJVAB's continued attainment of the USEPA PM_{10} standard, the SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007.[10] The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards in November 2018 to address the USEPA 1997 annual $PM_{2.5}$ standard of 15 micrograms per cubic meter ($\mu g/m^3$) and 24-hour $PM_{2.5}$ standard of 65 $\mu g/m^3$, the 2006 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$, and the 2012 annual $PM_{2.5}$ standard of 12 $\mu g/m^3$.[11]

CEQA requires that certain proposed projects be analyzed for consistency with the applicable air quality plan as it relates to a region's non-attainment status. An air quality plan describes air pollution control strategies to be implemented in a non-attainment area. The main purpose of the air quality plan is to bring the area into compliance with the requirements of the federal and State air quality standards. As discussed above, the SJVAB is designated as non-attainment for O_3 and $PM_{2.5}$ for federal standards and non-attainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards. Therefore, to bring the SJVAB into attainment, the SJVAPCD adopted the 2022 Plan for the 2015 8-Hour Ozone Standard in December 2022 to satisfy Clean Air Act requirements and ensure attainment of the 75 parts per billion (ppb) 8-hour ozone standard.

To assure the SJVAB's continued attainment of the USEPA PM_{10} standard, the SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007. SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions) is designed to reduce PM_{10} emissions generated by human activity. The SJVAPCD adopted the 2018 plan for the 1997, 2006, and 2012 $PM_{2.5}$ standards to address the USEPA federal annual $PM_{2.5}$ standard of 12 $\mu g/m^3$, established in 2012.

For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. In addition, emission reductions achieved through implementation of offset requirements are a major component of the SJVAPCD air quality plans. As discussed below, construction of the proposed project is anticipated to occur in three consecutive phases occurring over a total 33-month period starting in December 2023 and would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance. In addition to the construction period thresholds of significance, the SJVAPCD has implemented Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of PM_{10} emissions during the construction period. Implementation of the fugitive dust control measures outlined in

[9] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2022. *2022 Plan for the 2015 8-Hour Ozone Standard*. December 15. Website: https://ww2.valleyair.org/media/q55posm0/0000-2022-plan-for-the-2015-8-hour-ozone-standard.pdf (accessed February 2023).

[10] San Joaquin Valley Air Pollution Control District. 2007. *2007 PM_{10} Maintenance Plan and Request for Redesignation*. Available online at: www.valleyair.org/Air_Quality_Plans/docs/Maintenance%20Plan10-25-07.pdf (accessed September 2022).

[11] San Joaquin Valley Air Pollution Control District. 2018. *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards*. November 15. Website: http://valleyair.org/pmplans/documents/2018/pm-plan-adopted/2018-Plan-for-the-1997-2006-and-2012-PM2.5-Standards.pdf (accessed September 2022).

Regulatory Compliance Measure AIR-2, would ensure that the proposed project complies with Regulation VIII, further reduces the short-term construction period air quality impacts, and ensures compliance with air quality plans. In addition, as discussed below and shown in Table 4.2.I, long-term operational emissions associated with the proposed project, including area, energy, and mobile source emissions, would also not exceed SJVAPCD established significance thresholds. Therefore, impacts related to the proposed project's potential to conflict with or obstruct implementation of the applicable air quality plan would be less than significant.

The proposed project's potential air quality impacts from construction and operation would not exceed any applicable threshold of significance and would not conflict with or obstruct the applicable clean air plan. Therefore, the proposed project's potential impacts on the applicable air quality plan are less than significant.

Impact AIR-1: The project would not conflict with or obstruct implementation of the applicable air quality plan.

Level of Significance Without Mitigation: Less than Significant. No mitigation is required.

b. **Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or state ambient air quality standard?**

The SJVAB is designated as non-attainment for O_3 and $PM_{2.5}$ for federal standards and non-attainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards. The SJVAPCD's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the SJVAPCD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

The proposed project would consist of the annexation of 246 acres by the City of Clovis, and the development of 590 residential lots, averaging 3,329 square feet within the 71.54-acre project site.

No development is proposed within the remaining 174.46-acre annexation area surrounding the project site. The proposed project would include annexation of the 174.46-acre area from Fresno County jurisdiction to the City of Clovis. Any future development occurring within the annexation area would require a separate project-specific analysis. The following analysis assesses the potential project-level construction- and operation-related air quality impacts.

Short-Term Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.

Construction activities associated with implementation of the proposed project would include demolition, site preparation, grading, paving, and building activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The SJVAPCD has implemented Regulation VIII measures for reducing fugitive dust emissions (PM_{10}). With the implementation of Regulation VIII measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, ROG, and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions for the proposed project were analyzed using CalEEMod. Construction of the proposed project is anticipated to occur in three phases over a 33-month period starting in December 2023 and ending in September 2026. Construction phases are expected to occur consecutively; therefore, this analysis evaluates construction emissions as a whole and not per phase. Site preparation would include demolition of existing structures, and removal of rocks, debris, and vegetation from the project site and grading would require the import of approximately 41,000 cubic yards of soil to level the project site, which was included in CalEEMod. In addition, this analysis assumes that the proposed project would be constructed using Tier 2 construction equipment, which was included in CalEEMod. Other precise details of construction activities are unknown at this time; therefore, default assumptions (e.g., construction worker and truck trips and construction fleet activities) from CalEEMod were used. Construction-related emissions are presented in Table 4.2.H. CalEEMod output sheets are included in Appendix D.

As described in a) above, for a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant

impact on air quality, and a project should comply with applicable offset requirements that reduce project emissions pursuant to goals of SJVAPCD air quality plans.

As shown in Table 4.2.H, construction emissions for the proposed project would not exceed the SJVAPCD annual threshold for construction emissions. In addition to the construction period thresholds of significance, the SJVAPCD has implemented Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of PM_{10} emissions during the construction period. Implementation of the fugitive dust control measures outlined in Regulatory Compliance Measure AIR-2, would ensure that the proposed project complies with Regulation VIII, further reduces the short-term construction period air quality impacts and ensures compliance with air quality plans.

Table 4.2.H: Project Construction Emissions (Tons Per Year)

Project Construction	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
2023	<0.1	0.3	0.2	<0.1	<0.1	<0.1
2024	0.2	4.7	3.6	<0.1	1.0	0.4
2025	0.2	2.7	2.8	<0.1	0.2	0.1
2026	0.1	1.8	1.9	<0.1	0.1	<0.1
Maximum Annual Construction Emissions	**0.2**	**4.7**	**3.6**	**<0.1**	**1.0**	**0.4**
SJVAPCD Thresholds	**10.0**	**10.0**	**100.0**	**27.0**	**15.0**	**15.0**
Exceeds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (February 2023).

CO = carbon monoxide
NO_X = nitrous oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic compounds
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_2 = sulfur dioxide

Therefore, with compliance with regulatory requirements (as specified in Regulatory Compliance Measure AIR-2), construction of the proposed project would result in a less than significant impact related to a cumulative considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard.

Long-Term Operational Emissions. Long-term air pollutant emission impacts associated with the proposed project are those related to mobile sources (e.g., vehicle trips), energy sources (e.g., natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment). The proposed project would not include natural gas.

PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement, and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles. Trip generation rates for the proposed project were based on the project's trip generation estimate, as identified in Section 4.5, Transportation. As discussed in Section 4.5, Transportation, the proposed project would generate approximately 5,564 average daily trips.

Energy source emissions result from activities in buildings for which natural gas is used. As identified above, the proposed project would not include natural gas; therefore, the proposed project would not result in energy source emissions.

Area source emissions associated with the proposed project would include emissions from the use of architectural coatings, consumer products, and landscaping equipment.

Emission estimates for operation of the project were calculated using CalEEMod. The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the SJVAB. The annual emissions associated with project operational trip generation, energy, and area sources are identified in Table 4.2.I for ROG, NO_x, CO, sulfur oxide (SO_x), PM_{10}, and $PM_{2.5}$. CalEEMod output sheets are included in Appendix D.

Table 4.2.I: Project Operation Emissions (Tons Per Year)

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile source Emissions	3.4	3.3	22.7	0.1	2.0	0.4
Area Source Emissions	5.1	0.3	5.6	<0.1	0.8	0.8
Energy Source Emissions	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Operation Emissions	**8.5**	**3.6**	**28.3**	**0.1**	**2.8**	**1.2**
SJVAPCD Significance Threshold	**10.0**	**10.0**	**100.0**	**27.0**	**15.0**	**15.0**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (February 2023).
Note: Some values may not appear to add up correctly due to rounding.
CO = carbon monoxide
NO_X = nitrous oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic compounds
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_X = sulfur oxide

The results in Table 4.2.I indicate the proposed project's operational emissions would not exceed the significance criteria for annual ROG, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ emissions. Therefore, operation of the proposed project would result in a less-than-significant impact related to a cumulatively considerable net increase of any criteria pollutant for which the proposed project region is in nonattainment under an applicable federal or State ambient air quality standard.

Impact AIR-2: Implementation of the proposed project would not result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment under an applicable federal or State ambient air quality standards.

Level of Significance Without Mitigation: Less Than Significant. No mitigation is required. The following regulatory compliance measure pertaining to air quality is applicable to the proposed project.

Regulatory Compliance Measure AIR-2 Consistent with SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions), the following controls are required to be

included as specifications for the proposed project and implemented at the construction site:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.

- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.

- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.

- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.

- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)

- Following the addition of materials to, or the removal of materials from, the surface of out-door storage piles, said piles shall be effectively stabilized of fugitive dust emission utilizing sufficient water or chemical stabilizer/suppressant.

With the implementation of Regulation VIII measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts.

Level of Significance With Mitigation**:** Implementation of Regulatory Compliance Measure AIR-2 would further reduce project-related air quality impacts to a less than significant level.

c. **Would the project expose sensitive receptors to substantial pollutant concentrations?**

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks. The closest sensitive receptors include single-family residential uses located approximately 30 feet south of the project site along Baron Avenue and Heirloom Lane, approximately 100 feet east of the project site across Baron Avenue, and approximately 230 feet west of the project site.

Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Particulate matter can also lead to a variety of health effects in people. These include premature death of people with heart or lung disease, heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms.

A construction HRA, which evaluates construction-period health risk to off-site receptors, was performed for the proposed project and is summarized below. The project site is located near existing residential uses that could be exposed to diesel emission exhaust during the construction period.

To estimate the potential cancer risk associated with equipment exhaust (including diesel particulate matter) released during construction of the proposed project, a dispersion model was used to translate an emission rate from the source location to a concentration at the receptor location of interest (i.e., a nearby residence and worksites). Dispersion modeling varies from a simpler, more conservative screening-level analysis to a more complex and refined detailed analysis. This refined assessment was conducted using the CARB exposure methodology with the air dispersion modeling performed using the USEPA dispersion model AERMOD. The model provides a detailed estimate of exhaust concentrations based on site and source geometry, source emissions strength, distance from the source to the receptor, and meteorological data.

Both the State and federal governments have established health-based AAQS for seven air pollutants. For other air pollutants without defined significance standards, the definition of substantial pollutant concentrations varies. For TACs, "substantial" is taken to mean that the individual health risk exceeds a threshold considered to be a prudent risk management level.

The following limits for maximum individual cancer risk (MICR) and noncancer acute and chronic Hazard Index (HI) from project emissions of TACs are considered appropriate for use in determining the health risk for projects in the Basin:

- **MICR:** MICR is the estimated probability of a maximum exposed individual (MEI) contracting cancer as a result of exposure to TACs over a period of 70 years for adults and 9 years for children in residential locations, 350 days per year. The SJVAPCD's *Update to the District's Risk Management Policy to Address the OEHHA Revised Risk Assessment Guidance Document* states that emissions of TACs are considered significant if an HRA shows an increased risk of greater than 20 in 1 million.

- **Chronic HI:** Chronic HI is the ratio of the estimated long-term level of exposure to a TAC for a potential MEI to its chronic reference exposure level. The chronic HI calculations include multi-pathway consideration when applicable. The project would be considered significant if the cumulative increase in total chronic HI for any target organ system would exceed 1.0 at any receptor location.

- **Acute HI:** Acute HI is the ratio of the estimated maximum 1-hour concentration of a TAC for a potential MEI to its acute reference exposure level. The project would be considered significant if the cumulative increase in total acute HI for any target organ system would exceed 1.0 at any receptor location.

Table 4.2.J, below, identifies the results of the analysis assuming the use of Tier 2 construction equipment, as proposed by the project, at the maximally exposed individual (MEI), which is the nearest sensitive receptor. Model images and details related to the modeled sources are shown in Appendix E of this EIR.

Table 4.2.J: Inhalation Health Risks from Project Construction to Off-Site Receptors

	Carcinogenic Inhalation Health Risk in One Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index
Sensitive Receptor Risk	9.93	0.009	0.000
Worker Receptor Risk	0.06	0.009	0.000
Threshold	**20.0**	**1.0**	**1.0**
Exceed?	**No**	**No**	**No**

Source: LSA (February 2023)
$\mu g/m^3$ = micrograms per cubic meter
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

As shown in Table 4.2.J, the maximum cancer risk for the sensitive receptor MEI would be 9.93 in one million, which would not exceed the SJVAPCD cancer risk threshold of 20 in one million. The worker receptor risk would be lower at 0.06 in one million, which would also not exceed the threshold. The total chronic hazard index would be 0.009 for both the sensitive receptor MEI and worker receptor MEI, which would be below the threshold of 1.0. In addition, the total acute hazard index would be nominal (0.000), which would also not exceed the threshold of 1.0. Therefore, construction of the proposed project would not exceed SJVAPCD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations and this impact would be less than significant.

Once the proposed project is constructed, the proposed project would not be a source of substantial emissions. Therefore, implementation of the proposed project would not result in new sources of TACs. Therefore, the project would not expose sensitive receptors to substantial levels of TACs and this impact would be less than significant.

As such, the proposed project's potential air quality impacts from construction and operation would not expose sensitive receptors to substantial pollutant concentrations. The proposed project would

not result in any individual health risk in excess of the thresholds considered to be prudent risk management levels. Therefore, the proposed project's potential air quality impacts on sensitive receptors are less than significant.

Impact AIR-3: Implementation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations.

Level of Significance Without Mitigation: Less than Significant. No mitigation is required.

d. **Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

During construction, the various diesel-powered vehicles and equipment in use on site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the project site. Because the project's potential construction-related odor impacts are localized and temporary, they would not adversely affect a substantial number of people. Therefore, the project's potential construction-related odor impacts are less than significant.

The SJVAPCD addresses odor criteria within the Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI)[12]. The district has not established a rule or standard regarding odor emissions, rather, the district has a nuisance rule: "Any project with the potential to frequently expose members of the public to objectionable odors should be deemed to have a significant impact". After construction, the proposed land use of the project is not anticipated to emit any objectionable odors. Therefore, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Impact AIR-4: The project would not result in significant odors that could adversely affect a substantial number of people.

Level of Significance Without Mitigation: Less than Significant. No mitigation is required.

4.2.3.5 Cumulative Impacts

According to the SJVAPCD, regional air pollution is largely a cumulative impact. No single project is sufficient in size to independently create regional nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts.

The SJVAPCD is currently designated as a nonattainment area for State and national ozone standards and national particulate matter ambient air quality standards. SJVAPCD nonattainment status is attributed to the region's development history. Past, present, and future development

[12] San Joaquin Valley Air Pollution Control District. 2015a. Guidance for Assessing and Mitigating Air Quality Impacts. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF (accessed January 2023.

projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the SJVAPCD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Therefore, if the proposed project's annual emissions of construction- or operational-related criteria air pollutants exceed any applicable threshold established by the SJVAPCD, the proposed project would result in a considerable contribution to a cumulatively significant impact. As shown in Table 4.2.H and Table 4.2.I, the proposed project would not generate significant construction and operational emissions. Additionally, with implementation of Regulatory Compliance Measure AIR-2, the proposed project would further reduce short-term construction impacts and would be compliant with air quality plans. As shown in the project-specific air quality impacts discussion above, the proposed project would not result in individually significant impacts and therefore the proposed project would not result in a cumulatively considerable contribution to regional air quality impacts. Cumulative impacts would be considered less than significant.

In addition, as demonstrated in the analysis, the health risk levels to nearby residents from project construction- and operation-related emissions of TACs would be well below the SJVAPCD's HRA thresholds. Therefore, the proposed project would not result in any individual health risk in excess of the thresholds considered to be prudent risk management levels. Therefore, the proposed project's cumulative air quality impacts on sensitive receptors are less than significant.

Impact AIR-5: The proposed project, in combination with past, present, and reasonably foreseeable projects, would not contribute to a less than significant cumulative impact with respect to air quality.

Level of Significance Without Mitigation: Less than Significant. No mitigation is required.

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4.3 GREENHOUSE GAS EMISSIONS

This section summarizes existing greenhouse gas (GHG) emissions and discusses global climate change, its causes, and the contribution of human activities. This section also estimates the likely GHG emissions that would result from construction and operational activities associated with implementation of the proposed project, including vehicular traffic, energy consumption and other emission sources. Mitigation measures are recommended where appropriate to reduce impacts to a less-than-significant level. The analysis in this section is based on the California Emissions Estimator Model version 2022.1 (CalEEMod) (Appendix D).

4.3.1 Environmental Setting

The following discussion describes existing GHG emissions in the City of Clovis (City) and the and the San Joaquin Valley Air Basin (SJVAB), beginning with a discussion of typical GHG types and sources, impacts of global climate changes, the regulatory framework surrounding these issues, and current emission levels.

4.3.1.1 Background

The following section provides background information on GHGs and global climate change.

Greenhouse Gases. GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are the following:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur Hexafluoride (SF_6)

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally-occurring GHGs such as CO_2, methane, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this air quality analysis, the term “GHGs” will refer collectively to the six gases listed above.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another

gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to carbon dioxide, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e). Table 4.3.A shows the GWP for each type of GHG. For example, sulfur hexafluoride is 23,900 times more potent at contributing to global warming than carbon dioxide.

Table 4.3.A: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	114	310
HFC-23	270	11,700
HFC-134a	14	140
HFC-152a	1.4	140
PFC: Tetrafluoromethane (CF_4)	50,000	6,500
PFC: Hexafluoromethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: *Second Update to the Climate Change Scoping Plan: Building on the Framework* (CARB 2017b). Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents (accessed February 2023).

The following discussion summarizes the characteristics of the six GHGs and black carbon. Black carbon also contributes to climate change and is therefore discussed below.

Carbon Dioxide. In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals and plants, volcanic out gassing, decomposition of organic matter and evaporation from the oceans. Human caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Natural sources release approximately 150 billion tons of CO_2 each year, far outweighing the 7 billion tons of man-made emissions of CO_2 each year. Nevertheless, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of man-made CO_2, and consequently, the gas is building up in the atmosphere. In 2020, total annual CO_2 accounted for approximately 80.2 percent of California's overall GHG emissions.[1] Transportation is the single largest source of CO_2 in California, which is primarily comprised of on-road travel. Electricity production, industrial, and residential sources also make important contributions to CO_2 emissions in California.

[1] California Air Resources Board (CARB). 2022d. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed January 2023).

Methane. Methane (CH_4) is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands and oceans. Decomposition occurring in landfills accounts for the majority of human generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation in dairy cows, manure management, and rice cultivation are also significant sources of CH_4 in California. Total annual emissions of CH_4 accounted for approximately 10.5 percent of GHG emissions in California in 2020.

Nitrous Oxide. Nitrous oxide (N_2O) is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for most natural source emissions. Nitrous oxide is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human generated N_2O emissions in California. N_2O emissions in California. Nitrous oxide emissions accounted for approximately 3.5 percent of GHG emissions in California in 2020.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride.HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.[2] PFCs and SF6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry has resulted in greater use of PFCs. HFCs, PFCs, and SF_6 accounted for about 5.8 percent of GHG emissions in California in 2020.[3]***Black Carbon.*** Black carbon is the most strongly light-absorbing component of particulate matter (PM) formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of particulate matter less than 2.5 microns in size ($PM_{2.5}$) and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb one million times more energy than CO_2.[4] Black carbon contributes to climate change both directly, such as absorbing sunlight, and indirectly, such as affecting cloud formation. However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global warming.

2 The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.

3 Ibid.

4 United States Environmental Protection Agency (USEPA). 2017. Black Carbon, Basic Information. February 14, 2017. Website: 19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed September 2022).

Most U.S. emissions of black carbon come from mobile sources (52 percent), particularly from diesel fueled vehicles.[5] The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. The CARB estimates that the annual black carbon emissions in California will be reduced approximately 50 percent below 2013 levels by 2030.[6]

Effects of Global Climate Change. Effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme weather events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global climate change may also contribute to air quality problems from increased frequency of smog and particulate air pollution.[7]

Additionally, according to the 2006 California Climate Action Team (CAT) Report,[8] the following climate change effects, which are based on trends established by the United Nations Intergovern-mental Panel on Climate Change (IPCC), can be expected in California over the course of the next century:

- The loss of sea ice and mountain snow pack, resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;[9]

- Rise in global average sea level, primarily due to thermal expansion and melting of glaciers and ice caps in the Greenland and Antarctic ice sheets;[10]

- Changes in weather that include widespread changes in precipitation, ocean salinity, wind patterns, and more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;[11]

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5 United States Environmental Protection Agency (USEPA). 2017. Black Carbon, Basic Information. February 14, 2017. Website: 19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed September 2022).

6 CARB. 2017c. *Short-Lived Climate Pollutant Reduction Strategy.* March. Website: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf (accessed September 2022).

7 U.S. Environmental Protection Agency, 2016. Climate Impacts on Human Health. Website: 19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health_.html (accessed March 7, 2022).

8 California Environmental Protection Agency. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

9 Ibid.

10 Ibid.

- Decline of the Sierra snowpack, which accounts for approximately one-half of the surface water storage in California by 70 percent to as much as 90 percent over the next 100 years;[12]

- Increase in the number of days conducive to ozone (O_3) formation by 25–85 percent (depending on the future temperature scenario) in high O_3 areas of Los Angeles and the San Joaquin Valley by the end of the 21st century;[13] and

- High potential for erosion of California's coastlines and seawater intrusion into the Delta and levee systems due to the rise in sea level.[14]

A summary of these potential effects is provided in Table 4.3.B below.

Effects of Rising Ocean Levels in California. Rising ocean levels, more intense coastal storms, and warmer water temperatures may increasingly threaten the Long Beach coastal region. As previously described, global surface temperatures have increased by 1.5 degrees Fahrenheit (°F) during the period from 1880 to 2012, with temperatures anticipated to rise in California by 3 to 10.5°F by the end of the century.

Rising sea levels may affect the natural environment in the coming decades by eroding beaches, converting wetlands to open water, exacerbating coastal flooding, and increasing the salinity of estuaries and freshwater aquifers. Coastal headlands and beaches are expected to erode at a faster pace in response to future sea level rise. The California Coastal Commission estimates that 450,000 acres of wetlands exist along the California coast,[15] but additional work is needed to evaluate the extent to which these wetlands would be degraded over time, or to what extent new wetland habitat would be created if those lands are protected from further development. Cumulatively, the effects of sea level rise may be combined with other potential long-term factors such as changes in sediment input and nutrient runoff. The cumulative impacts of physical and biological change due to sea level rise on the quality and quantity of coastal habitats are not well understood. [16]

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11 Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*. February.

12 California Environmental Protection Agency. 2006. op. cit.

13 California Environmental Protection Agency. 2006. op. cit.

14 Ibid.

15 California Coastal Commission (CCC). Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone. Website: http://www.coastal.ca.gov/wetrev/wetch4.html (accessed September 2022).

16 Climate Change Science Program (CCSP) 4.1. January 15, 2009, 1 of 784 Final Report, United States CCSP, Synthesis and Assessment Product 4.1. Coastal Sensitivity to Sea-Level Rise: A Focus on the Mid-Atlantic Region. Lead Agency: U.S. Environmental Protection Agency, Other Key Participating Agencies: U.S. Geological Survey, National Oceanic and Atmospheric Administration. Contributing Agencies: Department of Transportation.

Table 4.3.B: Potential Impacts of Global Warming and Expected Consequences for California

Potential Water Resource Impacts	Anticipated Consequences Statewide
Reduction of the State's average annual snowpack	● Specifically, the decline of the Sierra snowpack, would lead to a loss in half of the surface water storage in California by 70% to 90% over the next 100 years ● Potential loss of 5 million acre-feet or more of average annual water storage in the State's snowpack ● Increased challenges for reservoir management and balancing the competing concerns of flood protection and water supply ● Higher surface evaporation rates with a corresponding increase in tropospheric water vapor
Rise in average sea level	● Potential economic impacts related to coastal tourism, commercial fisheries, coastal agriculture, and ports ● Increased risk of flooding, coastal erosion along the State's coastline, seawater intrusion into the Delta and levee systems
Changes in weather	● Changes in precipitation, ocean salinity, and wind patterns ● Increased likelihood for extreme weather events, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones
Changes in the timing, intensity, location, amount, and variability of precipitation	● Potential increased storm intensity and increased potential for flooding ● Possible increased potential for droughts ● Long-term changes in vegetation and increased incidence of wildfires ● Changes in the intensity and timing of runoff ● Possible increased incidence of flooding and increased sedimentation ● Sea level rise and inundation of coastal marshes and estuaries ● Increased salinity intrusion into the Sacramento-San Joaquin River Delta (Delta) ● Increased potential for Delta levee failure ● Increased potential for salinity intrusion into coastal aquifers (groundwater) ● Increased potential for flooding near the mouths of rivers due to backwater effects
Increased water temperatures	● Increased environmental water demand for temperature control ● Possible increased problems with foreign invasive species in aquatic ecosystems ● Potential adverse changes in water quality, including the reduction of dissolved oxygen levels ● Possible critical effects on listed and endangered aquatic species
Changes in urban and agricultural water demand	● Changes in demand patterns and evapotranspiration
Increase in the number of days conducive to O_3 formation	● Increased temperatures ● Potential health effects, including adverse impacts to respiratory systems

Source: U.S. Department of the Interior, *Environmental Water Account Draft Supplemental EIS/EIR to the Environmental Water Account Final EIS/EIR, Bureau of Reclamation Mid-Pacific Region*, Sacramento, California (October 2007).
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
O_3 = ozone

Sea level along the west coast of the United States is affected by a number of factors, including climate patterns such as El Niño, effects from the melting of modern and ancient ice sheets, and geologic processes such as plate tectonics. Regional projections for California, Oregon, and Washington show a sharp distinction at Cape Mendocino in northern California. South of that point, sea-level rise is expected to be very close to global projections. Projections are lower north of Cape

Mendocino because the land is being pushed upward as the ocean plate moves under the continental plate along the Cascadia Subduction Zone.

Emissions Inventories. An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, United States, and California GHG emission inventories.

Global Emissions. Worldwide emissions of GHGs in 2018 totaled 25.6 billion metric tons (MT) of CO_2e. Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change.[17]

United States Emissions. In 2020, the year for which the most recent data are available, the United States emitted about 5,222 million metric tons of CO_2e (MMT CO_2e). Overall, emissions in 2020 decreased by 11 percent since 2019 and were 21 percent lower than 2005 levels. The primary driver for the decrease was an 11 percent decrease in CO_2 emissions from fossil fuel combustion. This decrease was primarily due to a 13 percent decrease in transportation emissions driven by decreased demand due to the ongoing COVID-19 pandemic. Electric power sector emissions also decreased 10 percent, reflecting both a slight decrease in demand from the COVID-19 pandemic and a continued shift from coal to less carbon intensive natural gas and renewables. Of the five major sectors – residential and commercial, agricultural, industry, transportation, and electricity generation – transportation accounted for the highest amount of GHG emissions in 2020 (approximately 27 percent), with electricity generation second at 27 percent and emissions from industry third at 24 percent.[18]

State of California Emissions. The State emitted approximately 369.2 MMT CO_2e emissions in 2020, 35.3 MMT CO_2e lower than 2019 levels and 61.8 MMT CO_2e below the 2020 GHG limit of 431 MMT CO_2e.[19] The California Air Resources Board (CARB) estimates that transportation was the source of approximately 37 percent of the State's GHG emissions in 2020, which is a smaller share than recent years, as the transportation sector saw a significant decrease of 26.6 MMT CO_2e in 2020, likely due in large part to the impact of the COVID-19 pandemic. The next largest sources included industrial sources at approximately 20 percent and electricity generation at 16 percent. The remaining sources of GHG emissions were commercial and residential activities at 10 percent, agriculture at 9 percent, high GWP at 6 percent, and waste at 2 percent.[20]

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17 United Nations Framework Convention on Climate Change (UNFCCC). 2021. GHG Data from UNFCCC. Website: unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc (accessed June 2022).

18 USEPA. 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019 (accessed September 2022).

19 CARB. 2022c. *California Greenhouse Gas Emissions for 2000 to 2020, Trends of Emissions and Other Indicators Report*. Website: https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/2000-2020_ghg_inventory_trends.pdf (accessed January 2023).

20 Ibid.

City of Clovis. The City of Clovis prepared a Greenhouse Gas Emissions Inventory in 2012. The Inventory identifies the major sources and quantities of GHG emissions produced within the City of Clovis' jurisdictional boundaries in 2012 and forecasts emissions changes over time. Table 4.3.C shows the inventory.

Table 4.3.C: 2012 City of Clovis Community-Wide GHG Emissions Inventory by Sector

Sector	Description	GHG Emissions (Metric Tons CO_2e)	Percent of Total
Transportation	Emissions from vehicle trips beginning and ending in the City and from external/internal vehicle trips	370,517	63
Energy – Residential	Electricity and natural gas consumption in residential buildings.	81,758	14
Energy – Nonresidential	Electricity and natural gas consumption in non-residential buildings (employment buildings; commercial, industrial, etc.)	45,685	8
Waste	Solid waste generated and sent to landfills.	22,910	4
Water/Wastewater	Emissions from electricity used to supply, treat, and distribute water based on the overall water demand and wastewater generation of and within the City	23,649	4
Other – Off-road Equipment	Consists of landscaping, light commercial, construction, and agricultural equipment.	46,415	8
	Total	**590,935**	**100**

Source: City of Clovis General Plan and Development Code Update Program Environmental Impact Report (2014).

As shown in Table 4.3.C, in 2012, the City as a whole emitted approximately 590,935 metric tons of CO_2e from the residential energy, nonresidential energy, transportation, waste, water and wastewater sectors. As shown in Table 4.3.C, the largest contributors of GHG emissions were the transportation (63 percent), residential energy (14 percent and nonresidential energy (8 percent) sectors. The remainder of emissions resulted from the off-road equipment (8 percent), waste (4 percent), and water and wastewater (4 percent) sectors.

4.3.2 Regulatory Setting

4.3.2.1 Federal Regulations

Federal Clean Air Act. The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the United States Environmental Protection Agency (USEPA) has the authority to regulate CO_2 emissions under the Federal Clean Air Act (FCCA). While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to global climate change.

This includes the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the Federal Clean Air Act, finding that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

In October 2012, the USEPA and the NHTSA, on behalf of the U.S. Department of Transportation, issued final rules to further reduce GHG emissions and improve corporate average fuel economy (CAFE) standards for light-duty vehicles for model years 2017 and beyond (77 *Federal Register* 62624). The NHTSA's CAFE standards have been enacted under the Energy Policy and Conservation Act since 1978. This national program requires automobile manufacturers to build a single light-duty national fleet that meets all requirements under both federal programs and the standards of California and other states. This program would increase fuel economy to the equivalent of 54.5 miles per gallon, limiting vehicle emissions to 163 grams of CO_2 per mile for the fleet of cars and light-duty trucks by model year 2025 (77 *Federal Register* 62630).

On March 31, 2022, the National Highway Traffic Safety Administration (NHTSA) finalized the Corporate Average Fuel Economy (CAFE) standards for Model Years 2024–2026 Passenger Cars and Light Trucks. The amended CAFE standards would require an industry wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8 percent annually for model years 2024–2025, and 10 percent annually for model year 2026. The final standards are estimated to save about 234 billion gallons of gas between model years 2030 to 2050.

4.3.2.2 State Regulations

The CARB is the lead agency for implementing climate change regulations in the State. Since its formation, the CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

Assembly Bill 1493 (2002). In a response to the transportation sector's significant contribution to California CO_2 emissions, Assembly Bill (AB) 1493 was enacted on July 22, 2002. AB 1493 requires the CARB to set GHG emission standards for passenger vehicles and light duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. These standards (starting in model years 2009 to 2016) were approved by the CARB in 2004, but the needed waiver of Clean Air Act Preemption was not granted by the USEPA until June 30, 2009. CARB responded by amending its original regulation, now referred to as Low Emission Vehicle III, to take effect for model years starting in 2017 to 2025. The Trump administration revoked California's waiver in 2019, but the Biden administration restored California's waiver in 2021.

Executive Order S-3-05 (2005). Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05 on June 1, 2005, which proclaimed that California is vulnerable to the impacts of climate change. To combat those concerns, the executive order established California's GHG emissions reduction targets, which established the following goals: GHG emissions should be reduced to 2000 levels by 2010;

- GHG emissions should be reduced to 1990 levels by 2020; and
- GHG emissions should be reduced to 80 percent below 1990 levels by 2050.

The Secretary of the California Environmental Protection Agency (CalEPA) is required to coordinate efforts of various State agencies to collectively and efficiently reduce GHGs. A biannual progress report must be submitted to the Governor and State Legislature disclosing the progress made

toward GHG emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, the coastline, and forestry, and report possible mitigation and adaptation plans to address these impacts.

The Secretary of CalEPA leads this CAT made up of representatives from State agencies as well as numerous other boards and departments. The CAT members work to coordinate statewide efforts to implement global warming emission reduction programs and the State's Climate Adaptation Strategy. The CAT is also responsible for reporting on the progress made toward meeting the statewide GHG targets that were established in the executive order and further defined under AB 32, the "Global Warming Solutions Act of 2006." The first CAT Report to the Governor and the Legislature was released in March 2006, which it laid out 46 specific emission reduction strategies for reducing GHG emissions and reaching the targets established in the Executive Order. The most recent report was released in December 2020.

Assembly Bill 32 (2006), California Global Warming Solutions Act. California's major initiative for reducing GHG emissions is AB 32, passed by the State legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 million metric tons (MMT) of CO_2e. The emissions target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The Scoping Plan was approved by the CARB on December 11, 2008, and contains the main strategies California will implement to achieve the reduction of approximately 169 MMT CO_2e, or approximately 30 percent, from the State's projected 2020 emissions level of 596 MMT CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT CO_2e, or almost 10 percent from 2002–2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards: Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e);

- The Low-Carbon Fuel Standard (15.0 MMT CO_2e);
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e); and
- A renewable portfolio standard for electricity production (21.3 MMT CO_2e).

The Scoping Plan identifies 18 emission reduction measures that address cap-and-trade programs, vehicle gas standards, energy efficiency, low carbon fuel standards, renewable energy, regional transportation-related GHG targets, vehicle efficiency measures, goods movement, solar roof programs, industrial emissions, high speed rail, green building strategies, recycling, sustainable forests, water, and air. The measures would result in a total reduction of 174 MMT CO_2e by 2020.

On August 24, 2011, the CARB unanimously approved both the new supplemental assessment and reapproved its Scoping Plan, which provides the overall roadmap and rule measures to carry out AB 32. The CARB also approved a more robust CEQA equivalent document supporting the

supplemental analysis of the cap-and-trade program. The cap-and-trade took effect on January 1, 2012, with an enforceable compliance obligation that began January 1, 2013.

CARB has not yet determined what amount of GHG reductions it recommends from local government operations and local land use decisions; however, the Scoping Plan states that land use planning and urban growth decisions will play an important role in the State's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions (meanwhile, CARB is also developing an additional protocol for community emissions). CARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The Scoping Plan states that the ultimate GHG reduction assignment to local government operations is to be determined. With regard to land use planning, the Scoping Plan expects an approximately 5.0 MMT CO_2e reduction due to implementation of SB 375.

In addition to reducing GHG emissions to 1990 levels by 2020, AB 32 directed the CARB and the CAT to identify a list of "discrete early action GHG reduction measures" that could be adopted and made enforceable by January 1, 2010. On January 18, 2007, Governor Schwarzenegger signed EO S-1-07, further solidifying California's dedication to reducing GHGs by setting a new Low Carbon Fuel Standard (LCFS). This executive order sets a target to reduce the carbon intensity of California transportation fuels by at least 10 percent by 2020 and directs the CARB to consider the LCFS as a discrete early action measure. In 2011, U.S. District Court Judge Lawrence O'Neil issued an injunction preventing implementation of the LCFS, ruling that it is unconstitutional. In 2012, the Ninth Circuit Court of Appeal stayed the District Court's injunction, allowing implementation of the LCFS. The Ninth Circuit decided to uphold the LCFS.

In June 2007, the CARB approved a list of 37 early action measures, including three discrete early action measures (LCFS, Restrictions on GWP Refrigerants, and Landfill CH_4 Capture).[21] Discrete early action measures are measures that were required to be adopted as regulations and made effective no later than January 1, 2010, the date established by Health and Safety Code Section 38560.5. The CARB adopted additional early action measures in October 2007 that tripled the number of discrete early action measures. These measures relate to truck efficiency, port electrification, reduction of PFCs from the semiconductor industry, reduction of propellants in consumer products, proper tire inflation, and SF_6 reductions from the non-electricity sector. The combination of early action measures is estimated to reduce statewide GHG emissions by nearly 16 MMT.[22]

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020, and sets the groundwork to reach long-term goals

21 CARB. 2007b. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.

22 CARB. 2007a. "ARB approves tripling of early action measures required under AB 32" News Release 07-46. October 25.

set forth in EOs S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[23] to reflect the 2030 target set by EO B-30-15 and codified by SB 32.

The 2022 Scoping Plan[24] was approved in December 2022 and assesses progress toward achieving the SB 32 2030 target and laying out a path to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

Senate Bill 97 (2007). SB 97, signed by the Governor in August 2007 (Chapter 185, Statutes of 2007; Public Resources Code [PRC], Sections 21083.05 and 21097), acknowledges climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Resources Agency guidelines for mitigating GHG emissions or the effects of GHG emissions, as required by CEQA. The California Natural Resources Agency adopted the amendments to the *State CEQA Guidelines* in November 2018, which went into effect in December 2018. The amendments do not identify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. The amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs when they perform individual project analyses.

Senate Bill 375 (2008). SB 375, the Sustainable Communities and Climate Protection Act, which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the State on September 30, 2008. On September 23, 2010, the CARB adopted the vehicular GHG emissions reduction targets that had been developed in consultation with the Metropolitan Planning Organization (MPOs); the targets require a 6 to 15 percent reduction by 2020 and between 13 to 19 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant GHG reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs such as the Fresno Council of Governments will work with local jurisdictions in the development of Sustainable Communities Strategy (SCS) designed to integrate development patterns and the transportation network in a way that reduces GHG emissions while meeting housing needs and other regional planning objectives. Pursuant to SB 375, the Central Valley/San Joaquin reduction

[23] CARB. 2017a. *California's 2017 Climate Change Scoping Plan*. November.

[24] CARB. 2022a. *2022 Scoping Plan*. November 16. Website: https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf (accessed January 2023).

targets for per capita vehicular emissions were 6 to 13 percent by 2020 and are 13 to 16 percent by 2035 as shown in Table 4.3.D.

Table 4.3.D: Senate Bill 375 Regional Greenhouse Gas Emissions Reduction Targets

Metropolitan Planning Organization	By 2020 (%)	By 2035 (%)
San Francisco Bay Area	10	19
San Diego	15	19
Sacramento	7	19
Central Valley/San Joaquin	6–13	13–16
Los Angeles/Southern California	8	19

Source: California Air Resources Board (2018).

Executive Order B-30-15 (2015). Governor Jerry Brown signed Executive Order B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions should be reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target, and therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act. Senate Bill 350 (SB 350), signed by Governor Jerry Brown on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's renewable portfolio standard from 33 percent to 50 percent; and
- Increasing energy efficiency in buildings by 50 percent by the year 2030.

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission for the private utilities and by the CEC for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other non-renewable resources. The 50 percent increase in energy efficiency in buildings must be achieved using existing energy efficiency retrofit funding and regulatory tools already available to state energy agencies under existing law. The addition made by this legislation requires state energy agencies to plan for and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197. In summer 2016 the Legislature passed, and the Governor signed, SB 32, and Assembly Bill 197 (AB 197). SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown's April 2015 Executive Order B-30-15. SB 32 builds on AB 32 and keeps us on the path toward

achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an IPCC analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million CO2e and reduce the likelihood of catastrophic impacts from climate change.

The companion bill to SB 32, AB 197, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

Senate Bill 100 (SB 100). On September 10, 2018, Governor Brown signed SB 100, which raises California's Renewables Portfolio Standard (RPS) requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18. Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

California Building Efficiency Standards (Title 24, Part 6). The California Building Standards Code, or Title 24 of the California Code of Regulations (CCR) contains the regulations that govern the construction of buildings in California. Within the Building Standards Code, two parts pertain to the incorporation of both energy efficient and green building elements into land use development. Part 6 is California's Energy Efficiency Standards for Residential and Non-Residential Buildings. These standards were first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption and are updated on an approximately 3-year cycle to allow consideration and possible incorporation of new energy efficient technologies and methods. In November 2008, the California Building Standards Commission established the California Green Building Standards Code (CALGreen Code), which sets performance standards for residential and non-residential development to reduce environmental impacts and encourage sustainable construction practices. The CALGreen Code addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The current set of standards were adopted in 2022 and will apply to projects seeking building permits on or after January 1, 2023. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.

Cap and Trade. The development of a cap-and-trade program was included as a key reduction measure of the CARB AB 32 Climate Change Scoping Plan. The cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by 2020 and

ultimately achieving an 80 percent reduction from 1990 levels by 2050. The cap-and-trade emissions trading program developed by the CARB took effect on January 1, 2012, with enforceable compliance obligations beginning January 1, 2013. The cap-and-trade program aims to regulate GHG emissions from the largest producers in the State by setting a statewide firm limit, or cap, on allowable annual GHG emissions. The cap was set in 2013 at approximately 2 percent below the emissions forecast for 2020. In 2014, the cap declined approximately 2 percent. Beginning in 2015 and continuing through 2020, the cap has been declining approximately 3 percent annually. The CARB administered the first auction on November 14, 2012, with many of the qualified bidders representing corporations or organizations that produce large amounts of GHG emissions, including energy companies, agriculture and food industries, steel mills, cement companies, and universities. On January 1, 2015, compliance obligation began for distributors of transportation fuels, natural gas, and other fuels. The cap-and-trade program was initially slated to sunset in 2020 but the passage of SB 398 in 2017 extended the program through 2030.[25]

Executive Order N-79-20. EO N-79-20, which was signed by the Governor on September 23, 2020, sets the following goals for the State: 100 percent of in-state sales of new passenger cars and trucks shall be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the State shall be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks; and 100 percent of off-road vehicles and equipment in the State shall be zero-emission by 2035, where feasible.

California Integrated Waste Management Act. To minimize the amount of solid waste that must be disposed of in landfills, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties were required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Through other statutes and regulations, this 50 percent diversion rate also applies to State agencies. In order of priority, waste reduction efforts must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal. In 2011, AB 341 modified the California Integrated Waste Management Act and directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. The resulting 2012 Mandatory Commercial Recycling Regulation requires that on and after July 1, 2012, certain businesses that generate four cubic yards or more of commercial solid waste per week shall arrange recycling services. To comply with this requirement, businesses may either separate recyclables and self-haul them or subscribe to a recycling service that includes mixed waste processing. AB 341 also established a statewide recycling goal of 75 percent; the 50 percent disposal reduction mandate still applies for cities and counties under AB 939, the Integrated Waste Management Act. In April 2016, AB 1826 further modified the California Integrated Waste Management Act, requiring businesses that generate a specified amount of organic waste per week to arrange for recycling services for that organic waste in a specified manner. If CalRecycle determines that statewide disposal of organic waste has not been reduced by 50 percent below 2014 levels by 2020, businesses generating more than two cubic yards of organic

[25] CARB. 2014. Cap-and-Trade Program. Website: www.arb.ca.gov/cc/capandtrade/capandtrade.htm (accessed September 2022).

waste per week would be subject to these waste collection requirements. CalRecycle plans to make this assessment in the fall of 2020. Diverting organic waste from landfills reduces emissions of CH_4. This is equivalent to reducing anaerobic decomposition of organic waste that would have otherwise occurred in landfills where organic waste is often buried with other inorganic waste.

Low Carbon Fuel Standard. In January 2007, EO S-01-07 established an LCFS. This executive order calls for a statewide goal to be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020, and that an LCFS for transportation fuels be established for California. The LCFS applies to all refiners, blenders, producers, or importers ("Providers") of transportation fuels in California, including fuels used by off-road construction equipment. In June 2007, CARB adopted the LCFS under AB 32 pursuant to Health and Safety Code Section 38560.5, and, in April 2009, CARB approved the new rules and carbon intensity reference values with new regulatory requirements taking effect in January 2011. The standards require providers of transportation fuels to report on the mix of fuels they provide and demonstrate they meet the LCFS intensity standards annually. This is accomplished by ensuring that the number of "credits" earned by providing fuels with a lower carbon intensity than the established baseline (or obtained from another party) is equal to or greater than the "deficits" earned from selling higher intensity fuels. In response to certain court rulings, CARB re-adopted the LCFS regulation in September 2015, and the LCFS went into effect on January 1, 2016. In 2018, CARB approved amendments to the regulation to readjust carbon intensity benchmarks to meet California's 2030 GHG reductions targets under SB 32. These amendments include opportunities to promote zero emission vehicle (ZEV) adoption, carbon capture and sequestration, and advanced technologies for decarbonization of the transportation sector.

Advanced Clean Cars Program. In January 2012, CARB approved the Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of ZEVs, into a single package of regulatory standards for vehicle model years 2017 through 2025. The new regulations strengthen the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program's ZEVs regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the State. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. By 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 40 percent fewer GHGs and 75 percent fewer smog-forming emissions than 2012 model year vehicles.

Executive Order B-48-18. In January 2018, Governor Brown signed EO B-48-18 requiring all State entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the electric vehicle charging stations should be direct current fast chargers. This order also requires all State entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a Plug-in Charging Station Design Guidebook and update the

2015 Hydrogen Station Permitting Guidebook to aid in these efforts. All State entities are required to participate in updating the 2016 Zero-Emissions Vehicle Action Plan to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all State entities are to support and recommend policies and actions to expand ZEV infrastructure at residential land uses, through the LCFS Program, and recommend how to ensure affordability and accessibility for all drivers.

4.3.2.3 Regional Regulations

San Joaquin Valley Air Pollution Control District. The City of Clovis is located within the San Joaquin Valley Air Basin (SJVAB), which is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD has regulatory authority over certain stationary and industrial GHG emission sources and provides voluntary technical guidance on addressing GHGs for other emission sources in a CEQA context. District initiatives related to GHGs are described below.

Climate Change Action Plan. The San Joaquin Valley Air Pollution Control District Climate Change Action Plan (CCAP) was adopted on August 21, 2008. The CCAP includes suggested best performance standards (BPS) for proposed development projects. However, the SJVAPCD's CCAP was adopted in 2009 and was prepared based on the State's 2020 GHG targets, which are now superseded by State policies (i.e., the 2019 California Green Building Code) and the 2030 GHG targets, established in SB 32.

San Joaquin Valley Carbon Exchange and Rule 2301. The SJVAPCD initiated work on the San Joaquin Valley Carbon Exchange in November 2008. The Exchange was implemented with the adoption of Amendments to Rule 2301 Emission Reduction Credit Banking on January 19, 2012. The purpose of the carbon exchange is to quantify, verify, and track voluntary GHG emissions reductions generated within the San Joaquin Valley.

The SJVAPCD incorporated a method to register voluntary GHG emission reductions with amendments to Rule 2301. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary GHG emission reductions for later use.
- Provide an administrative mechanism for sources to transfer banked GHG emission reductions to others for any use.
- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked GHG emission reductions are real, permanent, quantifiable, surplus, and enforceable.

The SJVAPCD is participating in a new program developed by the California Air Pollution Control Officers Association (CAPCOA) to encourage banking and use of GHG reduction credits referred to as the CAPCOA Greenhouse Gas Reduction Exchange (GHGRx). The GHGRx provides information on GHG credit projects within participating air districts. The District is one of the first to have offsets available for trading on the Exchange.

4.3.2.4 Local Regulations

City of Clovis General Plan. The City of Clovis General Plan provides goals, policies, and action items that work to meet or exceed all current and future state-mandated targets for reducing emissions of greenhouse gases. The policies and action items from the General Plan, listed in Table 4.3.E would be applicable to the proposed project.

Table 4.3.E: City of Clovis General Plan Policies Related to Greenhouse Gas Emissions

Policy/Action Item Number	Policy/Action Item
Air Quality Element	
Policy 1.1	**Land use and transportation.** Reduce greenhouse gas and other local pollutant emissions through mixed use and transit-oriented development and well-designed transit, pedestrian, and bicycle systems.
Policy 1.6	**Alternative fuel infrastructure**. Encourage public and private activity and employment centers to incorporate electric charging and alternative fuel stations.
Policy 2.1	**Regional coordination.** Support regional efforts to reduce air pollution (criteria air pollutants and greenhouse gas emissions) and collaborate with other agencies to improve air quality at the emission source and reduce vehicle miles traveled.
Policy 2.2	**Cross-jurisdictional issues.** Collaborate with regional agencies and surrounding jurisdictions to address cross-jurisdictional transportation and air quality issues.
Policy 2.3	**Valleywide programs.** Establish parallel air quality programs and implementation measures with other communities across the San Joaquin Valley.
Policy 2.4	**Public participation.** Encourage participation of local citizens, the business community, and interested groups and individuals in air quality planning and implementation.
Policy 2.6	**Innovative mitigation.** Encourage innovative mitigation measures to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties.

Source: City of Clovis General Plan (August 2014).

4.3.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to greenhouse gas emissions that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed.

4.3.3.1 Significance Criteria

Based on CEQA Guidelines Appendix G, the proposed project would have a significant impact related to greenhouse gas emissions if it would:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Section 15064.4 of the *State CEQA Guidelines* states that: "A lead agency should 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." In performing that analysis, the lead agency has discretion to determine whether to use a model or methodology to quantify GHG emissions, or to rely on a qualitative analysis or performance-based standards. In making a determination as to the significance of potential impacts, the lead agency then considers the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting, whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project, and 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 GHG emissions.

Neither the City of Clovis, nor the SJVAPCD has developed or adopted numeric GHG significance thresholds. Therefore, this analysis evaluates the GHG emissions based on the project's consistency with State GHG reduction goals.

4.3.3.2 Project Impacts

a. **Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

No development is proposed within the remaining 174.46-acre annexation area surrounding the project site. The proposed project would include annexation of the 246-acre area from Fresno County jurisdiction to the City of Clovis. Any future development occurring within the annexation area would require a separate project-specific analysis. The sections below discuss the 71.54 acre project's potential impact related to the release of GHG emissions for both construction and project operation.

Construction GHG Emissions. Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The City of Clovis does not have an adopted threshold of significance for construction related GHG emissions. However, emissions that would occur during construction were quantified and are disclosed for informational purposes. Using CalEEMod, it is estimated that construction of the proposed project would generate approximately 1,732.0 metric tons of CO_2e. Table 4.3.F lists the annual GHG emissions (details are provided in the CalEEMod output in Appendix D).

Table 4.3.F: Construction Greenhouse Gas Emissions

Construction Year	Annual Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	CO_2e
2023	32.8	<0.1	<0.1	33.0
2024	785.0	<0.1	<0.1	797.0
2025	532.0	<0.1	<0.1	540.0
2026	357.0	<0.1	<0.1	362.0
Total Construction Emissions				**1,732.0**

Source: Compiled by LSA (February 2023).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
N_2O = nitrous oxide

Even though the City of Clovis does not have any adopted GHG emission thresholds, the emission results shown in Table 4.3.F would be temporary in nature, and would only occur for the duration construction.

Operational GHG Emissions. Long-term GHG emissions are typically generated from mobile sources (e.g., cars, trucks, and buses), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution). Mobile-source GHG emissions would include project-generated vehicle trips to and from the project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site. Energy source emissions would be generated at off-site utility providers as a result of increased electricity demand generated by the project. Waste source emissions generated by the proposed project include energy generated by land filling and other methods of disposal related to transporting and managing project-generated waste. In addition, water source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

Emissions estimates for operation of the proposed project were calculated using CalEEMod.

Table 4.3.G shows the emissions sources by category; mobile source emissions are the largest category, at approximately 83 percent of total CO_2e emissions, followed by energy source emissions at approximately 8 percent of the total, area source emissions at approximately 6 percent of the total, waste source emissions at approximately 3 percent of the total, and water source emissions with less than 1 percent of the total emissions. CalEEMod output sheets are included in Appendix D.

Table 4.3.G: Operational Greenhouse Gas Emissions

Emissions Category	Operational Emissions (Metric Tons per Year)				
	CO_2	CH_4	N_2O	CO_2e	Percent of Total
Mobile Source	5,243.0	0.3	0.3	5,343.0	83
Area Source	350.0	0.6	<0.1	364.0	6
Energy Source	512.0	0.1	<0.1	517.0	8
Water Source	17.2	0.8	<0.1	43.2	<1
Waste Source	55.4	5.5	0.0	194.0	3
Total Operational				**6,461.2**	**100.0**

Source: Compiled by LSA (February 2023).
Note = Some values may not appear to add up correctly due to rounding.
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
N_2O = nitrous oxide

As shown in Table 4.3.G, the proposed project would generate approximately 6,461.2 metric tons of CO_2e annually. The proposed project would consist in the construction of a 590-lot residential development for single-family residences. Based on the City's current Housing Element,[26] the average number of persons residing in each household in Clovis is estimated to be 2.85 persons. As a result, following construction and occupation of the proposed project, it is estimated that approximately 1,682 residents would live within the proposed 590 residential units within the project site. The proposed project would not accommodate new employees; therefore, the total service population would be 1,682 people (residents plus employees). As such, the proposed project would result in 3.8 metric tons of CO_2e per year per service population.

The SJVAPCD has not established a numeric threshold for GHG emissions. As discussed, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds or consistency with a regional GHG reduction plan (such as a Climate Action Plan). Neither the City of Clovis, nor the SJVAPCD has developed or adopted numeric GHG significance thresholds. Therefore, the proposed project was analyzed for consistency with the 2022 Scoping Plan.

The 2022 Scoping Plan includes key project attributes that reduce operational GHG emissions in Appendix D, Local Actions[27], of the 2022 Scoping Plan. As discussed in Appendix D of the 2022 Scoping Plan, absent consistency with an adequate, geographically specific GHG reduction plan such as a CEQA-qualified CAP, the first approach the State recommends for determining whether a proposed residential or mixed-use residential development would align with the State's climate goals is to examine whether the project includes key project attributes that reduce operational GHG emissions while simultaneously advancing fair housing. With the implementation of recommended mitigation, the proposed project is generally consistent with the key project attributes recommended in the Scoping Plan, as further discussed below.

[26] City of Clovis. 2016. Fresno Multi-Jurisdictional 2015-2023 Housing Element. Website: https://cityofclovis.com/wp-content/uploads/2019/02/Clovis-Housing-Element-1.pdf (accessed September 21, 2022). April.

[27] CARB. 2022b. *2022 Scoping Plan Appendix D Local Actions.* November. Website: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf (accessed February 2023).

The 2022 Scoping Plan recommends that a residential or mixed-use project provide EV charging infrastructure that, at minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval. CALGreen requires provision of infrastructure to accommodate EV chargers for new single family and attached dwelling units/town houses. It is not yet known whether the proposed project would include electric vehicle charging; therefore, implementation of Mitigation Measure GHG-1 would be required to ensure the proposed project would provide electric vehicle charging. With implementation of Mitigation Measure GHG-1, the proposed project would be consistent with this key project attribute.

The Scoping Plan further recommends that a proposed project be located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer). The proposed project is located in close proximity to other single-family residential uses that are presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer). The project site and adjacent parcels have been identified for future development in the City of Clovis General Plan. As described in Section 4.5 Transportation, the project's VMT was calculated to be 17.8 VMT per capita, 26.4 percent higher than the City's VMT per capita threshold. However, as further discussed in Section 4.5, Transportation, as per information provided by the Project Applicant, the project intends to implement project design features that could help reduce project VMT. The project design features would include the following: pedestrian infrastructure; improve street connectivity; bicycle infrastructure/improvements; and provide electric vehicle charging capabilities (as required my Mitigation Measure GHG-1). The project would be generally consistent with the goals of the Scoping Plan with the implementation of the mitigation measure and design features.

CARB guidance recommends that, to be consistent with State goals, a proposed project should not result in the loss or conversion of natural and working lands. The project site is zoned within the Exclusive Agricultural Zoning District (AE-20) of Fresno County. In addition, the project site contains APN 556-030-14S, which is currently under a Williamson Act contract. Following approval of the proposed project and certification of the EIR, the City and Project Applicant will apply to have the project site and annexation area annexed into the City of Clovis, and the project site will be pre-zoned to the City of Clovis' R-1 Zone District (R-1-PRD). Additionally, cancellation of the Williamson Act contract would occur prior to issuance of building permits, pursuant to Mitigation Measure AG-2. Although the project would result in the conversion of farmland, as confirmed by the site-specific LESA Model prepared for the project, this impact would be a less than significant impact. Additionally, conversion of farmland through development of the project site was already identified in the City of Clovis General Plan EIR. The project would result in no new impacts related to the loss or conversion of natural and working lands than those already identified in the City's General Plan. As such, implementation of the proposed project would not result in significant impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. Therefore, the proposed project would be consistent with this key project attribute.

The proposed project would also be generally consistent with the transit density criteria recommended in the Scoping Plan. The proposed project would include an approximately 20-foot-

wide parkway containing an approximately 6-foot-wide pedestrian sidewalk and landscaped areas would be included along the western side of North Baron Avenue along the project site. An approximately 16-foot-wide parkway containing an approximately 6-foot-wide pedestrian sidewalk and landscaped area that is reduced from the Heritage Grove Neighborhood Boulevard Street section would be included along the eastern side of North Baron Avenue. Through the implementation of these features, the proposed project would support the ability to use alternative modes of transportation. As such, the project would promote initiatives to reduce vehicle trips and VMT and would increase the use of alternate means of transportation.

The Scoping Plan recommends that a proposed project reduce parking requirements by eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or providing residential parking supply at a ratio of less than one parking space per dwelling unit; or for multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit. The proposed project would consist of the annexation of 246 acres by the City of Clovis, and the development of 590 residential lots. Phase 1 would include the construction of approximately 44 parking spaces and Phase 3 would include the construction of approximately 91 parking spaces. Based on the minimal parking spaces when compared to the number of residential units, the proposed project would be consistent with this key project attribute.

An additional State goal is to advance the availability of fair housing. The proposed project would help to address the California housing shortage and would increase the number of residences available to residents of the San Joaquin Valley. Through increasing housing opportunities in this historically disadvantaged area, the proposed project would be consistent with State goals. The proposed project would include the removal of one existing 2,679 square-foot dwelling unit and garage, an existing propane tank, a 2,000 square-foot pole barn, two sheds, and an existing driveway on the project site. The removal of these structures would not result in a net loss of existing affordable uses and is therefore consistent with the goals of the 2022 Scoping Plan.

Finally, consistent with the recommendations in the 2022 Scoping Plan, the proposed project would be all-electric and would not include natural gas. Based on the Bay Area Air Quality Management District's *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*[28], the elimination of natural gas in new development would help projects implement their "fair share" of achieving long-term 2045 carbon neutrality consistent with State goals. As such, if a project does not utilize natural gas, a lead agency can conclude that it would be consistent with achieving the 2045 neutrality goal and will not have a cumulative considerable impact on climate change.

With implementation of Mitigation Measure GHG-1, the proposed project would be consistent with the 2022 Scoping Plan key residential and mixed-use project attributes related to EV charging

[28] Bay Area Air Quality Management District (BAAQMD). 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans.* April. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en (accessed May 2023).

requirements. As demonstrated above, the proposed project is generally consistent with the key project attributes recommended by CARB for a residential project to have a less than significant impact due to GHG emissions. The implementation of Mitigation Measure GHG-1 would ensure consistency with the 2022 Scoping Plan key project attribute related to EV charging requirements.

Impact GHG-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure GHG-1 In order to meet the 2022 Scoping Plan greenhouse gas (GHG) requirements, consistent with State GHG reduction and equity prioritization goals, each residential unit shall provide electric vehicle charging capabilities as part of the final project designs.

Level of Significance With Mitigation**:** Less than significant with mitigation.

b. **Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

The SJVAPCD has adopted a CCAP, which includes suggested best performance standards (BPS) for proposed development projects. However, the SJVAPCD's CCAP was adopted in 2009 and was prepared based on the State's 2020 GHG targets, which are now superseded by State policies (i.e., the 2022 California Green Building Code) and the 2030 GHG targets, established in SB 32. As mentioned above, the City of Clovis has not developed or adopted numeric GHG significance thresholds. Therefore, this analysis evaluates the GHG emissions based on the project's consistency with State GHG reduction goals.

The proposed project was analyzed for consistency with the goals of the 2022 Scoping Plan.

Scoping Plan. The following discussion evaluates the proposed project according to the goals of the 2022 Scoping Plan, EO B-30-15, SB 32, and AB 197.

EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 target set by EO B-30-15 and codified by SB 32. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in EO B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 intended to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

In addition, the 2022 Scoping Plan assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy

deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

The 2022 Scoping Plan focuses on building clean energy production and distribution infrastructure for a carbon-neutral future, including transitioning existing energy production and transmission infrastructure to produce zero-carbon electricity and hydrogen, and utilizing biogas resulting from wildfire management or landfill and dairy operations, among other substitutes. Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. As discussed above, the proposed project would comply with the CALGreen Code, regarding energy conservation and green building standards. The proposed project would also incorporate sustainable design features, including, but not limited, to installation of energy-efficient light fixtures, high-efficiency plumbing fixtures, and rooftop PV systems and solar panels, consistent with the requirements of Title 24. The proposed project would receive electricity from PG&E, which is required to reduce GHG emissions by increasing procurement from eligible renewable energy by set target years in support of State goals for GHG emissions reductions and carbon neutrality by 2045. Therefore, the proposed project would comply with applicable energy measures included in the Scoping Plan.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would comply with the CALGreen Code, which includes a variety of different measures, including the reduction of wastewater and water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. Vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. The proposed project is located in the vicinity of several other housing developments and would offer pedestrian and bicycle connectivity and parkways along nearby roadways to encourage the use of alternative transportation, thereby helping to reduce VMTs. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

Furthermore, the proposed project would directly increase the availability of housing opportunities in the San Joaquin Valley, helping to address California's housing shortage and increasing the total number of residences in the State. The proposed project would therefore support addressing the State goals of increasing the availability of housing to Californian residents.

As demonstrated above, and as further discussed in the proceeding section, the proposed project would be consistent with the 2022 Scoping Plan, and would therefore be consistent with other local and State plans for reducing GHGs.

Impact GHG-2: The project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.3.3.3 Cumulative Impacts

GHG impacts are by their nature cumulative impacts. Localized impacts of climate change are the result of the cumulative impact of global emissions. The combined benefits of reductions achieved by all levels of government help to slow or reverse the growth in GHG emissions. In the absence of comprehensive international agreements on appropriate levels of reductions achieved by each country, another measure of cumulative contribution is required. This serves to define the State's share of the reductions regardless of the activities or lack of activities of other areas of the U.S. or the world. Therefore, a cumulative threshold based on consistency with State targets and actions to reduce GHGs is an appropriate standard of comparison for significance determinations.

As mentioned above, neither the City of Clovis nor the SJVAPCD has developed or adopted numeric GHG significance thresholds. Therefore, the proposed project was analyzed for consistency with State GHG reduction goals. Based on the analysis presented above, the proposed project would be consistent with the 2022 Scoping Plan key residential and mixed-use project attributes related building electrification, and with implementation of Mitigation Measure GHG-1, the EV charging requirements. Therefore, the proposed project would have a less than significant impact after the incorporation of mitigation measures.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure: Refer to Mitigation Measures GHG-1.

Level of Significance With Mitigation: Less Than Significant Impact.

4.4 NOISE

This section describes existing noise and vibration conditions, sets forth criteria for determining the significance of noise and vibration impacts, and estimates the likely noise and vibration impacts that would result from construction and operation of the proposed project. Mitigation measures are identified, as necessary, to address significant environmental impacts.

4.4.1 Environmental Setting

The setting section begins with an introduction to several key concepts and terms that are used in evaluating noise. This section also includes a description of current noise sources that affect the project site and the noise conditions that are experienced in the project site vicinity.

4.4.1.1 Characteristics of Sound

Noise is usually defined as unwanted sound and consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally related to annoyance, while loudness can affect our ability to hear through hearing damage. Pitch is the number of complete vibrations, or cycles per second, of a wave, resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves, combined with the reception characteristics of the human ear. Sound pressure refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be measured precisely with instruments. The project analysis defines the noise environment of the planning area in terms of sound pressure levels and the project's effect on sensitive land uses.

4.4.1.2 Measurement of Sound

Sound intensity is measured with the A-weighted decibel scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound, similar to the human ear's de-emphasis of these frequencies. Decibels, unlike linear units (e.g., inches or pounds), are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) is 10 times more intense than 1 dB, 20 dB is 100 times more intense than 1 dB, and 30 dB is 1,000 times more intense than 1 dB. Thirty decibels (30 dB) represents 1,000 times as much acoustic energy as 1 dB. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the sound's loudness. Ambient sounds generally range from 30 dB (very quiet) to 100 dB (very loud).

Sound levels generate from a source, and their decibel level decreases as the distance from that source increases. Sound levels dissipate exponentially with distance from their noise sources. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is

produced by a line source (e.g., highway traffic or railroad operations) the sound decreases 3 dB for each doubling of distance in a hard site environment. Line source sound levels decrease 4.5 dB for each doubling of distance in a relatively flat environment with absorptive vegetation.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and Community Noise Equivalent Level (CNEL) or the day-night average noise level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noise occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the relaxation and sleeping hours. CNEL and L_{dn} are within 1 dBA of each other and are normally interchangeable. The City uses the CNEL noise scale for long-term noise impact assessment.

Other noise rating scales of importance when assessing the annoyance factor include the maximum instantaneous noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by L_{max}, which reflects peak operating conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first category includes audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dB or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 dB and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

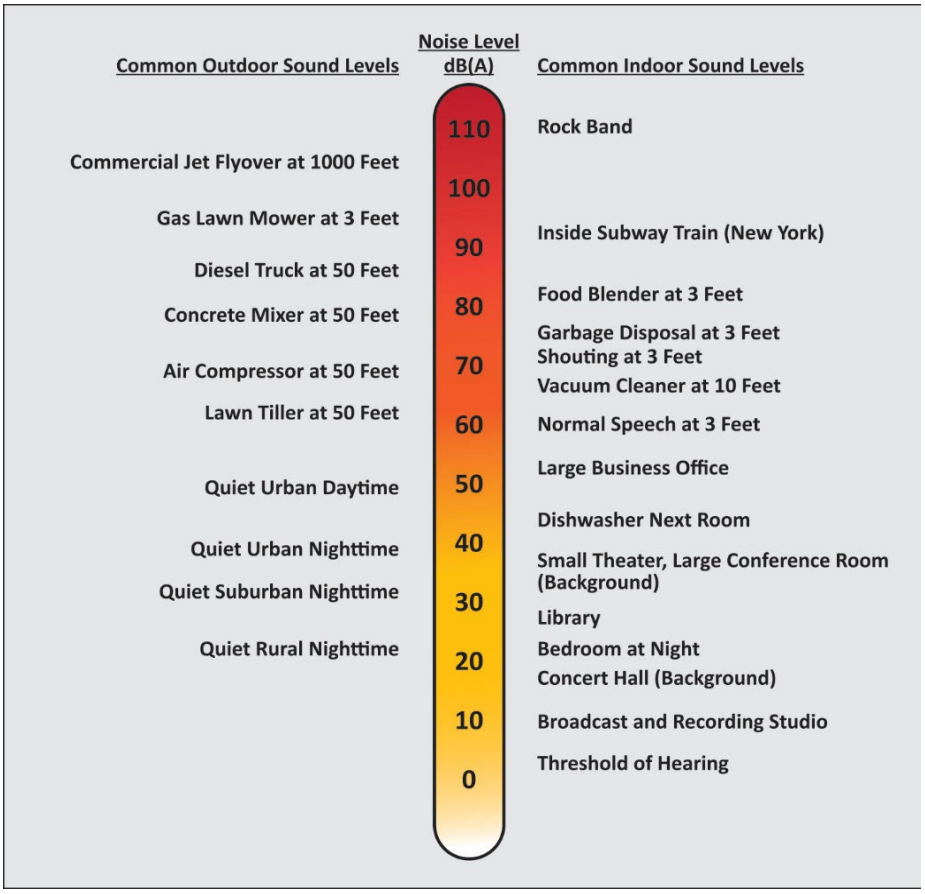
Table 4.4.A contains a list of typical acoustical terms and definitions. Figure 4.4-1 shows representative outdoor and indoor noise levels in units of dBA.

Table 4.4.A: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of level that denotes the ratio between two quantities proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of five decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: *Handbook of Acoustical Measurements and Noise Control* (Harris, Cyril 1998).

Figure 4.4-1: Typical A-Weighted Sound Levels



Source: Compiled by LSA (2016).

4.4.1.3 Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to sound levels higher than 85 dBA. Exposure to high sound levels affects the entire system, with prolonged sound exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of sound exposure above 90 dBA would result in permanent cell damage. When the sound level reaches 120 dBA, a tickling sensation occurs in the human ear, even with short-term exposure. This level of sound is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by a feeling of pain in the ear (i.e., the threshold of pain). A sound level of 160–165 dBA will result in dizziness or a loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less-developed areas.

4.4.1.4 Fundamentals of Vibration

Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as the motion of building surfaces, the rattling of items sitting on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibration of walls, floors, and ceilings that radiate sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile-driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with both ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 feet from the vibration source, although there are examples of ground-borne vibration causing interference out to distances greater than 200 feet. When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed for most projects that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, both construction of the project and the freight train operations could result in ground-borne vibration that may be perceptible and annoying.

Ground-borne noise is not likely to be a problem because noise arriving via the normal airborne path will usually be greater than ground-borne noise.

Ground-borne vibration has the potential to disturb people and damage buildings. Although it is very rare for train-induced ground-borne vibration to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and pile-driving to cause vibration of sufficient amplitudes to damage nearby buildings. Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). The RMS is best for characterizing human response to building vibration, and PPV is used to characterize potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

$$L_v = 20 \log_{10} [V/V_{ref}]$$

where "L_v" is the vibration velocity in decibels (VdB), "V" is the RMS velocity amplitude, and "V_{ref}" is the reference velocity amplitude, or 1 x 10^{-6} inches/second (in/sec) used in the United States. Table 4.4.B illustrates human response to various vibration levels, as described in the Federal Transit Administration's *(FTA) Noise and Vibration Impact Assessment Manual* (FTA Manual).[1]

[1] Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual.* Office of Planning and Environment. Report No. 0123. September.

Table 4.4.B: Human Response to Different Levels of Ground-Borne Noise and Vibration

Vibration Velocity Level	Noise Level		Human Response
	Low Frequency[1]	Mid Frequency[2]	
65 VdB	25 dBA	40 dBA	Approximate threshold of perception for many humans. Low-frequency sound is usually inaudible; mid-frequency sound is excessive for quiet sleeping areas.
75 VdB	35 dBA	50 dBA	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level unacceptable. Low-frequency noise is acceptable for sleeping areas; mid-frequency noise is annoying in most quiet occupied areas.
85 VdB	45 dBA	60 dBA	Vibration is acceptable only if there are an infrequent number of events per day. Low-frequency noise is unacceptable for sleeping areas; mid-frequency noise is unacceptable even for infrequent events with institutional land uses, such as schools and churches.

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] Approximate noise level when vibration spectrum peak is near 30 Hz.
[2] Approximate noise level when vibration spectrum peak is near 60 Hz.
dBA = A-weighted decibels
FTA = Federal Transit Administration
Hz = Hertz
VdB = vibration velocity decibels

Factors that influence ground-borne vibration and noise include:

- **Vibration Source:** Vehicle suspension, wheel types and condition, railroad track/roadway surface, railroad track support system, speed, transit structure, and depth of vibration source.
- **Vibration Path:** Soil type, rock layers, soil layering, depth to water table, and frost depth.
- **Vibration Receiver:** Foundation type, building construction, and acoustical absorption.

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of ground-borne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock.

Experience with ground-borne vibration indicates (1) vibration propagation is more efficient in stiff, clay soils than in loose, sandy soils; and (2) shallow rock seems to concentrate the vibration energy close to the surface and can result in ground-borne vibration problems at large distances from a railroad track. Factors such as layering of the soil and the depth to the water table can have significant effects on the propagation of ground-borne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

4.4.1.5 Overview of the Existing Noise Environment

The ambient noise environment in the City of Clovis is affected by a variety of noise sources, including mobile source noise and stationary noise. As indicated in the City's General Plan EIR, the most significant mobile sources of noise in the City include noise created by aircraft takeoffs and landings), and State Route 168 and other major roadways. Stationary noise sources in the City

include operation of commercial, warehousing, and industrial uses and schools. Noise generated at construction sites is also a source of noise in Clovis. The following section describes the existing noise environment and identifies the primary noise sources in the vicinity of the project site.

Existing Traffic Noise. Motor vehicles with their distinctive noise characteristics are a major source of noise in the City of Clovis. The amount of noise varies according to many factors, such as volume of traffic, vehicle mix (percentage of cars and trucks), average traffic speed, and distance from the observer.

Existing roadway traffic noise levels in the project area were assessed using the Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108). Traffic volumes were obtained from the proposed project's Transportation Impact Analysis (Appendix G). This model uses a typical vehicle mix for urban/suburban areas in California and requires parameters, including traffic volumes, vehicle speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the day-night average noise level (L_{dn}) values. Existing traffic noise contours along modeled roadway segments are shown in Table 4.4.C.

Existing Aircraft Noise. There are currently three airports near the City of Clovis, which are all within the City of Fresno: Fresno Yosemite International Airport, Fresno-Chandler Executive Airport, and Sierra Sky Park Airport. Commercial jet aircraft operations are limited to Fresno Yosemite International Airport. The Air National Guard is also stationed there and operates military jets and other aircraft. Private and commercial operations with smaller aircraft use Fresno Chandler Downtown Airport, while only small private aircraft use Sierra Sky Park Airport. The Fresno Yosemite International Airport is located approximately 6.1 miles southwest of the project site, the Sierra Sky Airport, located approximately 9.3 miles southwest of the project site, and the Fresno Chandler Executive Airport, located approximately 11.3 miles southwest of the project site. Each of these airports is included in the Fresno County Airport Land Use Compatibility Plan (ALUCP), which guides approximate compatible land uses. The City of Clovis General Plan, other City land use plans, and all City land use decisions must be compatible with the adopted ALUCP. The ALUCP includes CNEL noise contours based on projected airport and aircraft operations. The project site is not within an ALUCP.[2]

Existing Railroad Noise. There are currently no railroad lines in the City of Clovis. The closest rail line to the project site is approximately 9 miles southwest of the project site. There are two major rail lines that traverse the nearby City of Fresno, including the Union Pacific Railroad line, which is generally runs along State Route (SR) 99, and the BNSF Railway, which diverges from SR-99 in the southwest and travels through downtown Fresno (behind Fresno City Hall) to the northwest. Given the distance of the rail lines to the project site, railroad noise does not impact the City of Clovis.

[2] City of Clovis. 2014. General Plan and Development Code Update Draft PEIR. Noise. Website: https://cityofclovis.com/wp-content/uploads/2018/10/Chapter-05-12-Noise.pdf (accessed January 2023).

Table 4.4.C: Existing Traffic Noise Levels

Roadway Segment	Average Daily Trips	Centerline to 70 dBA CNEL (feet)	Centerline to 65 dBA CNEL (feet)	Centerline to 60 dBA CNEL (feet)	CNEL (dBA) 50 Feet From Outermost Lane
International Avenue between Willow Avenue and Minnewawa Avenue	1,620	< 50	< 50	< 50	59.0
Behymer Avenue between Willow Avenue and Minnewawa Avenue	2,360	< 50	< 50	61	60.6
Behymer Avenue between Minnewawa Avenue and Clovis Avenue	3,720	< 50	< 50	83	62.6
Behymer Avenue between Clovis Avenue and Baron Avenue	3,720	< 50	< 50	83	62.6
Shepherd Avenue between Willow Avenue and Minnewawa Avenue	10,330	< 50	92	196	67.1
Shepherd Avenue between Minnewawa Avenue and Clovis Avenue	9,420	< 50	87	184	66.7
Shepherd Avenue between Clovis Avenue and Sunnyside Avenue	8,060	< 50	79	166	66.0
Shepherd Avenue between Sunnyside Avenue and Fowler Avenue	7,040	< 50	71	152	65.9
Herndon Avenue between State Route 168 Eastbound Ramps and Clovis Avenue	37,560	102	189	390	69.3
Willow Avenue between International Avenue and Behymer Avenue	8,350	< 50	86	173	65.0
Willow Avenue between Behymer Avenue and Shepherd Avenue	14,520	64	119	247	67.4
Minnewawa Avenue between International Avenue and Behymer Avenue	6,020	< 50	53	114	64.7
Minnewawa Avenue between Behymer Avenue and Shepherd Avenue	4,830	< 50	< 50	99	63.7
Baron Avenue between Behymer Avenue and Perrin Avenue	0	< 50	< 50	< 50	20.1
Baron Avenue between Perrin Avenue and Clovis Avenue	0	< 50	< 50	< 50	20.1
Clovis Avenue between Baron Avenue and Shepherd Avenue	1,410	< 50	< 50	< 50	56.9
Clovis Avenue between Shepherd Avenue and Teague Avenue	4,570	< 50	< 50	98	62.0
Clovis Avenue between Teague Avenue and Nees Avenue	8,220	< 50	69	142	64.5
Clovis Avenue between Nees Avenue and Alluvial Avenue	10,870	< 50	82	171	65.7
Clovis Avenue between Alluvial Avenue and Herndon Avenue	17,260	< 50	109	231	67.8

Source: Compiled by LSA (February 2023).
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels

Existing Sensitive Land Uses. Sensitive receptors include residences, schools, hospitals, churches, and similar uses that are sensitive to noise. Construction and operation associated with the proposed project could adversely affect nearby noise-sensitive land uses. The closest sensitive receptors include single-family residential uses located approximately 55 feet east of the project site along Behymer Avenue, approximately 230 feet west of the project site, and approximately 530 feet southeast of the project site along Baron Avenue. The closest existing schools to the project site are the Woods Elementary School, located approximately 0.75 miles south of the project site, and Buchanan High School, approximately 1.08 miles southwest of the project site.

Stationary Noise Sources. Stationary noise sources can also have an effect on the population, and unlike mobile, transportation-related noise sources, these sources generally have a more permanent and consistent impact on people. Stationary noise sources involve various uses and activities, including various industrial uses, commercial operations, agricultural production, school playgrounds, high school football games, on-site heating, ventilation, and air conditioning (HVAC) units, generators, lawn maintenance equipment, and swimming pool pumps.

4.4.2 Regulatory Setting

4.4.2.1 Federal Regulations

United States Environmental Protection Agency. In 1972, Congress enacted the United States Noise Control Act. This act authorized the United States Environmental Protection Agency (USEPA) to publish descriptive data on the effects of noise and establish levels of sound "requisite to protect the public welfare with an adequate margin of safety." These levels are separated into health (hearing loss levels) and welfare (annoyance levels). For protection against hearing loss, 96 percent of the population would be protected if sound levels are less than or equal to 70 dBA during a 24-hour period of time. At 55 dBA L_{dn}, 95 percent sentence clarity (intelligibility) may be expected at 11 ft, with no community reaction. However, 1 percent of the population may complain about noise at this level and 17 percent may indicate annoyance. The USEPA cautions that these identified levels are guidelines, not standards.[3]

Federal Transit Administration. Vibration standards included in the FTA Manual are used in this analysis for ground-borne vibration impacts on human annoyance, as shown in Table 4.4.D. The criteria presented in Table 4.4.D account for the variations in project types, which differ widely among projects.

The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. Table 4.4.E lists the potential vibration building damage criteria associated with construction activities, as suggested in the FTA Manual.

[3] United States Environmental Protection Agency (USEPA). 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*.

Table 4.4.D: Interpretation of Vibration Criteria for Detailed Analysis

Land Use	Max L_v (VdB)[1]	Description of Use
Workshop	90	Vibration that is distinctly felt. Appropriate for workshops and similar areas not as sensitive to vibration.
Office	84	Vibration that can be felt. Appropriate for offices and similar areas not as sensitive to vibration.
Residential Day	78	Vibration that is barely felt. Adequate for computer equipment and low-power optical microscopes (up to 20×).
Residential Night and Operating Rooms	72	Vibration is not felt, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power microscopes (100×) and other equipment of low sensitivity.

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] As measured in 1/3-Octave bands of frequency over the frequency range 8 to 80 Hertz.
FTA = Federal Transit Administration
Max = maximum
L_V = velocity in decibels
VdB = vibration velocity decibels

Table 4.4.E: Construction Vibration Damage Criteria

Building Category	PPV (in/sec)	Approximate L_V (VdB)[1]
Reinforced concrete, steel, or timber (no plaster)	0.50	102
Engineered concrete and masonry (no plaster)	0.30	98
Non-engineered timber and masonry buildings	0.20	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] RMS vibration velocity in decibels (VdB) re 1 µin/sec.
µin/sec = microinches per second
FTA = Federal Transit Administration
in/sec = inch/inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity decibels

FTA Manual guidelines show that for potential annoyance thresholds, a level of up to 78 VdB is acceptable during the daytime hours at residential uses while a level of 87 VdB is appropriate for office uses, and a level of 90 VdB is appropriate for workshop uses. To assess damage potential, a vibration level of up to 102 VdB (equivalent to 0.5 in/sec in PPV) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster) and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction building vibration damage criterion is 94 VdB (0.2 in/sec in PPV).

4.4.2.2 State Regulations

The State of California has established regulations that help prevent adverse impacts to occupants of buildings located near noise sources. Referred to as the *State Noise Insulation Standard*, it requires buildings to meet performance standards through design and/or building materials that would offset any noise source in the vicinity of the receptor. State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are found in the California Code of Regulations, Title 24 (known as the Building Standards Administrative Code), Part 2 (known as the California Building Code), Appendix Chapters 12 and 12A.

The State has also established land use compatibility guidelines for determining acceptable noise levels for specified land uses.

4.4.2.3 Local Regulations

City of Clovis General Plan. The City of Clovis General Plan provides goals, policies, and action items that work to protect residents from the harmful effects of exposure to excessive noise. Table 4.4.F includes policies and action items from the General Plan that would be applicable to the proposed project, and Table 4.4.G shows the City's Land Use and Noise Compatibility Matrix.

Table 4.4.F: City of Clovis General Plan Policies Related to Noise

Policy/Action Item Number	Policy
Environmental Safety Element	
Policy 3.1	Land use compatibility. Approve development and require mitigation measures to ensure existing and future land use compatibility as shown in Table 4.4.G Noise Level Exposure and Land Use Compatibility Matrix and the city's noise ordinance.
Policy 3.2	Land use and traffic patterns. Discourage land use and traffic patterns that would expose sensitive land uses or noise-sensitive areas to unacceptable noise levels
Policy 3.3	New residential. When new residential development is proposed adjacent to land designated for industrial or commercial uses, require the proposed development to assess potential noise impacts and fund feasible noise-related mitigation measures.
Policy 3.4	Acoustical study. Require an acoustical study for proposed projects that have the potential to exceed acceptable noise thresholds or are exposed to existing or future noise levels in excess of the thresholds in the city's noise ordinance.
Policy 3.5	Site and building design. Minimize noise impacts by requiring appropriate site, circulation, equipment, and building design, and sound walls, landscaping, and other buffers.
Policy 3.6	Noise impacts. Minimize or eliminate persistent, periodic, or impulsive noise impacts of business operations.
Policy 3.7	Mixed-use buildings. Require that mixed-use structures be designed to prevent transfer of noise and vibration between uses.
Policy 3.14	Control sound at the source. Prioritize using noise mitigation measures to control sound at the source before buffers, soundwalls, and other perimeter measures.

Source: City of Clovis General Plan (August 2014).

Table 4.4.G: Land Use and Noise Compatibility Matrix

Land Uses	Energy Average (CNEL)						
Example Land Uses	**<**	**55**	**60**	**65**	**70**	**75**	**80>**
Amphitheater, concert hall, auditorium, meeting hall	B	B	C	C	D	D	D
Mobile home	A	A	B	C	C	D	D
Hospital, library, school, faith/religious uses	A	A	B	C	C	D	D
Hotel, motel, transient lodging	A	A	B	B	C	C	D
Single family, multifamily, faith/religious uses	A	A	B	B	C	D	D
Parks	A	A	A	B	C	D	D
Office building, research & development, professional office, city office building, and hotel	A	A	A	B	B	C	D
Amusement park, miniature golf, go-cart track, health club, equestrian center	A	A	A	B	B	D	D
Golf courses, nature centers, cemeteries, wildlife reserves, wildlife habitat	A	A	A	A	B	C	C
Commercial retail, bank, restaurant, movie theater	A	A	A	A	B	B	C
Automobile service station, auto dealer, manufacturing, warehousing, wholesale, utilities	A	A	A	A	B	B	B
Agriculture	A	A	A	A	A	A	A

Source: *General Plan City of Clovis. Table ES-2*. (City of Clovis, August 2014).
Notes:
Compatibility zones indicate the degree to which the land uses listed are compatible with the noise levels (CNEL) shown in the table.
Zone A. Clearly Compatible. Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
Zone B. Normally Compatible. New construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Zone C. Normally Incompatible. New construction or development should normally be discouraged. If new construction or development does proceed, a detailed analysis or noise reduction requirements must be made and needed noise insulation features must be included in the design.
Zone D. Clearly Incompatible. New construction or development should generally not be undertaken.

City of Clovis Municipal Code. The City's Municipal Code contains noise standards and regulation for different activities and land uses in the City. See Section 9.22.080 of the Municipal Code for the City of Clovis Noise ordinance. Section 9.22.080 (D) sets exterior noise standards as shown in Table 4.4.H and interior noise standards as shown in Table 4.4.I.

Table 4.4.H: City of Clovis Maximum Exterior Noise Standards

Noise Zone	Type of Land Use	Allowable Exterior Noise Level (15-Minute L_{eq}), dBA	
		Daytime (7:00 AM to 10:00 PM)	**Nighttime (10:00 PM to 7:00 AM)**
I	Single-, two- or multiple-family residential	55	50
II	Commercial	65	60
III	Residential portions of mixed-use properties	60	50
IV	Industrial or manufacturing	70	70

Source: City of Clovis Municipal Code
dBA = A-weighted decibel
L_{eq} = equivalent continuous sound level

Table 4.4.I: City of Clovis Maximum Interior Noise Standards

Noise Zone	Type of Land Use	Allowable Interior Noise Level (15-Minute L_{eq}), dBA	
		Daytime (7:00 AM to 10:00 PM)	Nighttime (10:00 PM to 7:00 AM)
I	Residential	45	40
II	Administrative/professional office	50	-
III	Residential portions of mixed-use properties	45	40

Source: City of Clovis Municipal Code
dBA = A-weighted decibel
L_{eq} = equivalent continuous sound level

In addition, pursuant to the City of Clovis Municipal Code Section 5.27.604, construction activities are permitted between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturday and Sunday. From June 1 through September 15, permitted construction activity may commence after 6:00 a.m. Monday through Friday.[4]

4.4.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to noise that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed.

4.4.3.1 Significance Criteria

Based on *State CEQA Guidelines* Appendix G, the proposed project would have a significant impact related to noise if it would:

a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

b. Generate excessive groundborne vibration or groundborne noise levels;

c. For a project located within the vicinity of a private airstrip an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

[4] City of Clovis. 2021. Clovis Municipal Code. Title 5: Public Welfare, Morals and Conduct. Chapter 5.27: Nuisances. Website: https://www.codepublishing.com/CA/Clovis/#!/Clovis05/Clovis0527.html#5.27.604 (accessed June 21, 2022).

4.4.3.2 Project Impacts

The following discussion describes the potential impacts related to noise that could result from implementation of the proposed project.

a. **Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

The following section describes the short-term construction and long-term operational noise impacts associated with implementation of the proposed project.

Short-Term Construction Noise Impacts. Project construction would result in short-term noise impacts on the nearby sensitive receptors. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from 1 day to several days, depending on the phase of construction. The level and types of noise impacts that would occur during construction are described below.

Construction would result in short-term noise impacts on the nearby sensitive receptors. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from one day to several days depending on the phase of construction. The level and types of noise impacts that would occur during construction are described below.

Short-term noise impacts would occur during grading and site preparation activities. Table 4.4.J lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor, obtained from the FHWA Roadway Construction Noise Model. Construction-related short-term noise levels would be higher than existing ambient noise levels currently in the project area but would no longer occur once construction of the project is completed.

Two types of short-term noise impacts could occur during construction of the proposed project. The first type involves construction crew commutes and the transport of construction equipment and materials to sites, which would incrementally increase noise levels on roads leading to the site.

The second type of short-term noise impact is related to noise generated during grading and construction on the project site. Construction is performed in discrete steps, or phases, each with its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

Table 4.4.J: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level (L_{max}) at 50 Feet[1]
Backhoes	40	80
Compactor (ground)	20	80
Compressor	40	80
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Forklift	20	85
Front-end Loaders	40	80
Graders	40	85
Impact Pile Drivers	20	95
Jackhammers	20	85
Pick-up Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder	40	73

Source: Roadway Construction Noise Model (FHWA 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
[1] Maximum noise levels were developed based on Spec 721.560 from the Central Artery/Tunnel (CA/T) program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
L_{max} = maximum instantaneous sound level

Table 4.4.J lists maximum noise levels recommended for noise impact assessments for typical construction equipment, based on a distance of 50 feet between the equipment and a noise receptor. Typical maximum noise levels range up to 87 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, including excavation and grading of the site, tends to generate the highest noise levels because earthmoving machinery is the noisiest construction equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders.

Specific construction details (e.g., construction fleet activities) are not yet known, therefore, this analysis assumes a crane, forklift, tractor, welder, and compressor would be operating simultaneously during construction of the proposed project. Based on the typical construction equipment noise levels shown in Table 4.4.J, noise levels associated with a crane, forklift, tractor, welder, and compressor operating simultaneously would be approximately 87 dBA L_{max} at 50 feet.

Noise-sensitive receptors include residences, schools, hospitals, churches, and similar uses that are sensitive to noise. As discussed above, the closest sensitive receptors include single-family residential uses located approximately 55 feet east of the project site along Behymer Avenue, approximately 230 feet west of the project site, and approximately 530 southeast of the project site along Baron Avenue. Construction of the proposed project could adversely affect these nearby

noise-sensitive land uses. At 55 feet, there would be a decrease of approximately 1 dBA from the increased distance compared to the noise level measured at 50 feet from the active construction area. Therefore, the closest sensitive receptor may be subject to short-term maximum construction noise reaching 86 dBA L_{max} during construction. However, construction equipment would operate at various locations within the 71.54-acre project site and would only generate this maximum noise level when operations occur closest to the receptor.

As identified above, pursuant to the City of Clovis Municipal Code Section 5.27.604, construction noises are permitted between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturday and Sunday. From June 1st through September 15th, permitted construction activity may commence after 6:00 a.m. Monday through Friday. While construction noise impacts are exempt from specific noise levels limits under the City's Municipal Code, project construction noise would result in a potentially significant impact at the nearest off-site sensitive residential use. As such, Mitigation Measure NOI-1.1 would be required to ensure that all construction equipment, fixed or mobile, is equipped with properly operating and maintained mufflers consistent with manufacturers' standards, which would reduce the potential impacts associated with construction equipment. Additionally, Mitigation Measure NOI-1.1 requires the project to designate a "disturbance coordinator" at the City who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem.

With implementation of Mitigation Measure NOI-1.1, the proposed project would result in a less than significant impact associated with the generation of a substantial temporary increase in ambient noise levels in the vicinity during construction.

Long-Term Operational Noise Impacts. Noise-generating uses associated with development of the proposed project would typically include vehicle traffic and operational noise, such as HVAC and pool pump equipment.

> ***Traffic Noise Impacts.*** Traffic noise levels under the existing conditions and by phase were assessed using the FHWA Highway Traffic Noise Prediction Model (FHWA RD 77-108). Traffic volumes were obtained from the proposed project's Transportation Impact Analysis (Appendix G). Existing, Near-Term (2026), and Cumulative (2046) without and with project traffic noise levels at 50 feet from the centerline of the outermost travel lane for each roadway segment in the project area are shown in Table 4.4.K. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between traffic and the location where the noise contours are drawn.
>
> Appendix F provides the specific assumptions used in developing these noise levels and model printouts.

Table 4.4.K: Traffic Noise Levels Without and With Proposed Project

Roadway Segment	Existing		Existing With Project			Near-Term (2026)		Near-Term (2026) With Project			Cumulative (2026)		Cumulative (2026) With Project		
	ADT	CNEL (dBA) 50 feet from Centerline of Nearest Lane	ADT	CNEL (dBA) 50 feet from Centerline of Nearest Lane	Increase from Existing Conditions	ADT	CNEL (dBA) 50 feet from Centerline of Nearest Lane	ADT	CNEL (dBA) 50 feet from Centerline of Nearest Lane	Increase from Near-Term Conditions	ADT	CNEL (dBA) 50 feet from Centerline of Nearest Lane	ADT	CNEL (dBA) 50 feet from Centerline of Nearest Lane	Increase from Cumulative Conditions
International Avenue between Willow Avenue and Minnewawa Avenue	1,620	59.0	1,670	59.1	0.1	1,900	59.7	1,950	59.8	0.1	4,420	63.3	4,470	63.4	0.1
Behymer Avenue between Willow Avenue and Minnewawa Avenue	2,360	60.6	2,630	61.1	0.5	2,830	61.4	3,100	61.8	0.4	9,264	66.6	9,534	66.7	0.1
Behymer Avenue between Minnewawa Avenue and Clovis Avenue	3,720	62.6	4,170	63.1	0.5	4,140	63.1	4,590	63.5	0.4	9,833	66.8	10,283	67.0	0.2
Behymer Avenue between Clovis Avenue and Baron Avenue	3,720	62.6	4,170	63.1	0.5	4,060	63.0	4,510	63.4	0.4	10,482	67.1	10,932	67.3	0.2
Shepherd Avenue between Willow Avenue and Minnewawa Avenue	10,330	67.1	11,330	67.5	0.4	26,560	71.2	27,560	71.4	0.2	27,817	71.4	28,817	71.6	0.2
Shepherd Avenue between Minnewawa Avenue and Clovis Avenue	9,420	66.7	10,870	67.3	0.6	23,160	70.6	24,610	70.9	0.3	24,210	70.8	25,660	71.1	0.3
Shepherd Avenue between Clovis Avenue and Sunnyside Avenue	8,060	66.0	8,780	66.4	0.4	23,160	70.6	23,880	70.7	0.1	24,138	70.8	24,858	70.9	0.1
Shepherd Avenue between Sunnyside Avenue and Fowler Avenue	7,040	65.9	7,600	66.3	0.4	19,270	70.3	19,830	70.4	0.1	20,066	70.5	20,626	70.6	0.1
Herndon Avenue between State Route 168 Eastbound Ramps and Clovis Avenue	37,560	69.3	39,010	69.5	0.2	43,460	69.9	44,910	70.1	0.2	47,547	70.3	48,997	70.5	0.2
Willow Avenue between International Avenue and Behymer Avenue	8,350	65.0	8,840	65.3	0.3	14,310	67.4	14,800	67.5	0.1	14,994	67.6	15,484	67.7	0.1
Willow Avenue between Behymer Avenue and Shepherd Avenue	14,520	67.4	14,790	67.5	0.1	34,310	71.2	34,580	71.2	0.0	35,997	71.4	36,267	71.4	0.0
Minnewawa Avenue between International Avenue and Behymer Avenue	6,020	64.7	6,180	64.8	0.1	6,890	65.3	7,050	65.4	0.1	11,451	67.5	11,611	67.5	0.0
Minnewawa Avenue between Behymer Avenue and Shepherd Avenue	4,830	63.7	4,830	63.7	0.0	14,220	68.4	14,220	68.4	0.0	15,612	68.8	15,612	68.8	0.0
Baron Avenue between Behymer Avenue and Perrin Avenue	-	-	3,330	55.4	55.4	170	42.4	3,500	55.6	13.2	5,538	57.6	8,868	59.6	2.0
Baron Avenue between Perrin Avenue and Clovis Avenue	-	-	5,050	57.2	57.2	1,990	53.1	7,040	58.6	5.5	7,867	59.1	12,917	61.3	2.2
Clovis Avenue between Baron Avenue and Shepherd Avenue	1,410	56.9	6,460	63.5	6.6	7,650	64.2	12,700	66.4	2.2	9,552	65.2	14,602	67.0	1.8
Clovis Avenue between Shepherd Avenue and Teague Avenue	4,570	62.0	7,460	64.1	2.1	10,640	65.7	13,530	66.7	1.0	15,874	67.4	18,764	68.1	0.7
Clovis Avenue between Teague Avenue and Nees Avenue	8,220	64.5	10,890	65.8	1.3	14,010	66.8	16,680	67.6	0.8	17,672	67.9	20,342	68.5	0.6
Clovis Avenue between Nees Avenue and Alluvial Avenue	10,870	65.7	13,040	66.5	0.8	19,840	68.4	22,010	68.8	0.4	20,766	68.6	22,936	69.0	0.4
Clovis Avenue between Alluvial Avenue and Herndon Avenue	17,260	67.8	19,320	68.2	0.4	25,180	69.4	27,240	69.7	0.3	26,374	69.6	28,434	69.9	0.3

Source: Compiled by LSA (February 2023).
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.
Shaded cells indicate roadways adjacent to the project site.
ADT = average daily traffic
CNEL= Community Noise Equivalent Level
dBA = A-weighted decibels

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Off-Site Traffic Noise Impacts. As shown in Table 4.4.K, the largest off-site noise level increase in traffic-related noise as a result of the proposed project would be on Clovis Avenue between Shepherd Avenue and Teague Avenue, with up to a 2.1 dBA increase on under Existing With Project conditions, up to a 1.0 dBA increase under Near-Term (2026) With Project conditions, and up to a 0.7 dBA increase under Cumulative (2046) With Project conditions. This noise level increase would be below the significance criteria for noise-level increases of 3 dBA. As such, with implementation of the proposed project, the off-site traffic noise level increases would be well below the significance threshold for noise-level increases of 3 dBA or more and would not result in a perceptible increase in noise at nearby residential uses. Therefore, off-site traffic-related noise impacts would be less than significant.

On-Site Traffic Noise Impacts. As shown in Table 4.4.K, the largest increase in project-related traffic noise would be along Baron Avenue between Behymer Avenue and Perrin Avenue, with up to a 55.4 dBA increase under Existing With Project conditions, up to a 13.2 dBA increase under Near-Term (2026) with Project conditions, and up to a 2.0 dBA increase under Cumulative (2046) With Project conditions, and between Perrin Avenue and Clovis Avenue, with up to a 13.2 dBA increase under Existing With Project conditions, up to a 5.5 dBA increase under Near-Term (2026) With Project conditions, and up to a 2.2 dBA increase under Cumulative (2046) With Project conditions. In addition, noise level increases along Clovis Avenue between Baron Avenue and Shepherd Avenue would have a noise level increase of up to 6.6 dBA under Existing with Project conditions, up to 2.2 dBA under Near-Term (2026) With Project conditions, and up to 1.8 dBA under Cumulative (2046) With Project conditions.

Although these noise-level increases would be above the perceptible noise level increase of 3 dBA or greater under existing and near-term plus project scenarios, under cumulative plus project conditions, they would not exceed the 3 dBA increase considered to be perceptible by the human ear in an outdoor environment. However, the resultant ambient noise levels would be 59.6 dBA CNEL along Baron Avenue between Behymer Avenue and Perrin Avenue, 61.3 dBA CNEL along Baron Avenue between Perrin Avenue and Clovis Avenue under Cumulative Plus Project conditions, and 67.0 dBA CNEL along Clovis Avenue between Baron Avenue and Shepherd Avenue under Cumulative Plus Project conditions. These ambient noise levels would be considered Normally Compatible for single-family residential uses under the City's Land Use and Noise Compatibility Matrix, as shown in Table 4.4.G above. Normally compatible development requires detailed assessment of noise reduction requirements and implementation noise insulation features in project design to fulfill the City's normally acceptable interior noise level criterion.

Based on USEPA Protective Noise Levels,[5] with a combination of walls, doors, and windows, standard construction for Northern California buildings (STC-26) would provide more than 25 dBA in exterior-to-interior noise reduction with windows closed and 15 dBA or more with windows open. With windows open, the buildings would not meet the City's normally acceptable interior noise standard of 45 dBA CNEL (i.e., 67.0 dBA – 15 dBA = 52 dBA).

[5] USEPA. 1978. *Protective Noise Levels, Condensed Version of EPA Levels Document*. November.

Therefore, an alternate form of ventilation, such as an air-conditioning system, would be required to ensure that windows can remain closed for a prolonged period of time. A ventilation system would reduce noise levels for residents with windows closed and would meet the City's normally acceptable interior noise level criterion of 45 dBA CNEL (i.e., 67.0 dBA – 25 dBA = 42 dBA). Therefore, the City should verify that buildings include fresh air ventilation.

Implementation of the HVAC system would allow windows to remain closed in order to reduce interior noise levels by 25 dBA, resulting in interior noise levels of 42 dBA CNEL, which would meet the City's interior noise standard of 45 dBA CNEL. Mitigation Measure NOI-1.2 below would include modifications to ensure that buildings would comply with the City's noise and land use compatibility standards and reduce interior noise impacts.

Implementation of Mitigation Measure NOI-1.2 would ensure that interior noise levels would be reduced to 45 dBA or less and would be acceptable under the City's land use compatibility standards. Therefore, this impact would be less than significant with mitigation.

Stationary Operational Noise Impacts. Development of the proposed project may include the installation or creation of new stationary sources of noise, or could include the development of new sensitive land uses in the vicinity of existing noise sources. For residential uses, stationary noise sources may include HVAC equipment noise or pool pumps. These stationary sources of noise would have the potential to disturb adjacent sensitive receptors. However, noise generation would continue to be limited by the City of Clovis' Noise Ordinance (Clovis Municipal Code, Title 9 Development Code, Chapter 9.22 Performance Standards, Section 9.22.080 Noise).

Precise details of HVAC systems and pump equipment, including future location and sizing, are unknown at this time; therefore, this analysis assumes that mechanical-related noise, including HVAC and pump equipment would generate noise levels of approximately 75 dBA L_{max} at 3 feet.[6] As discussed above, the closest sensitive receptors include single-family residential uses located approximately 55 feet east of the project site along Behymer Avenue, approximately 230 feet west of the project site, and approximately 530 feet southeast of the project site along Baron Avenue. However, as shown in Figures 3-4 through 3-6, the proposed single-family residential uses would be located across the proposed Baron Avenue, approximately 145 feet from the closest existing residence to the east along Behymer Avenue. At 145 feet, there would be a decrease of approximately 34 dBA over the reference noise level at 3 feet due to attenuation with distance. As such, HVAC-related noise would be approximately 41 dBA L_{max} at 50 feet. Based on this maximum noise level, when averaged over a 15-minute period, this noise level would not exceed the City's maximum noise level standards of 50 dBA L_{eq} during nighttime hours and 55 dBA L_{eq} during daytime hours, as measured at the nearest receiving sensitive land use. Therefore, stationary operational noise associated with the proposed project would be less than significant.

6 Trane. 2002. *Sound Data and Application Guide for the New and Quieter Air-Cooled Series R Chiller*.

Impact NOI-1: The project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure NOI-1.1 The project contractor shall implement the following measures during construction of the proposed project:

- Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the active project site.
- Locate equipment staging in areas that would create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the active project site during all construction activities.
- Ensure that all general construction related activities are restricted to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturday and Sunday. From June 1st through September 15th, permitted construction activity may commence after 6:00 a.m. Monday through Friday, consistent with the City's Noise Ordinance.
- Designate a "disturbance coordinator" at the City who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem.

Mitigation Measure NOI-1.2 The project contractor shall implement the following measures during construction of the proposed project:

- In order for windows and doors to remain closed, mechanical ventilation such as air conditioning shall be provided for all units.
- All windows and glass doors shall be rated STC 26 or higher such that the noise reduction provided will satisfy the interior noise standard of 45 dBA CNEL.

Level of Significance With Mitigation**:** Less Than Significant Impact. Implementation of Mitigation Measure NOI-1.1 and Mitigation Measure NOI-1.2 would reduce project-related impacts to a less than significant level.

b. **Would the project generate excessive groundborne vibration or groundborne noise levels?**

Vibration refers to ground-borne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Vibration energy propagates from a source, through intervening soil and rock layers, to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as the motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of ground-borne vibration are construction activities (e.g., pavement breaking and operating heavy-duty earthmoving equipment), and occasional traffic on rough roads. In general, ground-borne vibration from standard construction practices is only a potential issue when it occurs within 25 feet of sensitive uses. Groundborne vibration levels from construction activities very rarely reach levels that can damage structures; however, these levels are perceptible near the active construction site. With the exception of old buildings built prior to the 1950s or buildings of historic significance, potential structural damage from heavy construction activities rarely occurs. When roadways are smooth, vibration from traffic (even heavy trucks) is rarely perceptible. The streets surrounding the project site are paved and unlikely to cause significant ground-borne vibration.

Short-Term Vibration Impacts. Construction of the proposed project could result in the generation of ground-borne vibration. This construction vibration impact analysis discusses the level of human annoyance using vibration levels in VdB and will assess the potential for building damages using vibration levels in peak particle velocity (PPV inches per second [(in/sec]) because vibration levels calculated in RMS are best for characterizing human response to building vibration, while vibration level in PPV is best used to characterize potential for damage. The FTA Transit Noise and Vibration Impact Assessment Manual guidelines indicate that a vibration level up to 102 VdB (an equivalent to 0.5 in/sec in PPV) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 in/sec in PPV).[7]

[7] Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual.* pg. 186. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed March 21, 2022).

Table 4.4.L shows the PPV and VdB values at 25 feet from a construction vibration source. As shown in Table 4.4.L, bulldozers and other heavy-tracked construction equipment (except for pile drivers and vibratory rollers) generate approximately 87 VdB of ground-borne vibration when measured at 25 feet, based on the Transit Noise and Vibration Impact Assessment. At this level, ground-borne vibration would result in potential annoyance to residents and workers but would not cause any damage to the buildings.

Table 4.4.L: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 feet	
	PPV (in/sec)	L_V (VdB)[1]
Pile Driver (Impact), Typical3	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Sources: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] RMS vibration velocity in decibels (VdB) is 1 µin/sec.
µin/sec = micro-inches per second
FTA = Federal Transit Administration
in/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity decibels

Construction vibration, similar to vibration from other sources, would not have any significant effects on outdoor activities (e.g., those outside of residential buildings in the project vicinity). Outdoor site preparation for the proposed project is expected to include the use of bulldozers and loaded trucks. The greatest levels of vibration are anticipated to occur during the site preparation phase. All other phases are expected to result in lower vibration levels. The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project boundary (assuming the construction equipment would be used at or near the project boundary) because vibration impacts occur normally within the buildings. The formula for vibration transmission is provided below.

$$L_V dB\ (D) = L_V dB\ (25\ feet) - 30\ Log\ (D/25)$$
$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

Table 4.4.M lists the projected vibration level from various construction equipment expected to be used on the project site to the nearest buildings in the project vicinity. For typical construction activity, the equipment with the highest vibration generation potential is the large bulldozer, which would generate 87 VdB at 25 feet. The closest sensitive receptors include single-family residential uses located approximately 55 feet east of the project site along Behymer Avenue, approximately 230 feet west of the project site, and approximately 530 southeast of the project site along Baron Avenue.

Table 4.4.M: Summary of Construction Equipment and Activity Vibration

Land Use	Direction	Equipment/Activity	Reference Vibration Level (VdB) at 25 feet	Reference Vibration Level (PPV) at 25 feet	Distance (feet)	Maximum Vibration Level (VdB)	Maximum Vibration Level (PPV)
Single-Family Residential	East	Large Bulldozers	87	0.089	55	77	0.027
		Loaded Trucks	86	0.076	55	76	0.023
Single-Family Residential	West	Large Bulldozers	87	0.089	230	58	0.003
		Loaded Trucks	86	0.076	230	57	0.003
Single-Family Residential	South	Large Bulldozers	87	0.089	530	47	0.001
		Loaded Trucks	86	0.076	530	46	0.001

Source: Compiled by LSA (February 2023).
Note: The FTA-recommended building damage threshold is 0.2 PPV (in/sec) or approximately 94 VdB at the receiving property structure or building.
FTA = Federal Transit Administration
in/sec = inch(es) per second
PPV = peak particle velocity
VdB = vibration velocity decibel(s)

As shown in Table 4.4.M, the closest single-family residence located east of the project site would experience vibration levels of up to 77 VdB (0.027 PPV [in/sec]). This vibration level at the nearest building from construction equipment would not exceed the FTA threshold of 94 VdB (0.2 in/sec PPV) for building damage. Although construction vibration levels at the nearest offsite buildings would have the potential to result in annoyance, these vibration levels would no longer occur once construction of the project is completed. Therefore, ground-borne vibration impacts from construction activities associated with the proposed project would not be considered significant.

Impact NOI-2: The project would not generate excessive ground-borne vibration or ground-borne noise levels.

Level of Significance Without Mitigation: Less Than Significant Impact. No mitigation is required.

c. **For a project located within the vicinity of a private airstrip an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

The nearest airports include the Fresno Yosemite International Airport, located approximately 6.1 miles southwest of the project site, the Sierra Sky Airport, located approximately 9.3 miles southwest of the project site, and the Fresno Chandler Executive Airport, located approximately 11.3 miles southwest of the project site. Each of these airports is included in the Fresno County ALUCP, which guides approximate compatible land uses.

The ALUCP includes CNEL noise contours based on projected airport and aircraft operations. The purpose of these noise contours is to minimize the effect of airport and aircraft noise on the adjacent community by determining land use compatibility and locations for noise mitigation measures during the planning, design, and development process. The Fresno County ALUCP establishes land uses that are either acceptable or unacceptable within each CNEL noise contour

based on the noise sensitivity of the particular use. Noise-sensitive land uses such as residential uses are typically only acceptable in areas outside the 65 dB CNEL and greater noise contours. It is within these areas that the Fresno County ALUC has determined that residential uses can occur while still minimizing the effects of adjacent and overhead aircraft noise on noise-sensitive receptors. Any land use decision made within the jurisdictional boundary of the ALUCP, and based upon policies set forth by the approved General Plan, must be consistent with the ALUCP, including the land use compatibility policies based on CNEL noise contours, as required by law.

Based on Figure 5.12-6 of the Noise section of the City's General Plan EIR, which shows the noise contours for these airports, the project site lies completely outside of the noise contours for these airports. As such, the proposed project would not include new residential uses or similar noise-sensitive land uses within an ALUCP noise contour area. Furthermore, there are no private airstrips operating within the project site. As a result, any noise associated with private airstrips would not result in substantial noise levels within the project site. Therefore, implementation the proposed project would not result in impacts from adjacent and overhead aircraft noise on noise-sensitive land uses. therefore, project implementation would not expose people residing or working in the project area to excessive noise levels, and impacts would be less than significant.

Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the proposed project would not expose people residing or working in the project area to excessive noise levels.

Level of Significance Without Mitigation: Less Than Significant Impact. No mitigation is required.

4.4.3.3 Cumulative Impacts

For the topic of noise, the scope for assessing cumulative impacts encompasses past, current, or probable future projects under review by the City and within proximity to the project site, as well as applicable planning level documents that affect the transportation network (i.e., land use assumptions from the General Plan that would increase trips on area roadways, thereby increasing traffic noise). Based on the traffic forecasts shown in Table 4.4.K above, under Cumulative Plus Project conditions, cumulative project trips would represent a small increase in noise levels, up to approximately 2.2 dBA CNEL, which would not exceed the 3 dBA increase considered to be perceptible by the human ear in an outdoor environment. Given the small increase in noise levels generated by the proposed project and future cumulative projects that would be implemented in the project vicinity on the transportation network and the anticipated increase in traffic noise anticipated in the vicinity, the proposed project would not result in a cumulatively considerable increase in transportation-related noise.

However, as discussed above, on-site operational traffic noise would be considered Normally Compatible for single-family residential uses under the City's Land Use and Noise Compatibility Matrix under Cumulative Plus Project conditions, and as such, the project would require implementation of noise reduction requirements and noise insulation features in project design to fulfill the City's normally acceptable interior noise level criterion. With implementation of Mitigation Measure NOI-1.2, interior noise levels would be reduced to 45 dBA or less and would be acceptable

under the City's land use compatibility standards. Therefore, this impact would be less than significant with mitigation.

A significant cumulative impact could also occur if implementation of the proposed project would combine with other cumulative development projects to result in any permanent increase of 3 dBA or more in ambient noise levels at the existing sensitive receptors in the project site vicinity that are currently exposed to noise levels above the City's normally acceptable threshold for that type of land use. As discussed above, long-term operation of the proposed project would not create a significant increase in stationary source noise. As such, permanent increases in noise generated by the proposed project would not be considered a cumulatively considerable contribution to the total noise environment in the project site vicinity, and this impact would be less than significant.

Finally, as discussed above, while construction noise impacts are exempt from specific noise levels limits under the City's Municipal Code, project construction noise would result in a potentially significant impact at the nearest off-site sensitive residential use. With implementation of Mitigation Measure NOI-1.1, which would require that construction equipment is properly equipped with mufflers consistent with manufacturers' standards, staged at the greatest distance possible from sensitive receptors, and would require the project to designate a "disturbance coordinator" at the City who would be responsible for responding to any local complaints about construction noise, the proposed project would not result in adverse noise impacts from construction activities. Although the proposed project may be under construction at the same time as one or more cumulative development projects, each project would be required to implement similar measures as those identified in Mitigation Measure NOI-1.1 to ensure that construction noise levels are reduced to the extent feasible and to ensure that construction activities comply with the City's Noise Ordinance. In addition, construction-related noise impacts would be temporary and would no longer occur once construction of each project is completed. Therefore, construction activities would not be considered a cumulatively considerable contribution to the total noise environment in the project site vicinity, and this impact would be less than significant.

Impact NOI-4: The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to noise.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures NOI-1.1 and NOI-1.2.

Level of Significance With Mitigation: Less than Significant with Mitigation Measures NOI-1.1 and NOI-1.2.

4.5 TRANSPORTATION

This section describes the existing transportation network of the proposed site and evaluates the potential impacts associated with the proposed project, both at the individual and cumulative levels. The analysis in this section is based in part on the City's General Plan, and on the Transportation Impact Analysis (TIA)[1] prepared by LSA included in Appendix G of this Environmental Impact Report (EIR).

4.5.1 Environmental Setting

4.5.1.1 Roadway Network

Within the City of Clovis, major roadways are classified based on the roadway classification provided in the Circulation Element of the City of Clovis General Plan. The following is a brief description of major roadways within the project study area:

- **Willow Avenue:** Willow Avenue is designated as an arterial in the City's General Plan. Between International Avenue and Shepherd Avenue, Willow Avenue is a six-lane, divided arterial with a raised median. There are Class II bicycle lanes along both directions of this segment. However, there is no provision for on-street parking.

- **Minnewawa Avenue:** Within the study area, Minnewawa Avenue is designated as a collector between International Avenue and Behymer Avenue, and as an arterial between Behymer Avenue and Shepherd Avenue in the City's General Plan. Between International Avenue and Shepherd Avenue, Minnewawa Avenue is a two-lane, undivided road. There are Class II bicycle lanes along both directions of this segment. However, there is no provision for on-street parking.

- **Clovis Avenue:** Clovis Avenue is designated as an arterial in the City's General Plan. Between Baron Avenue and Herndon Avenue, Clovis Avenue is mostly a four-lane, divided arterial with a raised median or a two-way-left-turn lane (TWLTL) median. There are Class II bicycle lanes along some portions of this segment. However, there is no provision for on-street parking.

- **Sunnyside Avenue:** Sunnyside Avenue is designated as a collector in the City's General Plan. Within the study area, Sunnyside Avenue is a two-lane, undivided road. There are no bicycle facilities in either direction in this segment. There is also no provision for on-street parking.

- **Fowler Avenue:** Fowler Avenue is designated as a rural collector between Behymer Avenue and Shepherd Avenue, and as an arterial between Shepherd Avenue and the State Route 168 (SR-168) Westbound Ramps in the City's General Plan. Between Behymer Avenue and Nees Avenue, Fowler Avenue is a two-lane partly divided and partly undivided road. There is a Class II bicycle lane in the southbound direction only along a small portion of this segment near the intersection with Shepherd Avenue. There is no provision for on-street parking. Between Nees Avenue and Goshen Avenue, Fowler Avenue is a three-lane divided road with a raised median. There is a Class II bicycle lane only along the northbound direction of this segment. There is no provision for on-street

[1] LSA. 2023a. Transportation Impact Analysis Tract Map 6343 Project, Clovis, Fresno County, California. August.

parking. Between Goshen Avenue and the SR-168 Westbound Ramps, Fowler Avenue is a four-lane divided road with a raised median. There are Class II bicycle lanes along both directions of this segment. There is no provision for on-street parking.

- **International Avenue:** International Avenue is designated as a collector between Willow Avenue and Minnewawa Avenue in the City's General Plan. Within the study area, International Avenue is a two-lane, undivided road. There are no bicycle facilities in either direction in this segment. There is also no provision for on-street parking.

- **Behymer Avenue:** Within the study area, Behymer Avenue is designated as an arterial between Willow Avenue and Clovis Avenue, as a collector between Clovis Avenue and Sunnyside Avenue, and as a rural collector between Sunnyside Avenue and Fowler Avenue in the City's General Plan. Between Willow Avenue and Fowler Avenue, Behymer Avenue is a two-lane, undivided road. There are no bicycle facilities in either direction in this segment. There is also no provision for on-street parking.

- **Shepherd Avenue:** Within the study area, Shepherd Avenue is designated as an arterial between Willow Avenue and Clovis Avenue, and as an Expressway between Clovis Avenue and Fowler Avenue in the City's General Plan. Between Willow Avenue and Sunnyside Avenue, Shepherd Avenue is a three-lane, divided road with a raised median, while between Sunnyside Avenue and Fowler Avenue, it is a two-lane, partly undivided and partly divided road. There are Class II bicycle lanes along both directions of the segment between Willow Avenue and Sunnyside Avenue. There are no bicycle facilities in any direction of the segment between Sunnyside Avenue and Fowler Avenue. There is no provision for on-street parking along any of these segments.

- **Teague Avenue:** Teague Avenue is designated as a collector in the City's General Plan. Between Sunnyside Avenue and Fowler Avenue, Teague Avenue is a two-lane, undivided arterial. There are no bicycle facilities in this segment. There is also no provision for on-street parking.

- **Nees Avenue:** Within the study area, Nees Avenue is designated as an arterial in the City's General Plan. Between Clovis Avenue and Sunnyside Avenue, Nees Avenue is a mostly two-lane undivided road. There is a Class II bicycle lane in the eastbound direction only along a small portion of this segment near the intersection with Sunnyside Avenue. However, there is no provision for on-street parking. Between Sunnyside Avenue and Fowler Avenue, Nees Avenue is a three-lane divided arterial with a raised median or a TWLTL median. There are Class II bicycle lanes along some portions of this segment; however, there is no provision for on-street parking.

- **Alluvial Avenue:** Within the study area, Alluvial Avenue is designated as a collector in the City's General Plan. Between Clovis Avenue and Sunnyside Avenue, Alluvial Avenue is a two-lane, divided collector with a TWLTL median. However, between Sunnyside Avenue and Fowler Avenue, Alluvial Avenue is a partly three-lane and partly four-lane undivided collector. There are Class II bicycle lanes along both directions of these segments; however, there is no provision for on-street parking.

- **Herndon Avenue:** Within the study area, Herndon Avenue is designated as an arterial in the City's General Plan. Between the SR-168 Eastbound Ramps and Clovis Avenue, Herndon Avenue is a 10-

lane, divided arterial with a raised median. There are no bicycle facilities along either direction in this segment. There is also no provision for on-street parking.

4.5.1.2 Bicycle Facilities

Caltrans provides the following descriptions for types of bikeway facilities:

- **Class I Bikeway (Bike Path):** Class I bikeways, also known as bike paths or shared-use paths, are facilities with exclusive right of way for bicyclists and pedestrians, away from the roadway and with cross flows by motor traffic minimized. Some systems provide separate pedestrian facilities. Class I facilities support both recreational and commuting opportunities. Common applications include along rivers, shorelines, canals, utility rights-of-way, railroad rights-of-way, within school campuses, or within and between parks.

- **Class II Bikeway (Bike Lane):** Class II bikeways are bike lanes established along streets and are defined by pavement striping and signage to delineate a portion of a roadway for bicycle travel. Bike lanes are one-way facilities, typically striped adjacent to motor traffic travelling in the same direction. Contraflow bike lanes can be provided on one-way streets for bicyclists travelling in the opposite direction.

- **Class III Bikeway (Bike Route):** Class III bikeways, or bike routes, designate a preferred route for bicyclists on streets shared with motor traffic not served by dedicated bikeways to provide continuity to the bikeway network. Bike routes are generally not appropriate for roadways with higher motor traffic speeds or volumes. Bike routes are established by placing bike route signs and optional shared roadway markings (sharrow) along roadways.

- **Class IV Bikeway (Separated Bikeways):** A Class IV separated bikeway, often referred to as a cycle track or protected bike lane, is for the exclusive use of bicycles, physically separated from motor traffic with a vertical feature. The separation may include, but is not limited to, grade separation, flexible posts, inflexible barriers, or on-street parking. Separated bikeways can provide for one-way or two-way travel. By providing physical separation from motor traffic, Class IV bikeways can reduce the level of stress, improve comfort for more types of bicyclists, and contribute to an increase in bicycle volumes and mode share.

According to the City of Clovis Active Transportation Plan (ATP), the bikeway network within the City is classified into four categories:

- Class I (Trails)
- Class II (Bicycle Lanes)
- Class II (Buffered Bicycle Lanes)
- Class III (Bicycle Routes)

One of the long-term visions of the City includes upgrading existing or recommended Class II Bicycle Lanes and Buffered Bicycle Lanes to Class IV Separated Bicycle Lanes. At present, Class II bicycle lanes exist along Clovis Avenue, Willow Avenue, and some segments of Shepherd Avenue and Fowler

Avenue within the study area. However, different bicycle facilities are proposed along other roadways within the study area, such as Sunnyside Avenue, Teague Avenue, Nees Avenue, and Alluvial Avenue.

4.5.1.3 Pedestrian Facilities

The City has an extensive pedestrian network, with sidewalks along most major roadways. However, since a portion of the study area falls within recently incorporated areas of the City, sidewalks are not present because they were previously developed as per unincorporated Fresno County design guidelines.

The City's ATP has identified improvements to the pedestrian network based on a citywide sidewalk network gap analysis. Additionally, several potential locations have been identified to install midblock crossings to improve trail connectivity throughout Clovis. Two trails (i.e., the Dry Creek Trail and the Enterprise Trail) currently exist within the study area. However, additional trails are being proposed in the study area with potential mid-block crossings.

4.5.1.4 Transit Facilities

Clovis Transit Stageline is the Transportation Service Agency within the City of Clovis and is responsible for coordinating transit services within its service area. Fresno Area Express (FAX), the Transportation Service Agency for the City of Fresno, provides four routes for Clovis Transit Stageline.

Clovis Transit Stageline Routes 10 and 80 operate within the study area for the proposed project. Route 10 operates from Monday through Saturday, while Route 80 operates only on school days, based on the Clovis Unified School District schedule. Route 10 provides access to Fresno State University, and Route 80 provides access to Buchanan Education Complex. Fresno Area Express (FAX) Route 3 operates within the study area along Willow Avenue seven days a week. The route connects communities in Fresno to the different campuses of Clovis Community College.

In addition to fixed route services, Round Up is the Clovis paratransit service for disabled City residents. Round Up transit vehicles are all accessible in accordance with the Americans with Disabilities Act (ADA) standards.

4.5.2 Regulatory Setting

4.5.2.1 Federal Regulations

Federal Highway Administration. The Federal Highway Administration (FHWA) is a major agency of the United States Department of Transportation. In partnership with State and local agencies, the FHWA carries out federal highway programs to meet the nation's transportation needs. The FHWA administers and oversees federal highway programs to ensure that federal funds are used efficiently.

Americans with Disabilities Act of 1990. Titles I, II, III, IV, and V of the ADA have been codified in Title 42 of the United States Code, beginning at Section 12101. Title III prohibits discrimination on the basis of disability in "places of public accommodation" (businesses and nonprofit agencies that serve the public) and "commercial facilities" (other businesses). The regulation includes Standards for Accessible Design, which establish minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility.

Federal Transit Administration. The Federal Transit Administration (FTA) is an authority that provides financial and technical assistance to local public transit systems, including buses, subways, light rail, commuter rail, trolleys, and ferries. The FTA is funded by Title 49 of the United States Code, which states the FTA's interest in fostering the development and revitalization of public transportation systems. The FTA invests approximately $12 billion annually to support and expand public transit.

4.5.2.2 State Regulations

Assembly Bill 32 (Global Warming Act of 2006) and Senate Bill 375. Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, requires California to reduce its greenhouse gas (GHG) emissions to levels presented in the year 1990 by 2020. In response, the California Air Resources Board (CARB) is responsible for creating guidelines for this Act. In 2008, CARB adopted its proposed Scoping Plan, which included the approval of Senate Bill (SB) 375 as a means of achieving regional transportation-related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks helps the State comply with AB 32.

Established through CARB, SB 375 lists four major components and requirements: (1) it requires regional GHG emissions targets; (2) it requires creating a Sustainable Communities Strategy (SCS) that provides a plan for meeting the regional targets; (3) it requires that regional housing elements and transportation plans be synchronized on 8-year schedules; and (4) it requires transportation and air pollutant emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission (CTC).

Assembly Bill 1358 (Complete Streets). The California Complete Streets Act requires general plans updated after January 30, 2011, to include Complete Streets policies so that roadways are designed to safely accommodate all users, including bicyclists, pedestrians, transit riders, children, the elderly, and persons with disabilities, as well as motorists. The goal of this act is to encourage cities to rethink policies that emphasize automobile circulation and prioritize motor vehicle improvements and produce creative solutions that emphasize all modes of transportation. Complete Streets roadways allow for more transportation options, more non-single-occupancy vehicles, and less traffic congestion. Additionally, increased transit ridership, walking, and biking can reduce air pollution while improving the overall travel experience for road users. While there is no standard for a Complete Streets design, it generally includes one or more of the following features: bicycle lanes, wide shoulders, well-designed and well-placed crosswalks, crossing islands in appropriate mid-block locations, bus pullouts or special bus lanes, audible and accessible pedestrian signals, sidewalk bulb-outs, center medians, street trees, planter strips, and groundcover.

Senate Bill (SB) 743. On September 27, 2013, Governor Jerry Brown signed SB 743 into law and codified a process that changed transportation impact analysis as part of CEQA compliance. SB 743 directs the California Office of Planning and Research (OPR) to administer new CEQA guidance for jurisdictions that removes automobile vehicle delay and LOS or other similar measures of vehicular capacity or traffic congestions from CEQA transportation analysis. Rather, it requires the analysis of vehicle miles traveled (VMT) or other measures that "promote the reduction of greenhouse gas emissions, the development of multi-modal transportation networks, and a diversity of land uses," to be used as a basis for determining significant impacts to circulation in California. The goal of SB 743 is to appropriately balance the needs of congestion management with statewide goals related to

reducing GHG emissions, encourage infill development, and promote public health through active transportation.

Guide for the Preparation of Traffic Impact Studies. Caltrans' "Guide for the Preparation of Traffic Impact Studies"[2] provides general guidance regarding the preparation of traffic impact studies for projects that may have an impact on the State Highway System. The guidance includes when a traffic study should be prepared and the methodology to use when evaluating operating conditions on the State highway system. The "Guide for the Preparation of Traffic Impact Studies" states, "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on state highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS." In accordance with this recommendation, consultation with Caltrans staff indicated that Caltrans would be willing to consider LOS D at the LOS D/E threshold when improvements become infeasible for State facilities. The Guide for the Preparation of Traffic Impact Studies also states that where "an existing State highway facility is operating at less than the appropriate target LOS, the existing [measure of effectiveness (MOE)] should be maintained."

4.5.2.3 Regional Regulations

Fresno County Council of Governments. The Fresno Council of Governments (COG) is a voluntary association of local governments and a regional planning agency comprised of 16 member jurisdictions, including the City of Fresno. The members are represented by a Policy Board consisting of mayors of each incorporated city, and the Chairman of the County Board of Supervisors, or their designated elected official. The Policy Advisory Committee (PAC), composed of the Chief Administrative Officer of each member agency, assists the Board in its decision-making process. Others involved in the decision process include expert staff from member agencies, citizen and interest groups, and other stakeholders. The Fresno COG's purpose is to establish a consensus on the needs of the Fresno County area and further action plans for issues related to the Fresno County region. The current regional transportation plan, known as the Fresno County Regional Transportation Plan (RTP) (2042), was adopted in 2018. The RTP addresses GHG emissions reductions and other air emissions related to transportation, with the goal of preparing for future growth in a sustainable way. The plan specifies how funding will be sourced and financed for the region's planned transportation investments, ongoing operations, and maintenance. The goals, objectives, and policies of the RTP are established to direct the courses of action that will provide efficient, integrated multi-modal transportation systems to serve the mobility needs of people, including accessible pedestrian and bicycle facilities, and freight, while fostering economic prosperity and development, and minimizing mobile sources of air pollution. They are organized into six broad transportation mode based categories: general transportation; highways, streets, and roads; mass transportation; aviation; active transportation; and rail.

Fresno County Regional Transportation Mitigation Fee. Local Regulations

City of Clovis General Plan. The General Plan's Circulation Element addresses the movement of people and goods throughout the City of Clovis transportation network. The Circulation Element

[2] California Department of Transportation (Caltrans). 2002. Guide for the Preparation of Traffic Impact Studies. December.

evaluates transportation circulation needs within the City and recommends circulation improvements that will accommodate the future demand for transportation service generated by the Land Use Element of the General Plan. Table 4.5.A lists the General Plan policies and actions related to transportation applicable to the proposed project.

In addition to the policies listed above the City of Clovis prepared a Supplemental Draft EIR to evaluate updates to the Circulation Element of the 2014 Clovis General Plan. The update to the Circulation Element included the addition of Policies 2.6 through 2.8 and Policies 8.1 through 8.6, as listed above. The Supplemental EIR also included the following Mitigation Measures that are applicable to residential development.

Mitigation Measure TRANS-3 Provide Bicycle Facilities: The City shall require land uses that generate more than 500 daily trips (which is the threshold that screens small projects from a detailed VMT analysis) to provide bike parking, bike lockers, showers, and personal lockers. This measure is designed to promote commuting by bicycle and support transit first/last mile access. Bicycle facilities shall be required to be constructed in conjunction with each project and funded by the applicant.

Mitigation Measure TRANS-4 Improve Street Connectivity: The City shall require new area plans and new housing projects to provide a well-connected street network, particularly for non-motorized connections. Increased intersection density, alleyways, and mid-block pedestrian crossings may be a proxy for street connectivity and accessibility to connect a variety of land uses. Characteristics of street network connectivity include short block lengths, numerous three and four-way intersections, and minimal dead-ends (cul-de-sacs). Street connectivity helps to facilitate shorter vehicle trips and greater numbers of walk and bike trips and thus a reduction in VMT.

Table 4.5.A: City of Clovis General Plan Policies Related to Transportation

Policy/Action Item Number	Policy/Action Item
Land Use Element	
Policy 1.2	**Open to changes.** Be open to potential changes in land use, circulation, and development standards to reposition areas identified on Figure LU-5 if necessary for revitalization and redevelopment.
Circulation Element	
Policy 1.1	**Multimodal network.** The city shall plan, design, operate, and maintain the transportation network to promote safe and convenient travel for all users: pedestrians, bicyclists, transit riders, freight, and motorists.
Policy 1.2	**Transportation decisions.** Decisions should balance the comfort, convenience, and safety of pedestrians, bicyclists, and motorists.
Policy 1.3	**Age and mobility.** The design of roadways shall consider all potential users, including children, seniors, and persons with disabilities.
Policy 1.4	**Jobs and housing.** Encourage infill development that would provide jobs and services closer to housing, and vice versa, to reduce citywide vehicle miles travelled and effectively utilize the existing transportation infrastructure, as well as promote carpooling whenever possible.
Policy 1.6	**Internal circulation.** New development shall utilize a grid or modified-grid street pattern. Areas designated for residential and mixed-use village developments should feature short block lengths of 200 to 600 feet.
Policy 1.7	**Narrow streets.** The City may permit curb-to-curb dimensions that are narrower than current standards on local streets to promote pedestrian and bicycle connectivity and enhance safety.
Policy 1.8	**Network completion.** New development shall complete the extension of stub streets planned to connect to adjacent streets, where appropriate.
Policy 2.1	**Level of service.** The following is the City's level of service (LOS) standards: A. Achieve LOS D vehicle traffic operations during the a.m. and p.m. peak hours B. Allow exceptions on a case-by-case basis where lower levels of service would result in other public benefits, such as: i. Preserving agriculture or open space land ii. Preserving the rural/historic character of a neighborhood iii. Preserving or creating a pedestrian-friendly environment in Old Town or mixed-use village districts iv. Avoiding adverse impacts to pedestrians, cyclists, and mass transit riders v. Where right-of-way constraints would make capacity expansion infeasible
Policy 2.2	**Multimodal LOS.** Monitor the evolution of multimodal level of service (MMLOS) standards. The city may adopt MMLOS standards when appropriate.
Policy 2.3	**Fair share costs.** New development shall pay its fair share of the cost for circulation improvements in accordance with the city's traffic fee mitigation program.
Policy 2.4	**Right-of-way dedication.** The city may require right-of-way dedication essential to the circulation system in conjunction with any development or annexation. The City shall request the County of Fresno to apply the same requirements in the Clovis planning area
Policy 2.6	**Vehicle Miles Traveled.** Development projects shall comply with the City's VMT Transportation Analysis Guidelines and provide the appropriate VMT mitigation measures as determined through the analysis.
Policy 2.7	**VMT Mitigation Fee Program.** Evaluate the feasibility of a VMT mitigation fee program and explore opportunities for establishing an in-lieu mitigation fee to offset VMT impacts from development.
Policy 2.8	**Partner with local agencies and stakeholders.** Partner with other local and regional agencies and stakeholders to explore VMT mitigation measures at the regional scale.
Policy 3.1	**Traffic calming.** Employ traffic-calming measures in new developments and existing neighborhoods to control traffic speeds and maintain safety.
Policy 3.2	**Neighborhood compatibility.** Periodically review and update design standards to ensure that new and redesigned streets are compatible with the context of adjacent neighborhoods.

Table 4.5.A: City of Clovis General Plan Policies Related to Transportation

Policy/Action Item Number	Policy/Action Item
Policy 3.7	**Conflict points.** Minimize the number of and enhance safety at vehicular, pedestrian, and bicycle conflict points.
Policy 4.1	**Bike and transit backbone.** The bicycle and transit system should connect Shaw Avenue, Old Town, the Medical Center/R&T Park, and the three Urban Centers.
Policy 4.2	**Priority for new bicycle facilities.** Prioritize investments in the backbone system over other bicycle improvements.
Policy 4.4	**Bicycles and transit.** Coordinate with transit agencies to integrate bicycle access and storage into transit vehicles, bus stops, and activity centers.
Policy 4.7	**Bus rapid transit.** Plan for bus rapid transit and transit-only lanes on transit priority corridors as future ridership levels increase.
Policy 5.1	**Complete street amenities.** Upgrade existing streets and design new streets to include complete street amenities, prioritizing improvements to bicycle and pedestrian connectivity or safety, consistent with the Bicycle Transportation Master Plan and other master plans.
Policy 5.2	**Development-funded facilities.** Require development to fund and construct facilities as shown in the Active Transportation Plan when facilities are in or adjacent to the development.
Policy 6.1	**Truck routes.** Plan and designate truck routes that minimize truck traffic through or near residential areas.
Policy 8.1	**Transportation Demand Management.** Develop Transportation Demand Management (TDM) measures that promote, enhance, and make available feasible alternative modes of transportation to residents, employees, and visitors.
Policy 8.2	**Transit Routes.** As development occurs in the City's growth areas, continue to evaluate transit routes to determine the most efficient methods of transporting people between residential neighborhoods and goods and services.
Policy 8.3	**Bicycle Lanes.** Seek input from and/or partner with any local bicycle advocacy groups to improve the design, location, and functionality of bicycle lanes to encourage safe and efficient travel lanes.
Policy 8.4	**Connectivity between residential and commercial.** Continue to explore opportunities for increased non-vehicular connectivity between new and existing residential development and commercial uses.
Policy 8.5	**Community outreach and education.** Explore the feasibility of a community outreach and education program that promotes and highlights opportunities for safe and efficient non-vehicular modes of transportation for commuting and recreation.
Policy 8.6	**Employer commute programs.** Work with businesses to encourage commuter programs and infrastructure that promotes alternative modes of transportation reducing the use of single-occupancy vehicles, such as additional bicycle racks/lockers, on-site shower facilities, and perks for employees who commute.

Source: City of Clovis General Plan (August 2014).

4.5.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to transportation and traffic that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the recommended mitigation measures, if required. Cumulative impacts are also addressed.

4.5.3.1 Significance Criteria

Based on CEQA Guidelines Appendix G, the proposed project would have a significant impact related to transportation if it would:

a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;

b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or

d. Result in inadequate emergency access;

4.5.3.2 Project Impacts

The following discussion describes the potential impacts related to transportation and traffic that could result from implementation of the proposed project.

a. **Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?**

The proposed project would consist of the annexation of 246 acres by the City of Clovis, and the development of approximately 590 residential lots, averaging approximately 3,329 square feet within the 71.54-acre project site. The proposed lots would be developed into single-family residences over time. Sixty-six outlot spaces that would potentially be developed into private roads, private parking, pedestrian walkways, landscaping, public utilities, and public park uses would also be included within the project site. No development is proposed within the remaining 174.46-acre annexation area surrounding the project site.

Phase 1 of the proposed project would occur in the southern portion of the project site, and would include the development of approximately 136 single-family residential units, the construction of approximately 44 parking spaces, an approximately 8,745-square-foot community pool and recreation area, an approximately 13,930 square-foot community park, approximately 0.51 acre of landscaped areas, and drainage and pedestrian infrastructure improvements along Perrin Avenue, among other improvements.

Phase 2 of the proposed project would occur in the central portion of the project site, and would include the development of approximately 214 single-family residential units, the construction of a 26-foot-wide drainage channel along Perrin Avenue, approximately 0.35 acre of landscaped areas, as well as storm drainage and pedestrian infrastructure improvements along Perrin Avenue and Hammel Avenue, among other improvements.

Phase 3 of the proposed project would occur in the northern portion of the project site, and would include the development of approximately 240 single-family residential units, the construction of approximately 91 parking spaces, an approximately 9,985-square-foot pool and recreation area, approximately 0.65 acre of landscaped areas, and drainage and pedestrian infrastructure improvements along Baron Avenue, among other improvements.

Under full buildout, the proposed project would generate 5,564 daily trips, with 413 trips occurring during the AM peak hour and 555 trips occurring during PM peak hour.

Transit. There are no existing dedicated transit facilities within the project site. As previously described, Clovis Transit Stageline Routes 10 and 80, as well as FAX Route 3, operate within the project's study area. The proposed project would not introduce elements that would conflict with current and planned transit facilities and routes in the City. As a result, a less-than-significant impact would occur. No mitigation is required.

Bicycles. There are no existing dedicated bicycle facilities within the project site. At present, Class II bicycle lanes exist along Clovis Avenue, Willow Avenue, and some segments of Shepherd Avenue and Fowler Avenue within the study area. However, different bicycle facilities are proposed along other roadways within the study area, such as Sunnyside Avenue, Teague Avenue, Nees Avenue, and Alluvial Avenue. The proposed project would not conflict with the operation of existing bicycle facilities in the project area and would comply with planned development of bicycle facilities consistent with the City's Active Transportation Plan. The proposed project would construct a total of 1.19 miles of bike lanes along North Baron Avenue. Design of proposed bicycle facilities would comply with City design requirements and with the multi-modal transportation goals of the City's Active Transportation Plan or the General Plan. As a result, a less-than-significant impact would occur. No mitigation is required.

Pedestrian Facilities. There are no existing dedicated pedestrian facilities within the project site. The project study area currently includes approximately 10 miles of sidewalk. The proposed project would add approximately 1.8 miles of sidewalk/pedestrian access. The proposed project would construct pedestrian sidewalks with development of the proposed extension of North Baron Avenue. Additionally, the project would develop internal pedestrian facilities within the project site to aid in pedestrian circulation. Proposed pedestrian facilities would be designed per City requirements. The proposed project would accommodate pedestrian circulation and increase connectivity with the City's existing pedestrian network. Additionally, the project would not conflict with multi-modal transportation goals of the City's Active Transportation Plan or the General Plan. As a result, a less-than-significant impact would occur. No mitigation is required.

Roadways. Study intersections and roadway segments analyzed in this report are completely under the jurisdiction of the City of Clovis or lie at the borders of Clovis and Fresno. However, intersections located at freeway on-ramps and off-ramps are under the jurisdiction of the California Department of Transportation (Caltrans).

The City of Clovis considers LOS D as the LOS standard for study intersections and roadway segments, except for roadway segments that are adopted in the City's General Plan EIR to operate at LOS E or F. At study intersections under the jurisdiction of the City of Clovis, a significant impact would occur at a signalized intersection when LOS falls below the target LOS of D with the addition of project traffic or when a project increases the average delay at an intersection already operating at an unacceptable LOS; at unsignalized intersections, significant impacts would occur when LOS falls below the target LOS (from E or better to F) with the addition of project traffic and triggers the signal warrant criteria or when the project increases delay at an intersection already operating at an unacceptable LOS and triggers the signal warrant criteria. The City of Clovis TIA Guidelines do not define an operational deficiency criterion for roadway segments. However, for purposes of this analysis, at roadway segments under the jurisdiction of the City of Clovis, an operational deficiency has been considered when the project causes an unsatisfactory condition (deterioration from LOS A through D to E or F) or when the project contributes to an existing or forecast deficiency.

Based on the City of Fresno General Plan Circulation Element, the City uses Traffic Impact Zone (TIZ) boundaries within the City to identify acceptable LOS for each TIZ. All study intersection and roadways segments in the study area within the City of Fresno judication are located within the City of Fresno Traffic Impact Zone (TIZ) III. Per the City of Fresno's General Plan, all intersections and roadway segments within TIZ III should maintain a peak-hour LOS standard of D or better. Therefore, as a conservative estimate, LOS D was considered as the minimum level of service criterion for all intersections. As such, an operational deficiency occurs when the project causes an unsatisfactory condition (deterioration from LOS A through D to LOS E or F) for intersections or when the project contributes to an existing or forecasted deficiency. In which case, a proposed project would need to identify improvements to improve the intersection LOS to an acceptable level. City of Fresno's Traffic Impact Study guidelines do not define an operational deficiency criterion for roadway segments. Therefore, for purposes of this analysis, at intersections under City of Fresno jurisdiction, an operational deficiency has been considered when the project causes an unsatisfactory condition (deterioration from LOS A through D to E or F) or when the project contributes to an existing or forecast deficiency.

For intersections under the jurisdiction of Caltrans, Caltrans considers an acceptable LOS to be between LOS C and D at all intersections (delay of 45 seconds at signalized intersections and delay of 30 seconds at unsignalized intersections). Caltrans does not have any operational deficiency criteria for study intersections. Therefore, an operational deficiency occurs when the project causes an unsatisfactory condition (deterioration from LOS A through D to E or F) for intersections or when the project contributes to an existing or forecast deficiency. The project needs to identify improvements to improve the intersection LOS to an acceptable level.

The TIA developed existing, near-term, and cumulative plus project traffic volumes by adding project traffic to the traffic for the corresponding "without project" scenarios. The TIA identified the following roadway segment and study intersection LOS deficiencies under the different scenarios analyzed:

- **Existing Levels of Service:** Under existing conditions, four study intersections, summarized in Table 8-A of the TIA, operate at an unsatisfactory LOS. Additionally, as summarized in Table 8-B of the TIA, all the study roadway segments currently operate at a satisfactory LOS under existing conditions.

- **Existing Plus Project Levels of Service:** Under this scenario, four study intersections, summarized in Table 8-A of the TIA, would operate at an unsatisfactory LOS. Based on the operational deficiency criteria stated in this section, the project is forecast to create an operational deficiency at these intersections. It should be noted that all four intersections are currently operating at a deficient LOS, and as such, the project is forecast to add to the existing deficiencies at these intersections. Additionally, as summarized in Table 8-B of the TIA, all the study roadway segments are forecast to operate at a satisfactory LOS under this scenario.

- **Near-Term (2026) Plus Project Levels of Service:** Under this scenario, nine study intersections, summarized in Table 8-C of the TIA, would operate at an unsatisfactory LOS. Based on the operational deficiency criteria stated in this section, the project is forecast to create an

operational deficiency at these intersections. Additionally, as summarized in Table 8-D of the TIA, three roadway segments are forecast to operate at an unsatisfactory LOS under this scenario.

- **Cumulative (2046) Without Project Levels of Service:** Under this scenario, 13 study intersections, summarized in Table 8-E of the TIA, would operate at an unsatisfactory LOS. Additionally, as summarized in Table 8-F of the TIA, six roadway segments are forecast to operate at an unsatisfactory LOS under this scenario.

- **Cumulative (2046) Plus Project Levels of Service:** Under this scenario, 13 study intersections, summarized in Table 8-E of the TIA, would operate at an unsatisfactory LOS. Based on the operational deficiency criteria stated in this section, the project is forecast to create an operational deficiency at these intersections. It should be noted that all 13 intersections are forecast to operate at a deficient LOS, and as such, the project is forecast to add to the existing deficiencies at these intersections. Additionally, as summarized in Table 8-F of the TIA, eight roadway segments are forecast to operate at an unsatisfactory LOS under this scenario. Based on the operational deficiency criteria stated in this section, the project is forecast to create an operational deficiency at these roadway segments. It should be noted that out of the eight roadway segments forecast to operate at a deficient LOS, six segments are forecast to operate at a deficient LOS under cumulative (2046) without project conditions. As such, the project is forecast to add to the forecasted deficiencies at these six roadway segments.

Table 4.5.B below summarizes the recommended improvements for study intersections under all scenarios. Tables 9-B through 9-D of the TIA illustrate the post-improvement intersection levels of service for the different scenarios. As shown in these tables, implementation of recommended improvements would improve operations at all study intersections to operate at satisfactory LOS levels. As shown in Table 9-H of the TIA, the project would pay into the Clovis Development Impact Fee (Clovis DIF) Program for six improvements and would pay the Regional Transportation Mitigation Fee for one intersection's improvements (i.e. the Clovis Avenue/Herndon Avenue intersection). Therefore, the intersections are forecast to operate at a satisfactory LOS with the implementation of the recommended improvements and impacts to the study intersections' LOS would be less than significant.

Table 4.5.C below summarizes the recommended improvements for roadway segments for all analysis scenarios.

Table 4.5.B: Recommended Improvements for Intersections

Intersection	Jurisdiction	Existing Plus Project Improvements	Near-Term (2026) Plus Project Improvements	Cumulative (2046) Plus Project Improvements
Willow Avenue/International Avenue	Clovis/Fresno	Optimize signal timing.	Optimize signal timing.	Optimize signal timing
Willow Avenue/Shepherd Avenue	Clovis/Fresno			Add NBR and EBR overlap phasing, optimize signal timing.
Minnewawa Avenue/International Avenue	Clovis	Convert from TWSC to AWSC	Convert from TWSC to AWSC	Install a signal. Add NBL, SBL.
Minnewawa Avenue/Behymer Avenue	Clovis	Install a signal.	Install a signal. Add NBL, SBL.	Install a signal. Add NBL, SBL, EBL, WBL, WBR.
Minnewawa Avenue/Shepherd Avenue	Clovis		Add NBT, SBT, WBT. Optimize the signal timing.	Add NBT, SBT, WBT. Add EBR overlap phasing. Optimize the signal timing.
Clovis Avenue/Behymer Avenue	Clovis			Install a signal. Add NBL, SBL, EBL, EBR, WBR, WBL.
Clovis Avenue/Baron Avenue	Clovis		Restripe NB approach to NBU, NBT, and NBR (Part of Clovis Avenue Extension).	Install a signal. Restripe NB approach to NBU, NBT, and NBR (Part of Clovis Avenue Extension).
Clovis Avenue/Shepherd Avenue	Clovis		Optimize signal timing.	Optimize signal timing.
Clovis Avenue/Nees Avenue	Clovis		Optimize signal timing.	Optimize signal timing.
Clovis Avenue/Alluvial Avenue	Clovis			Optimize signal timing.
Clovis Avenue/Herndon Avenue	Clovis		Add EBR and SBR overlap phasing and restrict NB and EB U-turns. Coordinate and optimize signal along with the SR-168 ramp intersections.	Add EBR and SBR overlap phasing and restrict NB and EB U-turns. Coordinate and optimize signal along with the SR-168 ramp intersections.
Baron Avenue/Behymer Avenue	Clovis			Install a signal with E/W split phasing.
Sunnyside Avenue/Shepherd Avenue	Clovis		Install a signal. Add NBL, SBL, SBR, EBL, EBR, WBL, WBT, WBR.	Install a signal. Add NBL, SBL, SBR with overlap phasing, EBL, EBT, EBR, WBL, WBT, WBR with overlap phasing.
Fowler Avenue/Shepherd Avenue	Clovis	Optimize signal timing.	Optimize signal timing.	Optimize signal timing.

Table 4.5.B: Recommended Improvements for Intersections

Intersection	Jurisdiction	Existing Plus Project Improvements	Near-Term (2026) Plus Project Improvements	Cumulative (2046) Plus Project Improvements

Source: *Transportation Impact Analysis Tract Map 6343 Project* (LSA 2023b).
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound
L = Left, T = Through, R = Right
AWSC= All-Way Stop Control; TWSC = Two-Way Stop Control

Table 4.5.C: Recommended Improvements for Roadway Segments

Roadway Segment	Jurisdiction	Near-Term (2026) Plus Project Improvements	Cumulative (2046) Plus Project Improvements
Segments on Behymer Avenue			
between Minnewawa Avenue and Clovis Avenue	Clovis		Convert to 2-Lane TWLTL Collector
between Clovis Avenue and Baron Avenue	Clovis		Convert to 2-Lane TWLTL Collector
Segments on Shepherd Avenue			
between Willow Avenue and Minnewawa Avenue	Clovis	Convert to 4-Lane Raised Median Arterial	Convert to 4-Lane Raised Median Arterial
between Clovis Avenue and Sunnyside Avenue	Clovis	Convert to 4-Lane Raised Median Expressway	Convert to 4-Lane Raised Median Expressway
between Sunnyside Avenue and Fowler Avenue	Clovis		Convert to 4-Lane Raised Median Expressway
Segments on Minnewawa Avenue			
between International Avenue and Behymer Avenue	Clovis		Convert to 4-Lane Undivided Arterial
between Behymer Avenue and Shepherd Avenue	Clovis	Convert to 4-Lane Undivided Arterial	Convert to 4-Lane Undivided Arterial
Segments on Baron Avenue			
between Perrin Avenue and Clovis Avenue	Clovis		Convert to 2-Lane Divided Collector

Source: *Transportation Impact Analysis Tract Map 6343 Project* (LSA 2023b).
TWLTL= two-way-left-turn lane

All study roadway segments listed in Table 4.5.C would be able to implement improvements via payment to the Clovis DIF Program to improve operations and operate at satisfactory LOS levels.

However, in addition to the local roadways' segments listed above in Table 4.5.C, the diverge segment at the SR-168 westbound Herndon Avenue Off-Ramp, under Caltrans jurisdiction, is forecast to operate at an unsatisfactory condition (LOS F) during PM peak hours under existing, near-term (2026) and cumulative (2046) conditions.

As such, improvements would be required at this off-ramp location to improve traffic operations on the freeway mainline. The project would be subject to payment of to the RTMF Program for its fair share contribution to regional improvements. As discussed above in Section 4.5.2.3, the RTMF is

intended to ensure that future development contribute its fair share towards the costs of infrastructure to mitigate the cumulative indirect regional transportation impacts of new growth in a manner consistent with the provisions of the Mitigation Fee Act.

However, since the project has no direct control of implementing improvements at a Caltrans facility, and implementation of recommended improvements would be subject to Caltrans implementation schedule, which is unknown at this time, the deficiency at this location would remain significant and unavoidable.

Impact TRA-1: The project would conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: No feasible mitigation measures are available.

Level of Significance With Mitigation: Significant and unavoidable. The TIA prepared for the proposed project identifies potential conflicts to the City's established LOS standards for roadways in Clovis. Where feasible, the proposed project would contribute a fair share allotment to improve deficient roadways to meet roadway standards for Clovis, Fresno, and Caltrans. However, one diverge segment under Caltrans' jurisdiction is unlikely to be improved prior to implementation of the proposed project, due to the project having no direct control of implementing improvements at a Caltrans facility and Caltrans' timing schedule for implementation of recommended improvements being unknown at this time. As a result, implementation of the proposed project would conflict with adopted policies that cannot be addressed, and a significant and unavoidable impact would occur.

b. **Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?**

On December 28, 2018, the California Office of Administrative Law cleared the revised CEQA Guidelines for use. Among the changes to the guidelines was removal of vehicle delay and LOS from consideration under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on VMT, not LOS.

The City's TIA Guidelines includes screening criteria, VMT analysis methodology, VMT impact thresholds, and VMT mitigation measures. The TIA Guidelines provide multiple project types and thresholds for land use projects. The project was compared with the screening criteria established in the "Project Screening" section of the TIA Guidelines to check if the project can be screened out of detailed VMT analysis. The following is a brief description of the project in relation with the project screening criteria:

- **Small Project:** The TIA Guidelines states that projects generating less than 500 daily trips could be screened out of a detailed VMT analysis. As previously discussed, the project is estimated to generate 5,564 daily trips. Therefore, the project does not satisfy this screening criteria.

- **Provision of Affordable Housing:** The project proposes to develop market-rate, single-family dwelling units. Therefore, this screening criteria does not apply to the project.

- **Local-Serving Retail:** The project consists of residential land use only; therefore, this screening criteria does not apply to the project.

- **Project Located in a High-Quality Transit Area (HQTA):** The project is not located within an HQTA; therefore, this screening criteria does not apply to the project.

- **Project Located in Low VMT Area:** The project is not located in a low VMT area; therefore, this criterion does not apply to the project.

As shown above, the project could not be screened out from detailed VMT analysis. For projects that are not screened out, a quantitative analysis of VMT impacts must be prepared and compared against the adopted VMT thresholds of significance.

In addition, as described above in Section 4.5.2.4, the City updated the City's General Plan Circulation Element to address VMT by adding new policies. A Supplemental EIR was completed to evaluate the changes to the Circulation Element, and Mitigation Measure TRANS-3 and Mitigation Measure TRANS-4, as included above in Section 4.5.2.4, would apply to proposed residential projects.

Thresholds of Significance. The proposed project consists of residential land use. The TIA Guidelines established VMT per capita as the appropriate metric to evaluate residential land use projects while defining Fresno County as the "region" for determining VMT thresholds. The project would have a significant VMT impact if the baseline project VMT per capita is greater than 87 percent of the baseline Fresno County VMT per capita. Based on the TIA Guidelines, baseline Fresno County VMT per capita is 16.1 and the corresponding threshold is 14.1 (which is 87 percent of 16.1). Therefore, the project would have a significant VMT impact if the project VMT per capita is greater than 14.1.

VMT Analysis. As recommended in the TIA Guidelines, the VMT analysis for the project was conducted using the Fresno COG Activity Based Model (ABM). The model database was updated with the project land use to calculate project VMT. The first step in preparation of this analysis was to update the traffic analysis zones (TAZs) in the model that include the project area. The Fresno COG ABM includes the ability to add or split zones. In order to isolate the project VMT, a new zone was created in the model. The project households were included in the newly created zone for modeling purposes. No project-specific network modifications were required for the model run. A model run was conducted for the existing/base scenario with updated model inputs. The outputs from this updated model run were used to calculate the project VMT per capita. Based on the Fresno COG ABM model output, the project's VMT was calculated to be 17.8 VMT per capita, 26.4 percent higher than the City's VMT per capita threshold. Therefore, based on the TIA Guidelines, the project would have a significant VMT impact.

When a lead agency identifies a significant CEQA impact, the agency must identify feasible mitigation measures in order to avoid or substantially reduce that impact. VMT impacts can be mitigated through more behavioral changes. Enforcement of mitigation measures will be subject to the mitigation monitoring requirements under CEQA, as well as the regular police powers of the agency. These

measures can also be incorporated as a part of plans, policies, regulations, or project designs. Project design features that encourage mode shift from automobiles to transit or nonmotorized modes can therefore help reduce project VMT as well. Typically, VMT reduction and benefits from these project design features are not accounted in the project VMT calculations conducted using the regional travel demand model. Therefore, VMT reduction credit can be accounted for these design features similar to VMT mitigation measures to help reduce the project's VMT impact. Evaluation of VMT reductions should be evaluated using state-of-the-practice methodologies recognizing that many of the VMT mitigation strategies/project design features are dependent on resident performance over time. The following is a detailed description of both and the corresponding potential reduction that could be achieved with implementation of these measures.

Project Design Features. As per information provided by the Project Applicant, the project intends to implement project design features that would help reduce project VMT. VMT reduction that can be achieved by the project's design features has been estimated using the most recent California Air Pollution Control Officers Association's (CAPCOA) "*Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity – Designed for Local Governments, Communities, and Project Developers*" (Handbook) dated December 2021[3]. The purpose of the Handbook is to provide accurate, reliable, and standardized emission reduction quantification methods for project analysis and long-term planning. The Handbook includes a wide range of measures that are frequently used to reduce greenhouse gas emissions and provide other benefits, like improved air quality, energy and fuel savings, and water conservation. As transportation-related emissions can be reduced by reducing VMT, the Handbook contains measures aimed to reduce VMT and encourage mode shifts from single-occupancy vehicles to shared (e.g., transit) or active modes of transportation (e.g., bicycle). CAPCOA transportation measures applicable to project VMT reduction are described below.

- **Pedestrian Infrastructure:** The proposed project would provide pedestrian improvements/ sidewalks both internal to the project site and along the project frontage. Providing sidewalk/ pedestrian improvements encourage people to walk instead of drive and thus reduces VMT. CAPCOA transportation measure T-18: "Provide Pedestrian Network Improvement", was used to estimate the VMT reduction due to project related enhancements in pedestrian access and connectivity. The CAPCOA methodology requires existing sidewalk length in the project study area in addition to the length of sidewalk being provided by the project. In order to estimate the existing sidewalk length, a survey was conducted along the proposed project frontage. Based on the survey, the project study area includes approximately 10 miles of sidewalk. The project proposes to add approximately another 1.8 miles of sidewalk/pedestrian access. Therefore, this mitigation measure may reduce the project's VMT by approximately 0.87 percent. However, the proposed project consists of only one land use type (residential), and the project site is currently located in an area surrounded mainly by agricultural and residential uses. The project site is not located within a walkable distance to mixed uses. As such, it is unlikely that residents of the project site would reduce their vehicle use due to implementation of pedestrian improvements, as

[3] California Air Pollution Control Officers Association's (CAPCOA). 2021. *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity – Designed for Local Governments, Communities, and Project Developers*. December.

residents would still need to travel a significant distance from the project site to access services. This feature is not expected to significantly reduce project VMT impacts.

- **Improve Street Connectivity:** The project proposes to provide an internal circulation network. Projects with higher density of intersections would help increase street connectivity, reduce trip lengths and promote the use of alternative transportation modes of travel. CAPCOA handbook identifies measure *T-17: Improve Street Connectivity* to evaluate project street network. The measure is recommended as an appropriate design feature for plans within urban or suburban areas. Measure T-17 estimates that an increased density of vehicular intersections improves street connectivity and helps in reduction in GHG emissions and corresponding VMT. As included in the CAPCOA handbook, this measure could be applied to a project for:

  > *'Projects that increase intersection density would be building a new street network in a subdivision or retrofitting an existing street network to improve connectivity (e.g., converting cul-de-sacs or dead-end streets to grid streets).'*

  The measure establishes the following numerical formula of VMT reduction due to increased intersection density and improved street connectivity:

  $$A = \frac{B-C}{C} * D$$

  Where,

  A = Percent Reduction in GHG/VMT emission from vehicle Travel

  B = Intersection Density in project site with measure

  C = Average Intersection Density for Typical developments (36)

  D = Elasticity of VMT with respect to intersection density (-0.14)

  CAPCOA suggests application of different VMT mitigation measures at different scales— project/ site scale or community/plan scale. Based on the CAPCOA Handbook, this mitigation measure is applicable at a plan/community scale, with appropriate limitations as described in the VMT Analysis section of the TIA. Due to these improved vehicular network connection and project design features, the project would achieve 3.39 percent reduction in VMT compared to the project VMT that was estimated from the regional travel demand model.

  However, the project is a gated community which has specified entry/exit ways that reduces accessibility to all project related traffic. While the increased intersection density would facilitate a greater number of short trips, the project consists of only a single land use type (residential) and the amount of internal capture (trips that can be fulfilled within the project, with both origin and destinations within the project site) would be minimal. Residents of the project site would still need to travel off site to access a variety of services. As such, increased street connectivity within the project site is not expected to significantly reduce project VMT impacts.

- **Bicycle Infrastructure/Improvements:** The project proposes to construct a total of 1.19 miles of bike lanes along the project frontage. Similar to pedestrian facilities, these bicycle design features included in the project can encourage an increase in active transportation mode share in the area. The CAPCOA manual was utilized to estimate the reduction of project VMT due to proposed bicycle improvements. Specifically, CAPCOA transportation measure T-19A: "Construct or Improve Bike Facility" was deemed applicable to estimate the VMT reduction due to project bicycle features. According to the measure, providing bicycle infrastructure helps to improve biking conditions within an area. This encourages a mode shift on the roadway parallel to the bicycle facility from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. Based on CAPCOA estimates, the project bicycle design features have a potential to reduce up to 0.01 percent of the project VMT.

- **Provide Electric Vehicle (EV) Parking and EV Charging Infrastructure:** Accessible EV parking and provision of charging for electric vehicles in the residential units would encourage the use of EVs. The latest California Green Building Standards (CALGreen), California Building Code, requires provision of infrastructure to accommodate electric vehicle chargers for new single family and attached dwelling units/townhouses. For new construction projects such as apartments, condominiums, hotels, and motels, CALGreen code requires the project to provide EV charging stations as a percentage of the total project parking. While it is understood that provision of electric charging infrastructure/stations might not reduce VMT given that the effectiveness of this measure for VMT reduction is subject to the number of project residents that would make use of electric vehicles instead of gasoline-powered vehicles (which is a matter of personal choice), it will reduce GHG, which can be considered equivalent to reduction in VMT. According to CAPCOA, provision of additional electric charging stations, in addition to CALGreen requirements, can be considered as a GHG/VMT mitigation. Provision of EV charging infrastructure has the potential to achieve a maximum VMT reduction of up to 11.9 percent. Currently, pursuant to CALGreen requirements and Mitigation Measure GHG-1, the project would provide electric vehicle charging capabilities in proposed residential units as part of the final project designs. However, the project would not provide additional EV charging points and stations. As such, while this project design feature has the potential to reduce GHG emissions, no direct VMT reduction has been accounted for this project design feature.

Conclusion.¶ In conclusion, the project would include design features that aim to promote overall mobility with the goal of reducing VMT and reducing greenhouse gas emissions. The project is consistent with Mitigation Measure TRANS-3 and Mitigation Measure TRANS-4 of the Subsequent EIR for the 2014 Clovis General Plan Circulation Element Update. Mitigation Measure TRANS-3 requires bicycle facilities for land uses that generate more than 500 daily trips, and Mitigation Measure TRANS-4 requires improved street connectivity to facilitate shorter vehicle trips and greater numbers of walk and bike trips. Implementation of the above project design features may possibly reduce the project's VMT by approximately up to 4.24 percent. However, due to the nature of the project and its location, the project design features identified in this section could help offset some of the VMT impacts of the project but will not reduce the impact to a less than significant level. Therefore, the project will have a significant and unavoidable impact.

Impact TRA-2: The proposed project would conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: No feasible mitigation measures are available.

Level of Significance With Mitigation: Significant and unavoidable. The proposed project would include project design features that could reduce the project's VMT by up to 4.24 percent. However, this potential reduction would not help the project reach the required threshold of 14.1 VMT per capita. As a result, implementation of the proposed project would conflict with CEQA Guidelines section 15064.3, subdivision (b), and a significant and unavoidable impact would occur.

c. **Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

The proposed project would consist of the annexation of 246 acres by the City of Clovis, and the development of 590 residential lots, averaging 3,329 square feet within the 71.54-acre project site. The project site and annexation area are surrounded by agricultural and single-family residential uses to the south, rural residential and agricultural uses to the east, agricultural and commercial uses to the west, and agricultural and rural residential uses to the north. Implementation of the proposed project would increase the amount of vehicle traffic, which would require the improvement and expansion of the roadway network in the project area. The proposed project would include the extension of existing and construction of new roadways, bikeways, and sidewalks that would be constructed pursuant to City standards and would increase vehicle and pedestrian access and safety in the study area. New transportation facilities would be designed according to applicable federal, State, and local design standards, which would minimize traffic hazards. The proposed project would also include the installation of traffic signals where recommended as study intersection improvements, as detailed in Table 4.5.B above, to meet the City's LOS standards. These improvements would improve safety and reduce traffic conflicts at study intersections. Traffic signals would be installed at the direction of the City Engineer upon meeting the necessary traffic warrants.

Sight Distance Analysis. Vehicular access to the project site would be provided by six intersections: three on Baron Avenue, two on Hammel Avenue, and one on Perrin Avenue. All intersections would operate as full-access intersections. A sight distance analysis was conducted at the project intersections along Baron Avenue and future intersection of Baron Avenue/Perrin Road. For purposes of this analysis, only the stopping sight distance and corner sight distance were evaluated.

According to the Caltrans *Highway Design Manual*[4] (HDM) (dated July 2020), the stopping sight distance is the minimum sight distance along a roadway required to allow a driver to decrease their speed from the design speed to a complete stop. The corner sight distance is the minimum sight distance in which a driver at a stop-controlled approach can see oncoming traffic on the major street to safely maneuver onto the roadway. For purposes of this analysis, the posted speed limit of 35 mph

[4] Caltrans. 2020. Highway Design Manual – Seventh Edition. July 1. Website: https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm (February 2023).

has been considered as the design speed for Baron Avenue. As stated in Table 201.1 of the HDM, the minimum stopping sight distance for a design speed of 35 mph is 250 feet. Therefore, the minimum stopping sight distance for all project intersections was determined to be 250 feet.

As for corner sight distance, Section 405.1 of the HDM states that corner sight distance requirements are not applicable for urban intersections unless signalized. At signalized intersections, the minimum corner sight distance was based on design speed, time gap, and type of vehicle for the minor road vehicle to enter the major road. Based on these design speeds and the requirements established in the HDM, it was determined that minimum corner sight distances of the project intersections and future intersection are as follows:

- Baron Avenue/Project Intersection 4: 390 feet
- Baron Avenue/Project Intersection 5: 390 feet
- Baron Avenue/Project Intersection 6: 390 Feet
- Baron Avenue/Perrin Road: 390 feet

Based on the sight distance analysis in the TIA, the proposed project intersections achieve adequate sight distances and have clear sight triangles for drivers.

Safe Routes to School Analysis. The project site would be under the jurisdiction of the Clovis Unified School District (CUSD). The schools in the vicinity of the project site currently include Riverview Elementary School, which is located approximately 2 miles from the project site, and Granite Ridge Intermediate School and Clovis North High School, both of which are located approximately 2.5 miles from the site. It should be noted that the project is within the vicinity of the proposed Heritage Grove Specific Plan project. Based on the project description of this project, an elementary school is being proposed within Planning Area 9 of the Specific Plan. Though the completion date for this elementary school is still undetermined, elementary school students from the proposed project are anticipated to attend this school once completed.

The proposed project would result in the construction of sidewalks along the project frontage, as well as contribute to the Clovis DIF and the RTMF programs as applicable for improvements at roadway segments and intersections within the project study area, which would include the addition of sidewalks and/or bike lanes along segments and installation of signals at intersections with marked crosswalks and other safety improvements. As such, the project would contribute safe walking and biking routes from the project to nearby schools.

In addition, the proposed project would not include any sharp curves or other roadway design elements that would create dangerous conditions. The project design features would be required to comply with standards set by the City's General Plan and City Engineer. The proposed project would also be required to submit plans to the Clovis Fire Department (CFD) for review and approval prior to the issuance of building permits to ensure there are no substantial hazards associated with the project design. Therefore, the proposed project would not increase hazards due to design features or incompatible uses, and a less than significant impact would occur.

Impact TRA-3: The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Level of Significance Without Mitigation**:** Less Than Significant Impact.

d. **Would the project result in inadequate emergency access?**

Vehicular access to the project site would be provided by six intersections: three on Baron Avenue, two on Hammel Avenue, and one on Perrin Avenue. All intersections would operate as full-access driveways. Additionally, the project would also include an emergency access intersection on Perrin Avenue that would provide exclusive access for emergency response vehicles to the project site. An enhanced roadway network that accommodates forecasted travel demand, through improvements identified in the TIA, would also provide adequate emergency access. Additionally, the proposed project's site plan would be subject to review and approval by the CFD and the City's Engineering Division to ensure the project includes adequate emergency access.

As a result, implementation of the proposed project would result in a less-than-significant impact related to emergency access. No mitigation is required.

Impact TRA-4: The project would not result in inadequate emergency access.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.5.3.3 Cumulative Impacts

A proposed project would have a significant effect on the environment if it—in combination with other projects—would contribute to a significant cumulative impact related to transportation. The cumulative impact analysis for transportation considers the larger context of future development of the City of Clovis as envisioned by the General Plan and relies upon the projections of the General Plan and General Plan EIR. Cumulative impacts on transportation would be those impacts that result from continued buildout of the General Plan.

The proposed project would be consistent with applicable regulations, including the City's General Plan policies and ATP guidelines as it relates to transit, bicycles, and pedestrian facilities, as described in Section 4.5.2. The proposed project would not conflict with existing and planned transit facilities in the City, and would construct bicycles, and pedestrian facilities that would increase the connectivity of the City and further implement the City's General Plan policies and meet ATP multi-modal transportation goals.

The proposed project would not include the construction of hazardous or incompatible design features in the project site. The proposed project's plans would be subject to review and approval by the CFD and the City's Engineering Division to ensure the project includes adequate emergency access.

The TIA identifies roadways that would conflict with LOS standards of the Cities of Clovis and Fresno, and Caltrans with implementation of the proposed project. In most cases, in combination with cumulative conditions, the roadways and segments would be improved to meet the standards of the Clovis, Fresno, and Caltrans. However, one diverge segment in Caltrans' jurisdiction is unlikely to be improved to meet Caltrans' standards prior to implementation of the proposed project due to the project having no direct control of implementing improvements at a Caltrans facility and Caltrans' timing schedule for implementation of recommended improvements being unknown at this time. As

discussed above, implementation of the proposed project would result in conflicts with policies related to LOS standards that would not be able to be improved due to existing constraints. As a result, a significant and unavoidable cumulative impact would occur.

The proposed project's VMT was calculated to be 17.8 VMT per capita, 26.4 percent higher than the City's VMT per capita threshold of 14.1. Although the project includes design features that could reduce project's VMT by up to 4.24 percent, this potential reduction would not help the project meet the required threshold of 14.1 VMT per capita. As a result, a significant and unavoidable VMT impact would occur.

Impact TRA-5: The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to transportation.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: No feasible mitigation measures are available.

Level of Significance With Mitigation: Significant and Unavoidable Impact.

5.0 ALTERNATIVES

In accordance with the California Environmental Quality Act (CEQA) and the *State CEQA Guidelines* (Section 15126.6), an Environmental Impact Report (EIR) must describe a range of reasonable alternatives to the project, or to the location of the project, that would "feasibly attain most of the project's basic objectives, while avoiding or substantially lessening any of the significantly adverse environmental effects of the project." An EIR does not need to consider every conceivable alternative to a project; rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. The range of alternatives required in an EIR is governed by a "rule of reason."

The proposed project would consist of the annexation of 246 acres by the City of Clovis, and the development of 590 residential lots, averaging 3,329 square feet, into single family residences in the 71.54-acre project site. The proposed project would be developed in three phases over a period of 33 months and would introduce a maximum of 590 new residential units in the City of Clovis. The proposed project has been described and analyzed in Chapter 4.0 with an emphasis on determining and evaluating potential significant impacts resulting from the project and identifying mitigation measures to avoid or reduce these impacts to a less-than-significant level. The following identifies and discusses three feasible alternatives to the proposed project, compares the impacts of each alternative to the impacts of the project, and determines whether the alternatives meet the basic project objectives and avoid or reduce project-related significant impacts.

5.1 SELECTION OF ALTERNATIVES

Section 21100 of the Public Resources Code and Section 15126.6 of the *State CEQA Guidelines* require an EIR to identify and discuss a No Project Alternative and a reasonable range of alternatives to the proposed project that would feasibly attain most of the basic objectives of the proposed project and that would avoid or substantially lessen any of the significant environmental impacts. When selecting a set of alternatives to analyze, Section 15126.6(f) of the *State CEQA Guidelines* also discusses the consideration of alternative locations and determining whether any of the significant effects of a proposed project would be avoided or substantially lessened by putting the project in another location.

Based on the criteria listed above, three alternatives have been selected to avoid or substantially lessen the significant impacts of the proposed project. Therefore, the alternatives considered in this Draft EIR include the following:

- **No Project Alternative**: Under the No Project Alternative, the project site would not be developed, and existing land uses would remain. No modifications to existing site access or infrastructure would occur, and the annexation of 246 acres to the City of Clovis would not occur.

- **Reduced Project Alternative:** Under the Reduced Project Alternative, the proposed project would reduce the proposed density of 8.25 dwelling units per acre for (DU/acre) for the proposed project to 4.12 DU/acre, for a total of 295 residential units. Proposed site access and

infrastructure improvements would remain the same as those identified for the proposed project. Annexation 246 acres, as proposed by the project would occur.

- **Increased Phase Density Alternative:** Under the Increased Phase Density Alternative 590 residential units would be constructed within the 71.54-acre project site, but the residential units would be constructed on approximately 24 acres on northern portion of the project site and 24 acres on the southern portion of the project site to reduce the overall construction period. The remaining approximately 23 acres of the project would be developed as public open space. Overall density of the project site would remain the same as the proposed project (8.25 DU/acre), but each 24-acre development area would have density of 12.3 DU/acre. Proposed site access and infrastructure improvements would remain the same as those identified for the proposed project. Annexation 246 acres, as proposed by the project would occur.

5.2 PROPOSED PROJECT

5.2.1 Project Description

As described earlier in Chapter 3.0, Project Description, the proposed project would consist of the annexation of 246 acres by the City of Clovis, and the development of approximately 590 residential lots, averaging approximately 3,329 square feet within the 71.54-acre project site. The proposed lots would be developed into single-family residences over time. Sixty-six outlot spaces that would potentially be developed into private roads, private parking, pedestrian walkways, landscaping, public utilities, and public park uses would also be included within the project site.

No development is proposed within the remaining 174.46-acre annexation area surrounding the project site. The proposed project would include annexation of the 246-acre area from Fresno County jurisdiction to the City of Clovis. Any future development occurring within the annexation area would require a separate project-specific analysis. The proposed project would be developed in three phases, as described below.

5.2.1.1 Phase 1

Phase 1 would include the development of approximately 136 single-family residential units with an average size of approximately 1,514 square feet per unit. Phase 1 would be located on the southern portion of the project site and would be accessed through one ingress and egress street on Perrin Avenue. Phase 1 would include the construction of approximately 44 parking spaces, an approximately 8,745 square-foot community pool and recreation area, an approximately 13,930-square-foot community park, approximately 0.51 acre of landscaped areas, and drainage and pedestrian infrastructure improvements along Perrin Avenue. The southern extension of North Baron Avenue from East Behymer Avenue and the extension of Perrin and Hammel Avenue within the project site would be constructed during Phase 1.

5.2.1.2 Phase 2

Phase 2 would include the development of approximately 214 single-family residential units with an average size of approximately 2,168 square feet per unit. Phase 2 would be located on the central portion of the project site and would be accessed through one gated ingress and egress street along the future southern extension of Baron Avenue, and one gated ingress and egress street along

Hammel Avenue. Phase 2 would include the construction of an approximately 26-foot-wide drainage channel along Perrin Avenue, approximately 0.35 acre of landscaped areas, as well as storm drainage and pedestrian infrastructure improvements along Perrin Avenue and Hammel Avenue.

5.2.1.3 Phase 3

Phase 3 of the proposed project would include the development of approximately 240 single-family residential units with an average size of approximately 1,514 square feet per unit. Phase 3 would be located on the northern portion of the project site and would be accessed through two gated ingress and egress streets located along the future southern extension of Baron Avenue, and through one gated egress street access located along the future northern extension of Hammel Avenue. Phase 3 would include the construction of approximately 91 parking spaces, an approximately 9,985-square-foot pool and recreation area, approximately 0.65 acre of landscaped areas, and drainage and pedestrian infrastructure improvements along Baron Avenue.

In addition, development of the project site would include infrastructure improvements for water services along the East Behymer Avenue frontage and Baron Avenue frontage, as well as stormwater management infrastructure improvements along the Perrin Avenue frontage. The proposed project would also construct a two-lane, approximately 49-foot-wide and 2,650-foot-long extension of Baron Avenue south of East Behymer Avenue.

5.2.2 Project Objectives

Each alternative is analyzed to determine whether it achieves the basic objectives of the proposed project. As stated in Chapter 3.0, Project Description, the City has established the following intended specific objectives for the proposed project that would serve to aid decision-makers in their review of the proposed project and its associated environmental impacts:

- Provide residential housing opportunities that are visually attractive and accommodate the future housing demand in Clovis.
- Establish a mixture of housing types, sizes and densities that collectively provide for local and regional housing demand.
- Implement the City's General Plan Land Use Element goal to facilitate annexation of large areas of land.
- Provide infrastructure that meets City Standards and is integrated with existing and planned facilities and connections.
- Develop a project that meets City Standards by implementing a logical phasing plan for development of public infrastructure improvements.

5.2.3 Significant Unavoidable Impacts of the Proposed Project

As described in Chapter 4.0, Evaluation of Environmental Impacts, impacts in the following areas would be potentially significant without the implementation of mitigation measures but would be

reduced to a less than significant level if the mitigation measures recommended in this report are implemented: Section 4.1, Agricultural Resources; Section 4.2, Air Quality; Section 4.3 Greenhouse Gas Emissions; and Section 4.4 Noise. Impacts in the following area would be significant unavoidable impacts: Section 4.5, Transportation.

For the purpose of this analysis, it is assumed that all of the alternatives would comply with applicable federal, State, and local regulations, policies, and ordinances. It is also assumed that all mitigation measures required for implementation of the proposed project would apply to the project alternatives and similar corresponding reductions in impacts would be achieved through such mitigation. Therefore, the following discussion focuses on the ability of the alternatives to reduce significant unavoidable project impacts.

5.3 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

State CEQA Guidelines Section 15126.6(c) provides that an EIR "should also identify any alternatives that were considered by the lead agency but rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts."

The following provides a description of potential alternatives that were identified and considered by the City, and the reasons why they were ultimately not selected for further evaluation in this EIR. In dismissing these alternatives from detailed evaluation in this EIR, primary considerations were whether the alternatives would meet *most* of the project objectives, or whether the alternatives were *feasible*, or whether they would *reduce the significant impacts* of the proposed project. The following alternatives was considered but was dismissed from further consideration as explained below.

- **Off-Site Alternative.** This alternative was not considered feasible, because there were no other feasible locations for the proposed project to be located due to ownership. Although relocation of the proposed project could serve to fulfill the project objectives, relocation of the project site to other areas near the City of Clovis would have increased the possibility of impacting special-status animal species.

- **Increased Density Alternative.** This alternative was not considered feasible, because increasing the density and the overall number of residential units within the project site would result in design limitations and potential on-site safety impacts due to an increased population, relative to the proposed project. Although increasing the density of proposed project could serve to fulfill the project objectives, the potential on-site and off-site operational impacts are anticipated to increase significantly with increased density.

5.4 ALTERNATIVE 1: NO PROJECT ALTERNATIVE

The following provides a description of the No Project Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the

No Project Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the No Project Alternative would reduce, eliminate, or create new significant environmental impacts and would or would not meet the objectives of the proposed project.

5.4.1 No Project Alternative Description

The No Project Alternative assumes that the proposed project would not be developed and that the project site would generally remain in its current condition. The project site would continue to be agriculture and rural residential uses. No modifications to existing site access or infrastructure would occur. No annexation to the City of Clovis would take place.

5.4.2 Analysis of the No Project Alternative

The potential impacts associated with the No Project Alternative are described below.

5.4.2.1 Aesthetics

Under the No Project Alternative, no construction activities would occur, and the project site would remain undeveloped. The proposed project would result in less-than-significant impacts related to change in views of an around the project, character of the site, and lighting. As a result, with implementation of the No Project Alternative, no impacts to aesthetics would occur and, therefore, this alternative would result in fewer impacts when compared to the proposed project.

5.4.2.2 Agriculture and Forestry Resources

Under the No Project Alternative, no construction activities would take place, and the project site would remain undeveloped. The project site is currently under a Williamson Act Contract, and under this alternative, no cancellation of a Williamson Act contract would be needed. Implementation of Mitigation Measure AG-2 and Regulatory Compliance Measure AG-3 would not be required. No forestry resources are located within the project site or annexation area. With implementation of the No Project Alternative, impacts to agriculture and forestry would not occur and, therefore, this alternative would result in fewer impacts when compared to the proposed project.

5.4.2.3 Air Quality

Under the No Project Alternative, no construction activities would occur, and the site would remain undeveloped. Therefore, the proposed project's construction and operational less than significant criteria pollutant impacts would be avoided under this alternative; therefore, implementation of Regulatory Compliance Measure AIR-2 would not be required. With implementation of the No Project Alternative, impacts to air quality would not occur and, therefore, this alternative would result in fewer impacts when compared to the proposed project.

5.4.2.4 Biological Resources

Under the No Project Alternative, no construction or grading activities would occur on the project site. As a result, the proposed project's potentially significant impacts to special-status species, federally protected wetlands and nesting birds would be avoided under this alternative and implementation of Mitigation Measures BIO-1 through BIO-4 and Regulatory Compliance Measure

BIO-1 would not be required. In addition, under the No Project Alternative, no construction activities would occur that would impact a sensitive natural community, interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. With implementation of the No Project Alternative, impacts to biological resources would not occur and, therefore, this alternative would result in fewer impacts when compared to the proposed project.

5.4.2.5 Cultural Resources

No construction or grading activities would occur on the project site under the No Project Alternative. Therefore, the proposed project's potential impacts that would result from construction at the project site, including potentially significant impacts related to disturbance of previously unknown archaeological resources and human remains would be avoided under this alternative and implementation of Mitigation Measures CUL-1 and CUL-2 would not be required. With implementation of the No Project Alternative, impacts to cultural resources would not occur and, therefore, this alternative would result in fewer impacts when compared to the proposed project.

5.4.2.6 Energy

Under the No Project Alternative, no construction activities would occur, and the site would remain undeveloped. There would be no energy usage associated with construction or operation of the No Project Alternative, therefore, no impacts to energy would occur. When compared to the proposed project, this alternative would result in fewer impacts to energy.

5.4.2.7 Geology and Soils

Under the No Project Alternative, no construction or grading activities would occur on the project site. As a result, the proposed project's potential impacts that would result from construction at the project site, including potentially significant impacts unknown unique paleontological resources or unique geologic features would be avoided under this alternative, and implementation of Mitigation Measure GEO-1 would not be required. Additionally, under this alternative, no construction activities that would expose people working or residing in the project site to geologic hazards, and result in soil erosion would occur. With implementation of the No Project Alternative, impacts to geology and, therefore, this alternative would result in fewer impacts when compared to the proposed project.

5.4.2.8 Greenhouse Gas Emissions

Under the No Project Alternative, no construction activities would occur, and the site would remain undeveloped. There would be no greenhouse gas (GHG) emissions associated with construction and operation of the proposed project. The proposed project's potentially significant operational GHG emission impacts would be avoided under this alternative and implementation of Mitigation Measure GHG-1 would not be required. Therefore, implementation of the No Project Alternative would avoid the less than significant with mitigation GHG impact associated with the proposed project. Therefore, this alternative would result in fewer impacts when compared to the proposed project.

5.4.2.9 Hazards and Hazardous Materials

Under this alternative, changes in land use would not occur and the existing conditions related to the accidental release of, or exposure to, hazardous materials would remain the same. Although the existing agricultural operations could continue to operate, the use of solvents or fuels related to maintenance of operations as proposed by the project would not occur. Therefore, this alternative would result in fewer impacts when compared to the proposed project.

5.4.2.10 Hydrology and Water Quality

Under this alternative, the existing pervious surfaces and agricultural land would not be altered. With no physical changes occurring within the project site, the existing drainage patterns of the project site would not be altered. In addition, this alternative would not create a potential to violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality, because this alternative would not change the existing conditions within the project site. As a result, this alternative would result in fewer impacts related to hydrology and water quality when compared to the proposed project.

5.4.2.11 Land Use and Planning

Under this alternative, the land uses within project site would not change. Similar to the proposed project, this alternative would not divide an existing community or conflict with an existing land use plan. As a result, this alternative would result in similar impacts when compared to the proposed project.

5.4.2.12 Mineral Resources

There are no mineral resources located within the project site, and no mineral resources would be adversely affected under this alternative or the proposed project. As a result, this alternative would similarly result in no impacts to mineral resources.

5.4.2.13 Noise

Under the No Project Alternative, no construction activities would occur, and the site would remain undeveloped. There would be no noise associated with the construction and operation of the proposed project. The proposed project's potentially significant construction and operational noise impacts would be avoided under this alternative and implementation of Mitigation Measures NOI-1.1 and NOI-1.2 would not be required. In addition, the proposed project's construction and operational less than significant vibration impacts would be avoided under this alternative. With implementation of the No Project Alternative, there would be no impacts related to noise and, therefore, this alternative would result in fewer impacts when compared to the proposed project.

5.4.2.14 Population and Housing

Under this alternative population and housing would not be affected. This project would not displace any people or result in new residential units. As a result, this alternative would result in fewer impacts related to population and housing when compared to the proposed project.

5.4.2.15 Public Services

Under this alternative, the population of the project site would not change and there would be no increased demand for public services, including fire protection, police protection, public schools, parks and recreational facilities. The proposed project would increase the population of the project site, but a less-than-significant impact would occur. When compared to the proposed project, this alternative would result in fewer impacts because the population within the project site would not increase.

5.4.2.16 Recreation

Under this alternative, the land uses within the project site would not change and would not affect recreational facilities and open space. As a result, when compared to the proposed project, this alternative would result in fewer impacts related to construction and/or expansion of the recreational facilities.

5.4.2.17 Transportation

Under the No Project Alternative, no uses would be developed on the project site that would generate higher traffic levels that create and contribute to unsatisfactory level of service (LOS) conditions in roadways and contribute to cumulative VMT impacts in the City of Clovis and Fresno County. Therefore, implementation of the No Project Alternative would avoid the significant and unavoidable LOS and VMT impacts associated with the proposed project. Therefore, this alternative would result in fewer impacts when compared to the proposed project.

5.4.2.18 Tribal Cultural Resources

No construction or grading activities would take place on the project site under the No Project Alternative. Therefore, the proposed project's potential impacts that would result from construction at the project site, including potentially significant impacts related to disturbance of previously unknown tribal cultural resources would be avoided under this alternative and implementation of Mitigation Measures CUL-1 and CUL-2, which address impacts to previously unknown tribal cultural resources, would not be required. With implementation of the No Project Alternative, there would be no impacts to tribal cultural resources and, therefore, this alternative would result in fewer impacts when compared to the proposed project.

5.4.2.19 Utilities and Service Systems

Under this alternative, no land uses or physical changes would occur within the project site, and therefore, no increased demand for utilities and service systems, including water supply, wastewater, stormwater, and electricity, natural gas, and telecommunications would occur. The proposed project would include water service and wastewater services through connections to the City's systems to accommodate population increase in the project site. As a result, this alternative would result in fewer impacts to utilities when compared to the proposed project.

5.4.2.20 Wildfire

The project site is located in an area mapped by CAL FIRE as LRA Unzoned, indicating that the area is urbanized and not susceptible to wildland conflagrations, and is not located within a very high fire

hazard severity zone (VHFHSZ). Under this alternative, no changes to the existing uses within the project site would occur. Similar to the proposed project, this alternative would not exacerbate wildfire risks. Because the proposed project would result in physical changes to the project site and this alternative would not, this alternative would result in fewer impacts related to wildfire when compared to the proposed project.

5.4.3 Comparison to Project Objectives

As discussed above, the No Project Alternative would avoid all of the less than significant and significant unavoidable impacts of the proposed project. However, the No Project Alternative would also not achieve any of the objectives of the proposed project. The No Project Alternative would not provide residential housing opportunities that are visually attractive and accommodate future housing demand in Clovis; establish a mixture of housing types, sizes, and densities that collectively provide for local and regional housing demand; implement the City's General Plan Land Use Element goal to facilitate annexation of large areas of land; provide infrastructure that meets City Standards and is integrated with existing and planned facilities and connections; or develop a project that meets City Standards by implementing a logical phasing plan for development of public infrastructure improvements. As a result, this alternative would not meet any of the objectives of the proposed project.

5.5 ALTERNATIVE 2: REDUCED PROJECT ALTERNATIVE

The Reduced Project Alternative is being studied as a viable alternative to the proposed project in compliance with requirements of CEQA, and would involve reducing the size of the proposed project by reducing the proposed residential density of 8.25 DU/acre in the site to a density of 4.12 DU/acre. The Reduced Project Alternative would reduce the total proposed residential units from 590 to 295. Annexation of land to the City of Clovis, as well as other improvements, including site access and infrastructure improvements, would be the same as the proposed project.

5.5.1 Analysis of the Reduced Project Alternative

The potential impacts associated with the Reduced Project Alternative are described below.

5.5.1.1 Aesthetics

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. However, due to the reduced number of residential units proposed under this alternative, this alternative would result in less density within the project site. Similar to the proposed project, this alternative would change the land use within the project site and would result in changes to views, site character, and lighting. Although this alternative would not result in the same number of residential units as the proposed project, this alternative would result in similar, less-than-significant impacts to aesthetics.

5.5.1.2 Agriculture and Forestry Resources

Similar to the proposed project, this alternative would result in less than significant impacts related to the conversion of agricultural land to residential land use and potentially significant impacts related to cancellation of a Williamson Act contract. Implementation of Mitigation Measure AG-2

and Regulatory Measure AG-3 would be required. No forestry resources would be impacted by this alternative or the proposed project. Because this alternative would develop the entire site, similar to the proposed project, this project would result in a similar, less-than-significant impact to agriculture resources.

5.5.1.3 Air Quality

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. However, due to the reduced number of housing proposed under this alternative, this alternative may result in reduced construction and operational emissions, including those due to vehicle trips, compared to those under the proposed project. However, construction of the proposed project would still require implementation of SJVAPCD Regulation VIII dust control measures to reduce short-term construction period air quality impacts. Thus, this alternative would still require the implementation of regulatory compliance Measure AIR-2 to reduce the impact to less than significant level. All other air quality impacts would be reduced compared to those of the proposed project and would be less than significant. As a result, this alternative would result in fewer impacts when compared to the proposed project.

5.5.1.4 Biological Resources

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. Due to the reduced number of residential units proposed under this alternative, this alternative would result in reduced construction and operational emissions. However, construction of the proposed project would still result in ground-disturbing activities that could impact special-status species, federally protected wetlands and nesting birds. However, this alternative would implement Mitigation Measures BIO-1 through BIO-4 and Regulatory Compliance Measure BIO-1 to reduce potential impacts to less-than-significant levels. With implementation of this alternative, potential impacts to biological resources would occur and, therefore, this alternative would result in similar impacts when compared to the proposed project.

5.5.1.5 Cultural Resources

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. Due to the reduced number of residential units proposed under this alternative, this alternative would result in reduced construction and operational emissions. However, construction of the proposed project would still result in ground-disturbing activities that could impact previously unknown archaeological resources and human remains. However, this alternative would implement Mitigation Measures CUL-1 and CUL-2 to reduce potential impacts to less-than-significant levels. With implementation of this alternative, potential impacts to cultural resources would occur and, therefore, this alternative would result in similar impacts when compared to the proposed project.

5.5.1.6 Energy

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. However, due to the reduced number of housing proposed under this alternative, this alternative would result in reduced construction and operational energy use as a result of fewer mobile sources (e.g., cars, trucks, and buses) and less construction of

structures. As a result, this project would result in less energy consumption and fewer impacts when compared to the proposed project.

5.5.1.7 Geology and Soils

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. Due to the reduced number of residential units proposed under this alternative, this alternative would result in reduced construction and operational emissions. However, construction of the proposed project would still result in ground-disturbing activities that could impact previously unknown unique paleontological resources or unique geologic features. However, this alternative would implement Mitigation Measure GEO-1 to reduce potential impacts to less-than-significant levels. With implementation of this alternative, potential impacts to geology and soils would occur and, therefore, this alternative would result in similar impacts when compared to the proposed project.

5.5.1.8 Greenhouse Gas Emissions

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. However, due to the reduced number of housing proposed under this alternative, this alternative would result in reduced construction and operational GHG emissions, including those due to mobile sources (e.g., cars, trucks, and buses), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution). The Reduced Project Alternative would still require consistency with the 2022 Scoping Plan, which requires the project to implement design features to meet State GHG reduction and equity prioritization goals. As such, this alternative would still require implementation of Mitigation Measure GHG-1 to ensure consistency with the 2022 Scoping Plan and result in a less than significant impact with mitigation**.** All other GHG project and would be less than significant.

5.5.1.9 Hazards and Hazardous Materials

Similar to the proposed project, this alternative would include changes in land use that could result in the accidental release of, or exposure to, hazardous materials. Although the number of residential units would be less than the proposed project, potential impacts related to the use of solvents or fuels related to maintenance of operations would also occur. Therefore, this alternative would result in similar impacts when compared to the proposed project.

5.5.1.10 Hydrology and Water Quality

Under this alternative, the existing pervious surfaces and agricultural land would be altered with construction of residential units. Similar to the proposed project, the existing drainage patterns of the project site would be altered over the entire project site. In addition, this alternative would affect water quality standards and waste discharge requirements, and degrade surface or ground water quality. However, these impacts would be similar to the proposed project given disturbance of the project site. As a result, this alternative would result in similar, less than significant impacts related to hydrology and water quality when compared to the proposed project.

5.5.1.11 Land Use and Planning

Under this alternative, the land uses within project site would change to residential uses. However, similar to the proposed project this alterative would not divide an existing community or conflict with an existing land use plan. As a result, this alternative would result in similar impacts when compared to the proposed project.

5.5.1.12 Mineral Resources

There are no mineral resources within the project site, and no mineral resources would be adversely affected under this alternative or the proposed project. As a result, this alternative would similarly result in no impacts to mineral resources.

5.5.1.13 Noise

Construction activities under the Reduced Project Alternative would involve the use of generally the same types of construction equipment and vehicles as the proposed project, and construction activities would occur at the same distances from the nearest receptors as under the proposed project. As a result, the daily construction noise levels generated under this alternative would be comparable to that generated by the construction of the proposed project, and this alternative would also result in a potentially significant construction noise impacts at the nearby sensitive receptors. As such, Mitigation Measure NOI-1.1 would be required. However, because the number of total units included under this alternative would be smaller than the proposed project, the duration of construction would be reduced, and the duration of exposure to noise impacts would be slightly shorter. Additionally, the Reduced Project Alternative would reduce project-generated traffic noise compared to the proposed project, which would reduce impacts related to excessive interior noise levels in the project site. Implementation of Mitigation Measure NOI-1.2 could still be required to ensure the project complies with the City's interior noise standard of 45 dBA CNEL related to traffic-generated noise. In addition, as with the proposed project, construction and operational vibration impacts would be less than significant under this alternative. With implementation of this alternative, potential noise impacts would be fewer when compared to the proposed project, due to the reduced number of residential units proposed.

5.5.1.14 Population and Housing

Under this alternative population and housing would increase over the existing conditions of the project site, however this alternative would result in fewer residential units and less population, when compared to the proposed project. However, the proposed project would result in less-than-significant impacts to population and displacement of existing residents. As a result, this alternative would result in similar less than significant impacts related to population and housing when compared to the proposed project.

5.5.1.15 Public Services

Under this alternative, the population of the project site would be less than the proposed project. The proposed project would result in less-than-significant impacts resulting from increased demand for public services, including fire protection, police protection, public schools, parks and recreational facilities. Similar to the proposed project, population within the project site would increase,

however the population within the project site would not increase to the level of the proposed project, due to fewer residential units. Fewer units would also generate fewer financial resources for funding of said facilities, (school fees, development impact fees, Clovis Fire Department fees, and property taxes). Compared to the proposed project, this alternative would result in fewer impacts, because the population within the project site would be less than that of the proposed project.

5.5.1.16 Recreation

Under this alternative, fewer residential units would be constructed when compared to the proposed project. As a result, demand for recreational facilities and open space would increase over existing conditions but would result in less demand when compared to the proposed project. Fewer units would also generate fewer financial resources for funding of said facilities, (school fees, development impact fees, park fees, and property taxes). As a result, when compared to the proposed project, this alternative would result in fewer impacts related to construction and/or expansion of the recreational facilities.

5.5.1.17 Transportation

Under the Reduced Project Alternative, the project site would be developed at a lower residential density than what was proposed in the proposed project. As such, this alternative would generate lower traffic levels than those of the proposed project. However, the proposed project would still increase traffic levels in the nearby circulation system, which could potentially create and contribute to unsatisfactory LOS conditions in roadways in the City. Additionally, the Reduced Project Alternative would generate lower VMT than the proposed project due to reduced vehicle traffic. However, the Reduced Project Alternative would still contribute to cumulative VMT impacts in the City of Clovis and Fresno County. With implementation of the Reduced Project Alternative**, the significant unavoidable LOS and VMT impacts that would result from the proposed project could still occur, despite the reduction in traffic and VMT.** With implementation of this alternative, potential transportation impacts would be fewer when compared to the proposed project.

5.5.1.18 Tribal Cultural Resources

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. Due to the reduced number of residential units proposed under this alternative, this alternative would result in reduced construction and operational emissions. However, construction of the proposed project would still result in ground-disturbing activities that could impact previously unknown tribal cultural resources. However, this alternative would implement Mitigation Measures CUL-1 and CUL-2 to reduce potential impacts to less-than-significant levels. With implementation of this alternative, potential impacts to tribal cultural resources would occur and, therefore, this alternative would result in similar impacts when compared to the proposed project.

5.5.1.19 Utilities and Service Systems

Under this alternative, the land uses and physical changes would occur within the project site would be similar to the proposed project, and would increase the demand for utilities and service systems. However, because this alternative would include half as many residential units as the proposed project, the demand related to water supply, wastewater, stormwater, and electricity, and

telecommunications would be less than the proposed project. As a result, this alternative would result in fewer impacts to utilities and service systems when compared to the proposed project.

5.5.1.20 Wildfire

The project site is located in an area mapped by CAL FIRE as LRA Unzoned, indicating that the area is urbanized and not susceptible to wildland conflagrations, and is not within a VHFHSZ. Similar to the proposed project, this alternative would not exacerbate wildfire risks. Because this alternative would result in physical changes that would be similar to the proposed project, this alternative would result in similar less than significant impacts.

5.5.2 Comparison to Project Objectives

As discussed above, the Reduced Project Alternative would reduce the overall size of the project by reducing the density of residential uses in the project site. The Reduced Project Alternative would partially address the City of Clovis' future housing demand by providing a lower amount of visually attractive residential housing opportunities; partially meet local and regional housing demand by providing a single housing type, size and density; implement the City's General Plan Land Use Element goal to facilitate annexation of large areas of land; and provide integrated and planned infrastructure and logical phasing of public improvements in compliance with City Standards. However, because this alternative would provide half of the residential units and minimize mixture of housing types of the proposed project, this alternative would partially meet the objectives of the project.

5.6 ALTERNATIVE 3: INCREASED PHASE DENSITY ALTERNATIVE

The Increased Phase Density Alternative would involve focusing development of the proposed 590 single-family residences, but the development would occur in two, approximately 24-acre areas located in the southern and northern portions of the project site. The central portion of the project site, approximately 23 acres in size, would be developed as open space. Annexation of land to the City of Clovis would be the same as the proposed project. Location and design of vehicle access and infrastructure improvements to facilitate development in the two development areas would be similar to the proposed project.

5.6.1 Analysis of the Increased Phase Density Alternative

The potential impacts associated with Increased Phase Density Alternative are described below.

5.6.1.1 Aesthetics

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. This alternative would result in the massing of buildings on the northern and southern portions of the project site, but similarly to the proposed project, this alternative would change the land use within the project site and would result in changes to views, site character, and lighting. As a result, this alternative would result in similar, less-than-significant impacts to aesthetics.

5.6.1.2 Agriculture and Forestry Resources

Similar to the proposed project, this alternative would result in less than significant impacts related to the conversion of agricultural land to residential land use and potentially significant impacts related to the cancellation of a Williamson Act contract. Implementation of Mitigation Measure AG-2 and Regulatory Compliance Measure AG-3 would still be required. No forestry resources would be impact by this alternative or the proposed project. Because this alternative would develop the entire site with residential and open space uses, similar to the proposed project, this project would result in a similar, less-than-significant impact to agriculture resources.

5.6.1.3 Air Quality

Similar to the proposed project, the Increased Phase Density Alternative would involve construction and operational activities on the project site. This alternative would concentrate construction activities in specific locations of the project site, which would limit the spread of construction emissions. The Increased Phase Density Alternative would require constructing more houses per construction phase, but would limit the overall construction period for each phase compared to the proposed project. Operational emissions under this alternative, including those due to vehicle trips, would be similar to emissions under the proposed project as the number of proposed units under this alternative has not been reduced. Construction of the proposed project would still require implementation of SJVAPCD Regulation VIII dust control measures through implementation of Regulatory Compliance Measure AIR-2 to reduce short-term construction period air quality impacts. With implementation of this alternative, potential impacts resulting from construction would be reduced due to the reduction in the overall construction period. Therefore, this alternative would result in similar impacts when compared to the proposed project.

5.6.1.4 Biological Resources

Similar to the proposed project, the Increased Phase Density Alternative would involve construction and operational activities on the project site. Although this alternative would focus development of residential developments on the northern and portions of the project site, construction of the proposed project would still result in ground-disturbing activities that could impact special-status species, federally protected wetlands and nesting birds. This alternative would implement Mitigation Measures BIO-1 through BIO-4 and Regulatory Compliance Measure BIO-1 to reduce potential impacts to less-than-significant levels. With implementation of this alternative, potential impacts to biological resources would occur and, therefore, this alternative would result in similar impacts when compared to the proposed project.

5.6.1.5 Cultural Resources

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. Although this alternative would focus development of residential developments on the northern and portions of the project site, construction of the proposed project would still result in ground-disturbing activities that could impact previously unknown archaeological resources and human remains. This alternative would implement Mitigation Measures CUL-1 and CUL-2 to reduce potential impacts to less-than-significant levels. With implementation of this alternative, potential impacts to cultural resources would occur and, therefore, this alternative would result in similar impacts when compared to the proposed project.

5.6.1.6 Energy

Similar to the proposed project, this alternative would involve construction and operational activities on the project site that would result in the same number of residential units. This alternative would result in a reduced construction duration due to increased density on the northern and southern portions of the project site, resulting in lower construction energy impacts. However, as this alternative would introduce the same number of residential units and mobile sources (e.g., cars, trucks, and buses) to the project site as the proposed project, operational energy impacts under this alternative would be similar to the proposed project. As a result, this project would result in less energy consumption and fewer impacts when compared to the proposed project.

5.6.1.7 Geology and Soils

Similar to the proposed project, the Increased Phase Density Alternative would involve construction and operational activities on the project site. Although this alternative would focus development of residential units on the northern and portions of the project site, construction of the proposed project would still result in ground-disturbing activities that could impact previously unknown unique paleontological resources or unique geologic features. This alternative would implement Mitigation Measure GEO-1 to reduce potential impacts to less-than-significant levels. With implementation of this alternative, potential impacts to geology and soils would occur and, therefore, this alternative would result in similar impacts when compared to the proposed project.

5.6.1.8 Greenhouse Gas Emissions

Similar to the proposed project, the Increased Phase Density Alternative would involve construction and operational activities on the project site. The higher density of development proposed in this alternative would result in reduced operational GHG emissions. However, the Increased Phase Density Alternative would still require consistency with the 2022 Scoping Plan, which requires the project to implement design features to meet State GHG reduction and equity prioritization goals. As such, this alternative would still require implementation of Mitigation Measure GHG-1 to ensure consistency with the 2022 Scoping Plan and result in a less than significant impact with mitigation. All other GHG impacts would be fewer compared to those of the proposed project and would be less than significant.

5.6.1.9 Hazards and Hazardous Materials

Similar to the proposed project, this alternative would include changes in land use that could result in the accidental release of, or exposure to, hazardous materials would remain the same. Because the number of residential units would be the same as the proposed project, potential impacts related to the use of solvents or fuels related to maintenance of operations would also occur. Therefore, this alternative would result in similar impacts when compared to the proposed project.

5.6.1.10 Hydrology and Water Quality

Under this alternative, the existing pervious surfaces and agricultural land would be altered with construction of residential units. Similar to the proposed project, the existing drainage patterns of the project site would be altered over the entire project site. In addition, this alternative would

affect water quality standards and waste discharge requirements and degrade surface or ground water quality. These impacts would be similar to the proposed project given disturbance of the project site. As a result, this alternative would result in similar impacts related to hydrology and water quality when compared to the proposed project.

5.6.1.11 Land Use and Planning

Under this alternative, the land uses within project site would change to residential uses. However, similar to the proposed project this alterative would not divide an existing community or conflict with an existing land use plan. As a result, this alternative would result in similar less than significant impacts when compared to the proposed project.

5.6.1.12 Mineral Resources

There are no mineral resources located within the project site, and no mineral resources would be adversely affected under this alternative or the proposed project. As a result, this alternative would similarly result in no impacts to mineral resources.

5.6.1.13 Noise

Construction activities under the Increased Phase Density Alternative would involve the use of generally the same types of construction equipment and vehicles as the proposed project, and construction activities would occur at the same distances from the nearest receptors as under the proposed project. Although, the daily construction noise levels generated under this alternative would be comparable to that generated by the construction of the proposed project, this alternative would result in shorter overall construction period, which would reduce the duration of noise-generating construction. Although Mitigation Measure NOI-1.1 would be required, construction would not require as much time to be completed. The Increased Phase Density Alternative would have similar levels of project-generated traffic compared to the proposed project but concentrated in smaller areas. As such, implementation of Mitigation Measure NOI-1.2 would still be required to ensure the project complies with the City's interior noise standard of 45 dBA CNEL. In addition, as with the proposed project, construction and operational vibration impacts would be less than significant under this alternative. With implementation of this alternative, potential noise impacts would be fewer when compared to the proposed project.

5.6.1.14 Population and Housing

Under this alternative population and housing would increase over the existing conditions of the project site, and would result in the same number of residential units as the proposed project. The proposed project would result in less-than-significant impacts to population and displacement of existing residents. As a result, this alternative would result in similar impacts related to population and housing when compared to the proposed project.

5.6.1.15 Public Services

Under this alternative, the population of the project site would be similar to the proposed project. The proposed project would result in less-than-significant impacts resulting from increased demand for public services, including fire protection, police protection, public schools, parks and recreational

facilities. When compared to the proposed project, this alternative would result in similar impacts less-than-significant impacts to population and housing.

5.6.1.16 Recreation

When compared to the proposed project, this alternative would result in the same number of residential units and comparable population increase. As a result, demand for recreational facilities and open space would increase over existing conditions and would be similar to the proposed project. As a result, when compared to the proposed project, this alternative would result in similar impacts related to construction and/or expansion of the recreational facilities.

5.6.1.17 Transportation

Under the Increased Phase Density Alternative, portions of the project site would be developed at a higher residential density than what was proposed in the proposed project, but the same number of residential units would be constructed. The proposed project would increase traffic levels in the nearby circulation system, which could potentially create and contribute to unsatisfactory LOS conditions in roadways in the City. Therefore, with implementation of the Increased Phase Density Alternative, **the significant and unavoidable LOS impact that would result from the proposed project could still occur**. In addition, when compared to the proposed project, this alternative would result in similar VMT significant and unavoidable impacts given the proposed land uses and location relative to other land uses. Impacts related to incompatible uses, geometric design features and emergency access would be less than significant similar to the proposed project. Therefore, this alternative would result in similar impacts when compared to the proposed project.

5.6.1.18 Tribal Cultural Resources

Similar to the proposed project, the Increased Phase Density Alternative would involve construction and operational activities on the project site. Although this alternative would focus development of residential units on the northern and southern portions of the project site, construction of the proposed project would still result in ground-disturbing activities that could impact previously unknown tribal cultural resources. This alternative would implement Mitigation Measures CUL-1 and CUL-2 to reduce potential impacts to less-than-significant levels. With implementation of this alternative, potential impacts to tribal cultural resources would occur and, therefore, this alternative would result in similar impacts when compared to the proposed project.

5.6.1.19 Utilities and Service Systems

Under this alternative, the land uses and physical changes would occur within the project site would be similar to the proposed project, and would increase the demand for utilities and service systems. As a result, demand related to water supply, wastewater, stormwater, and electricity, natural gas, and telecommunications, would be similar to the proposed project. As a result, this alternative would result in similar impacts to utilities and service systems when compared to the proposed project.

5.6.1.20 Wildfire

The project site is in an area mapped by CAL FIRE as Local Responsibility Area (LRA) Unzoned, indicating that the area is urbanized and not susceptible to wildland conflagrations, and is not within a very high fire hazard severity zone (VHFHSZ). Similar to the proposed project, this alternative would not exacerbate wildfire risks. Because this alternative would result in physical changes that would be similar to the proposed project, this alternative would result in similar impacts.

5.6.2 Comparison to Project Objectives

As discussed above, the Increased Phase Density Alternative would build 590 single-family residential units in a smaller area within the project site than what is proposed in the proposed project, increasing residential density in the site. The Increased Phase Density Alternative would accommodate future housing demands in Clovis by providing visually attractive single-family residences; partially provide for local and regional housing demand by establishing a single housing type, size, and density to accommodate higher residential density on the project site. Additionally, this alternative implements the City's General Plan Land Use Element goal to facilitate annexation of large areas of land; and provides integrated and planned infrastructure and logical phasing of public improvements in compliance with City Standards. Because this alternative would provide the same number of units, but would minimize mixture of housing types included in the proposed project, this alternative would partially meet the objectives of the project.

5.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Based on the alternatives analysis, of the alternatives analyzed, the No Project Alternative would have the fewest impacts and would be the environmentally superior alternative. Under CEQA, if the No Project Alternative is the environmentally superior alternative, the EIR must identify an environmentally superior alternative from among the other alternatives (*State CEQA Guidelines* Section 15126.6(e)(2)). Table 5.A provides, in summary format, a comparison of the level of impacts for each alternative to the proposed project.

The Reduced Project Alternative would have less than significant impacts in most resource topics that would be comparable to the proposed project. The alternative would have potentially reduced construction-phase air quality, and reduced operational-phase air quality, noise, GHG impacts, and transportation due to reduced development on the project site. Therefore, the Reduced Project Alternative is considered the environmentally superior alternative.

Table 5.A: Comparison of the Environmental Impacts of the Proposed Project to the Project Alternatives

Environmental Topic	Proposed Project Level of Impact After Mitigation	Alternative 1: No Project Alternative	Alternative 2: Reduced Project Alternative	Alternative 3: Increased Phase Density Alternative
Aesthetics	Less than Significant	Fewer	Similar	Similar
Agricultural Resources	Less than Significant	Fewer	Similar	Similar
Air Quality	Less than Significant	Fewer	Fewer	Similar
Biological Resources	Less than Significant	Fewer	Similar	Similar
Cultural Resources	Less than Significant	Fewer	Similar	Similar
Energy	Less than Significant	Fewer	Fewer	Fewer
Geology and Soils	Less than Significant	Fewer	Similar	Similar
Greenhouse Gas Emissions	Less than Significant	Fewer	Fewer	Fewer
Hazards and Hazardous Materials	Less than Significant	Fewer	Similar	Similar
Hydrology and Water Quality	Less than Significant	Fewer	Similar	Similar
Land Use and Planning	Less than Significant	Similar	Similar	Similar
Mineral Resources	Less than Significant	Similar	Similar	Similar
Noise	Less than Significant	Fewer	Fewer	Fewer
Population and Housing	Less than Significant	Fewer	Similar	Similar
Public Services	Less than Significant	Fewer	Fewer	Similar
Recreation	Less than Significant	Fewer	Fewer	Similar
Transportation	Significant Unavoidable	Fewer	Fewer, Significant Unavoidable	Similar, Significant Unavoidable
Tribal Cultural Resources	Less than Significant	Fewer	Similar	Similar
Utilities and Service Systems	Less than Significant	Fewer	Fewer	Similar
Wildfire	Less than Significant	Fewer	Similar	Similar
Attainment of Project Objectives	Meets all of the Project Objectives	Meets none of the Project Objectives	Partially Meets the Project Objectives	Partially Meets the Project Objectives

Source: Compiled by LSA (May 2023).
Fewer = Fewer impacts than the proposed project
Similar = Similar impacts to the proposed project

6.0 CEQA-REQUIRED ASSESSMENT CONCLUSIONS

Section 15126 of the California Environmental Quality Act (CEQA) Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. This chapter provides an overview of the potential impacts resulting from the implementation of the proposed project based on the analyses presented in the Initial Study prepared for the proposed project, and Chapter 4.0, Evaluation of Environmental Impacts, of this EIR. The topics covered in this chapter include impacts found not to be significant, growth inducement, significant and unavoidable impacts, and significant irreversible changes. A more detailed analysis of the effects the proposed project would have on the environment and proposed mitigation measures to minimize significant impacts are provided in Sections 4.1 through 4.5 of this EIR.

6.1 GROWTH INDUCEMENT

Section 15126.2(d) of the *State CEQA Guidelines* requires that an EIR discuss the ways in which a proposed project or the construction of additional housing, either directly or indirectly, could foster economic or population growth in the surrounding environment. Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or industrial parks in areas that are only sparsely developed or are underdeveloped. Typically, development projects on sites that are designated for development and surrounded by existing suburban uses are not considered adversely growth-inducing because growth in areas that already have development and infrastructure available to serve new development are generally considered environmentally beneficial. This section evaluates the potential of the proposed project to create such growth inducements. Not all aspects of growth inducement are negative; rather, negative impacts associated with growth inducement occur only where the growth associated with the proposed project would cause adverse environmental impacts.

As described in Section 3.14, Population and Housing, of the Initial Study prepared for this EIR, implementation of the proposed project would not exceed the City's projections for population growth in the project site, as the project site is located within the Heritage Grove Area, a planned growth area identified in the General Plan. As such, additional housing units and population resulting from implementation of the proposed project have been anticipated by the City and do not exceed projections of the City. Additionally, employment growth resulting from the proposed project would occur only temporarily due to construction activities. Therefore, the proposed project would not induce substantial unplanned population growth in an area, either directly or indirectly, and this impact would be considered less than significant.

As discussed in Section 3.15, Public Services, and Section 3.19, Utilities and Service Systems, of the Initial Study, the project site would be served by the City's public service or utility providers, including police protection services, fire prevention services, water, wastewater, telecommunications, electricity, and natural gas. The proposed project includes physical improvements to accommodate growth which would create an increased demand for public services and utilities within the project site. As the project site is currently not annexed to the City, the

Project Applicant would be required to complete the annexation process with the Fresno County Local Agency Formation Commission and the City, and pay required processing fees for the annexation process. Once the project site is annexed into the City, to address impacts to public services and utilities, the Project Applicant would be required to pay applicable impact fees in effect at the time the development application for the proposed project is submitted. City staff would review the site plan for the project to ensure the adequate provision of public services and utilities. As the project site is located within the Heritage Grove Area, a planned growth area identified in the General Plan, and installation of infrastructure and provision of services would accommodate planned growth in the project site, the provision of services and construction of utilities' infrastructure for the proposed project would not induce substantial unplanned population growth in an area, either directly or indirectly, and this impact would be less than significant.

Development of the proposed project would involve construction activities that could generate some temporary employment opportunities. However, given the temporary nature of such opportunities, it is unlikely that construction workers would need to relocate to the City a as a result of the proposed project. Thus, the proposed project would not be considered growth-inducing from an employment perspective.

6.2 SIGNIFICANT IRREVERSIBLE CHANGES

Section 15126.2(d) of the *State CEQA Guidelines* requires an EIR to discuss the extent to which the proposed project would commit nonrenewable resources to uses that future generations would probably be unable to reverse. The three CEQA-required categories of irreversible changes are discussed below.

6.2.1 Changes in Land Use Which Commit Future Generations

The proposed project would involve the development of land in the project site currently used for agricultural production. Although the proposed development would commit future generations to using the project site for developed uses rather than agricultural purposes, such a commitment is consistent with planned residential uses for the project site, as identified in the City's General Plan. The General Plan has anticipated development in the project site that commits future generations, which was assessed under the General Plan EIR; the proposed project merely implements and carries out the vision of the General Plan.

6.2.2 Irreversible Damage from Environmental Accidents

Demolition and construction activities associated with implementation of the proposed project would involve some risk for environmental accidents. However, as discussed in Section 3.9, Hazards and Hazardous Materials, of the Initial Study, accidental spills and soil contamination would be addressed by City, State, and federal agencies, and would follow professional industry standards for safety and construction. Although there is a possibility for contaminated soil to be encountered during grading, excavation, and/or ground disturbance associated with implementation of the proposed project, it is likely that such contamination may have resulted from agricultural operations within the project site. However, the risks of accidental contamination from handling construction materials or transport of these materials off site would be reduced to a less-than-significant level through compliance with the many federal, State, and local regulations regarding the handling and

disposal of such construction materials. Additionally, the residential land use proposed by the proposed project would not include any uses or activities that are likely to contribute to or be the cause of a significant environmental accident, such as industrial-related spills or leaks. As a result, the proposed project would not pose a substantial risk of environmental accidents.

6.2.3 Consumption of Non-Renewable Resources

Consumption of non-renewable resources includes issues related to increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. The proposed project would require water, and electricity service, as well as additional resources for construction. Construction and ongoing maintenance would irreversibly commit some materials and non-renewable energy resources. Materials and resources used during implementation of the proposed project would include, but are not limited to, non-renewable and limited resources such as oil, gasoline, sand, gravel, asphalt, and steel. These materials and energy resources would be used for infrastructure development, transportation of people and goods, and utilities. During the operational phase of the proposed project, energy sources including oil and gasoline would be used for lighting, heating, and cooling of residences, as well as transportation of people to and from the project site.

As discussed in Section 3.6, Energy, of the Initial Study, the projected electricity demands of the proposed project would be consistent with typical usage rates for residential uses in the City of Clovis, and would not result in a significant adverse impact related to the provision of electricity. In addition, the proposed project would comply with Title 24 of the California Code of Regulations (CCR) that requires conservation practices that would limit the amount of energy (California Energy Code Building Energy Efficiency Standards [Title 24, Part 6]) consumed through implementation of the proposed project. With the development of more cost-effective and accessible technologies, pursuant to the Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608), dependence on non-renewable resources used in association with future development envisioned under the proposed project may also be reduced. Furthermore, the proposed project would be required to undergo project-specific analysis (as required by CEQA) and comply with all California Green Building Standards Code (CALGreen Code) building efficiency standards (Title 24, Part 11) and mandatory residential building requirements in the California Energy Code Building Energy Efficiency Standards (Title 24, Part 6) (as required by State law). Additionally, resources that would be used during the operation of the proposed project would be similar to those currently consumed within the City. Nevertheless, the use of such resources would continue to represent a long-term commitment of essentially non-renewable or slowly renewable resources.

Implementation of the proposed project would also result in an increased demand for potable water and generation of wastewater. As discussed in Section 3.10, Hydrology and Water Quality, and Section 3.19 Utilities and Service Systems, the project is consistent with growth under the City's General Plan and covered under the City's 2020 Urban Water Management Plan Update. The proposed project would have sufficient water supplies available to meet future demand during normal, dry and multiple dry years. The adequacy of the water supply for the project is thus consistent with the basis of the analysis of the City's water supply in the adopted 2020 Urban Water Management Plan Update.

Although the construction and ongoing operation of the proposed project would involve the use of non-renewable resources, through the inclusion of energy-conserving features of the proposed project, and compliance with applicable standards and regulations, the proposed project would not represent an unjustified use of such non-renewable resources.

6.3 SIGNIFICANT UNAVOIDABLE IMPACTS

The environmental effects of the proposed project, along with recommended mitigation measures, are discussed in detail in Section 4.0, Evaluation of Environmental Impacts, and summarized in the Executive Summary. The following environmental issues were determined to result in less-than-significant impacts, or can be reduced to less-than-significant levels with the incorporation of mitigation measures:

- Aesthetics
- Agricultural Resources (mitigation required)
- Air Quality
- Biological Resources (mitigation required)
- Cultural Resources (mitigation required)
- Energy
- Geology and Soils (mitigation required)
- Greenhouse Gas Emissions (mitigation required)
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise (mitigation required)
- Population and Housing
- Public Services
- Recreation
- Tribal Cultural Resources (mitigation required)
- Utilities and Service Systems
- Wildfire

Section 15126.2(c) of the *State CEQA Guidelines* requires that an EIR describe any significant impacts, including those that can be mitigated but not reduced to less than significant levels, as a result of implementation of the project. The following environmental issues were determined to result in potential significant and unavoidable impacts, even after implementation of feasible mitigation.

- Transportation – potentially exceed thresholds of levels of service on roadways in conflict with approved General Plan and increase in VMT.

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