Exhibit F-1
Draft Environmental Impact Report

PUBLIC REVIEW DRAFT

ENVIRONMENTAL IMPACT REPORT

2740 WEST NIELSEN AVENUE OFFICE/WAREHOUSE PROJECT

FRESNO, CALIFORNIA

LSA

February 2023

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ENVIRONMENTAL IMPACT REPORT

2740 WEST NIELSEN AVENUE OFFICE/WAREHOUSE PROJECT

FRESNO, CALIFORNIA

Submitted to:

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1.0 INTRODUCTION

1.1 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 proposed 2740 West Nielsen Office/Warehouse Project (Development Permit Application No. P21-02699 and Tentative Parcel Map Application No. P21 05930) (herein referred to as the proposed project) for the City of Fresno. 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 Fresno (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 Fresno, 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.

1.2 ENVIRONMENTAL REVIEW PROCESS

The City of Fresno, 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 Fresno Planning Commission and City Council 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.

1.3 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 Fresno 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…" The EIR would identify potentially substantial physical effects of the project and mitigation measures to avoid, reduce, or otherwise alleviate those effects.

1.4 PROPOSED PROJECT

The proposed project would result in the construction of four office/warehouse buildings that would be configured for heavy industrial uses by tenants that have not been identified. The proposed buildings would result in a total gross floor area of approximately 901,438 square feet. The buildings' exterior would be up to 44 feet high with an interior height of up to 36 feet and designed with a total of 201 loading dock doors on the north and south sides of the buildings. The four buildings would be comprised of the following: Building 1 would be 468,812 square feet and would provide 122 loading dock doors; Building 2 would be 248,786 square feet and would provide 46 loading dock doors; Building 3 would be 93,074 square feet and would provide 18 loading dock doors; and Building 4 would be 90,766 square feet and would provide 15 loading dock doors. The proposed project would also subdivide the project site into four separate parcels and would consist of each proposed building on a separate parcel.

A total of 594 on-site parking spaces would be provided for vehicles and trucks. Of the 594 parking spaces, 385 spaces would be dedicated for standard vehicles, 11 spaces would be dedicated for accessible standard vehicles, and 10 spaces would be dedicated for accessible vans. The remaining 188 spaces would be dedicated for trailers and would be located along the eastern and western edges of the project site and would be located behind two 8-foot-tall gates, which would be installed to separate the general parking area from the truck storage and dock loading area.

1.5 EIR SCOPE

A Notice of Preparation (NOP) of the EIR was circulated for 30 days on September 9, 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 September 22, 2022. A total of seven comment letters regarding the NOP were received, and no verbal comments were provided at the scoping session. Copies of the NOP and the comment letters are included in Appendix A.

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

- Agriculture and Forestry Resources
- Geology and Soils
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Wildfire

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

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation
- Utilities and Service Systems

1.6 REPORT ORGANIZATION

This EIR is organized into the following chapters:

- **Chapter 1.0 – 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 2.0 - 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 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, references used, and the persons and organizations contacted.

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

1.7 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 Fresno 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 45-day public review and comment period for this project began on February 24, 2023 and will end on April 10, 2023.

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 Fresno Planning Commission and City Council. Written comments should be delivered in person or by courier service, or be sent by mail or email to:

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2.0 EXECUTIVE SUMMARY

This chapter provides an overview of the purpose of this Environmental Impact Report (EIR), the 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 the California Environmental Quality Act (CEQA), this chapter also includes potential areas of public controversy known to the City of Fresno, the lead agency for the proposed project.

2.1 PURPOSE

This Draft EIR has been prepared in accordance with CEQA to evaluate the potential environmental impacts associated with the proposed 2740 West Nielsen Office/Warehouse Project (Development Permit Application No. P21-02699 and Tentative Parcel Map Application No. P21 05930). This EIR has been prepared in conformance with CEQA, California Public Resources Code Section 21000 et seq; the *State 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 Fresno (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 Fresno, 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.

2.2 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 subsequent projects.

2.2.1 Project Location

The City of Fresno is located in the San Joaquin Valley, in the central portion of Fresno County. The approximately 48.03-acre project site is located in the City of Fresno, on the northeast corner of the intersection of North Marks Avenue and West Nielsen Avenue, and is located on Assessor's Parcel Number (APNs) 458-020-71 and 458-020-72. The project site itself is generally bounded to the north

by vacant, undeveloped land and industrial uses, to the east by North Hughes Avenue, to the south by West Nielsen Avenue, and to the west by North Marks Avenue.

2.2.2 Project Description

The project would result in the construction of four office/warehouse buildings that would be configured for heavy industrial uses by tenants that have not been identified. The proposed buildings would result in a total gross floor area of approximately 901,438 square feet. The buildings' exterior would be up to 44 feet high with an interior height of up to 36 feet and designed with a total of 201 loading dock doors on the north and south sides of the buildings. The four buildings would be comprised of the following: Building 1 would be 468,812 square feet and would provide 122 loading dock doors; Building 2 would be 248,786 square feet and would provide 46 loading dock doors; Building 3 would be 93,074 square feet and would provide 18 loading dock doors; and Building 4 would be 90,766 square feet and would provide 15 loading dock doors. A total of 594 on-site parking spaces would be provided for vehicles and trucks.

2.2.3 Project Objectives

The objectives of the proposed project are to:

- Provide industrial warehousing consistent with the General Plan land use and zoning designation and that helps fulfil the unmet demands of businesses located in the City;
- Provide a variety of new employment opportunities for the residents of Fresno and surrounding communities;
- Provide new industrial development that is attractive and minimizes conflicts with the surrounding existing uses; and
- Promote sustainable development and operations.

2.2.4 Significant Unavoidable Adverse Impacts

The proposed project is not expected to result in any significant unavoidable adverse impacts.

2.2.5 Lead Agency and Trustee Agencies

The lead agency for the proposed project is the City of Fresno. 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 Fresno 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 subsequent projects:

- Pacific Gas & Electric (PG&E), electrical and natural gas connection
- Central Valley Regional Water Quality Control Board (RWQCB) Storm Water Pollution Prevention Plan
- San Joaquin Valley Air Pollution Control District (SJVAPCD) (e.g., Dust Control Plan Approval letter and compliance with Rule 9510 – Indirect Source Review)

2.3 AREAS OF CONTROVERSY

A total of seven written comment letters were submitted in response to the Notice of Preparation (NOP). No verbal comments were received at the public scoping session held on September 22, 2022. Comments in response to the NOP generally identified the following areas of potential concern:

- The project's potential to affect aesthetics in the area, including increased lighting and truck traffic.
- Incorporation of mitigation measures, including using zero-emission vehicles and equipment, installing light shields and anti-glare lighting, hiring employees from the surrounding neighborhood, avoiding asphalt, evaluating truck routing, and implementing vegetative buffers.
- Evaluation of project construction and operational emissions and reducing impacts by utilizing the cleanest available off-road construction equipment and incorporation of design elements such as the use of cleaner heavy heavy-duty (HHD) trucks and vehicles, measures that reduce vehicle miles traveled (VMTs), and measures that increase energy efficiency.
- 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.
- The project's contribution to heat island effect.
- Consideration of existing environmental conditions, including CalEnviroScreen scores.
- Tribal consultation requirements and the potential for the project to affect tribal cultural resources.
- Consistency with the Airport Land Use Plan and accommodation of emergency aircraft landings.
- Fresno Metropolitan Flood Control District review and approval of the final improvement plans to ensure consistency with the approved Storm Drainage Master Plan and payment of drainage fees.

- Availability of fire access and water service connections for private fire hydrants and fire sprinkler systems.
- Increase in water used, wastewater generated, and pollutants emitted near residents.
- 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.
- Suggested other locations for the project.

The analyses included in the EIR are based on current regulatory requirements, including the current *State CEQA Guidelines*. Comments related to lighting aesthetics were considered and addressed in Section 4.1, Aesthetics. An evaluation of the project's construction and operational emissions, health risk impacts, existing environmental conditions, and heat island effect were considered and addressed in Section 4.2, Air Quality. Comments pertaining to tribal cultural resources were considered and addressed in Section 4.4, Cultural and Tribal Cultural Resources. The project's consistency with the Airport Land Use Plan was considered and addressed in Section 4.7, Hazards and Hazardous Materials. Drainage impacts, availability of water service, and increase in water and wastewater used were considered and addressed in Section 4.8, Hydrology and Water Quality, and Section 4.11, Utilities and Service Systems. Potential VMT impacts were considered and addressed in Section 4.10, 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.

2.4 SUMMARY OF IMPACTS AND MITIGATION MEASURES

This summary provides an overview of the analysis contained 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, based on the preliminary analysis conducted within the Initial Study, the City determined that the following environmental resource topics would be potentially significant and would be analyzed in detail for the proposed project: Aesthetics, Air Quality, Biological Resources, Cultural and Tribal Cultural Resources, Energy, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Utilities and Service Systems. 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: Agriculture and Forestry Resources, Geology and Soils, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, and Wildfire.

2.4.1 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, Aesthetics; Section 4.2, Air Quality; Section 4.3, Biological Resources; Section 4.4, Cultural and Tribal Cultural Resources; Section 4.7, Hazards and Hazardous Materials; and Section 4.9, Noise.

2.4.2 Significant Unavoidable Impacts

The project would not result in any significant and unavoidable impacts.

2.4.3 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. All cumulative impacts of the proposed project would be individually limited and would not make a cumulatively considerable contribution to cumulative impacts.

2.4.4 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. The *State CEQA Guidelines* state that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative."

The two 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 continue to be vacant. No modifications to existing site access or infrastructure would occur.

- **Reduced Project Alternative.** The Reduced Project Alternative would reduce the size of Building 1 to 250,956 square feet and the project total square footage would be reduced to 683,582 square feet. The building would have similar site access and infrastructure improvements 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.

2.5 EXECUTIVE SUMMARY MATRIX

Table 2.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 prepared for this EIR, and in this Draft EIR. Table 2.A is intended to provide an overview; narrative discussions for the issue areas included in the corresponding sections of this Draft EIR. Table 2.A is included in the Draft EIR pursuant to CEQA Guidelines Section 15123(b)(1).

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.1: AESTHETICS			
Threshold 4.1.1: *The proposed project would not have a substantial adverse effect on a scenic vista.*	Less than Significant Impact.	No mitigation is required.	N/A
Threshold 4.1.2: *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.	N/A
Threshold 4.1.3: *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.	N/A
Threshold 4.1.4: *The project would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.*	Potentially Significant Impact.	**Mitigation Measure AES-1:** Lighting systems for street and parking areas shall include shields to direct light to the roadway surfaces and parking areas. Vertical shields on the light fixtures shall also be used to direct light away from adjacent light sensitive land uses such as residences. **Mitigation Measure AES-2:** Lighting systems for public facilities such as active play areas shall provide adequate illumination for the activity; however, low intensity light fixtures and shields shall be used to minimize spillover light onto adjacent properties. **Mitigation Measure AES-3:** Lighting systems for non-residential uses, not including public facilities, shall provide shields on the light fixtures and orient the lighting system away from adjacent properties. Low intensity light fixtures shall also be used if excessive spillover light onto adjacent properties will occur. **Mitigation Measure AES-4:** Lighting systems for freestanding signs shall not exceed 100 foot Lamberts (FT-L) when adjacent to streets which have an average light intensity of less than 2.0 horizontal	Less than Significant with implementation of Mitigation Measures AES-1 through AES-5.

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		footcandles and shall not exceed 500 FT-L when adjacent to streets which have an average light intensity of 2.0 horizontal footcandles or greater. **Mitigation Measures AES-5**: Materials used on building facades shall be non-reflective.	
Threshold 4.1.5: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to aesthetics.*	Potentially Significant Impact.	Refer to Mitigation Measures AES-1 through AES-5 above.	Less than Significant with implementation of Mitigation Measures AES-1 through AES-5.
4.2: AIR QUALITY			
Threshold 4.2.1: *The project would not conflict with or obstruct implementation of the applicable air quality plan*	Potentially Significant Impact.	Refer to Mitigation Measure AIR-1 below.	Less than Significant with implementation of Mitigation Measure AIR-1.
Threshold 4.2.2: *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.*	Potentially Significant Impact.	**Mitigation Measure AIR-1:** 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.	Less than Significant with implementation of Mitigation Measure AIR-1.

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• 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.	
Threshold 4.2.3: *Implementation of the proposed project would expose sensitive receptors to substantial pollutant concentrations.*	Potentially Significant Impact.	**Mitigation Measure AIR-2**: During construction of the proposed project, the project contractor shall ensure all off-road diesel-powered construction equipment of 50 horsepower or more used for the project construction at a minimum meets the California Air Resources Board Tier 4 emissions standards or equivalent. **Mitigation Measure AIR-3**: The project applicant shall ensure that the proposed project provides the infrastructure for AC and/or DC chargers for electric heavy-duty trucks. The infrastructure provided shall accommodate a minimum of one future charger per 50,000 square feet.	Less than Significant with implementation of Mitigation Measures AIR-2 and AIR-3.
Threshold 4.2.4: *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.	N/A
Threshold 4.2.5: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to air quality.*	Potentially Significant Impact.	Refer to Mitigation Measures AIR-1 through AIR-3 above.	Less than Significant with Mitigation Measures AIR-1 through AIR-3.
4.3: BIOLOGICAL RESOURCES			
Threshold 4.3.1: *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*	Potentially Significant Impact.	**Mitigation Measure BIO-1:** If project construction activities occur during nesting season (between February 1 and August 31), a qualified biologist shall conduct pre-construction surveys for active migratory bird nests at the project site within 14 days of the onset of these activities. Should any active nests be discovered in or near proposed construction zones, the biologist shall identify a suitable	Less than Significant with implementation of Mitigation Measure BIO-1

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
of Fish and Wildlife or U.S. Fish and Wildlife Service.		construction-free buffer around the nest. This buffer shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the young have fledged.	
Threshold 4.3.2: *The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community.*	No Impact.	No mitigation is required.	N/A
Threshold 4.3.3: *The project would not 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.*	No Impact.	No mitigation is required.	N/A
Threshold 4.3.4: *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 migratory wildlife corridors, or impede the use of native wildlife nursery sites.*	Less Than Significant Impact.	No mitigation is required.	N/A
Threshold 4.3.5: *The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*	No Impact.	No mitigation is required.	N/A
Threshold 4.3.6: *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.	N/A
Threshold 4.3.7: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to biological resources.*	Potentially Significant Impact.	Refer to Mitigation Measure BIO-1 above.	Less than Significant with implementation of Mitigation Measure BIO-1.

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.4: CULTURAL AND TRIBAL RESOURCES			
Threshold 4.4.1: *The project would cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines.*	Potentially Significant Impact.	Refer to Mitigation Measure CUL-1 below.	Less than Significant with implementation of Mitigation Measure CUL-1.
Threshold 4.4.2: *The project would cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5 of the CEQA Guidelines.*	Potentially Significant Impact.	**Mitigation Measure CUL-1:** If previously unknown resources are encountered before or during any ground disturbing activities, construction shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist shall make recommendations to the City 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 and the City's Historic Preservation Ordinance. If the resources are determined to be unique archeological resources as defined under Section 15064.5 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 the site in green space, parks, or open space, or data recovery excavations of the finds. No further ground disturbing activity shall occur in the area of the discovery until the lead agency approves the measures to protect identified resources. Any significant or unique recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.	Less than Significant with implementation of Mitigation Measure CUL-1.
Threshold 4.4.3: *The project would disturb 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 (HSC) Section 7050.5, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC	Less than Significant with implementation of Mitigation Measure CUL-2.

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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 descendent 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 landowner 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 landowner has discussed and conferred with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.	
Threshold 4.4.4: *The project would result in a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 value to a California Native American tribe.*	Potentially Significant Impact.	Refer to Mitigation Measure CUL-1 above.	Less than Significant with implementation of Mitigation Measure CUL-1.
Threshold 4.4.5: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to cultural resources.*	Potentially Significant Impact.	Refer to Mitigation Measures CUL-1 and CUL-2 above.	**Less than Significant with implementation of Mitigation Measures CUL-1 and CUL-2.**
4.5: ENERGY			
Threshold 4.5.1: *The project would not result in 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.	N/A

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Threshold 4.5.2: *The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.*	Less than Significant Impact.	No mitigation is required.	N/A
Threshold 4.5.3: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would not contribute to a significant cumulative impact with respect to aesthetics.*	Less than Significant Impact.	No mitigation is required.	N/A
4.6: GREENHOUSE GAS EMISSIONS			
Threshold 4.6.1: *The project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*	Less than Significant Impact.	No mitigation is required.	N/A
Threshold 4.6.2: *The project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*	Less than Significant Impact.	No mitigation is required.	N/A
Threshold 4.6.3: *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.*	Less than Significant Impact.	No mitigation is required.	N/A
4.7: HAZARDS AND HAZARDOUS MATERIALS			
Threshold 4.7.1: *The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.*	Less than Significant Impact.	No mitigation is required.	N/A
Threshold 4.7.2: *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.*	Potentially Significant Impact.	**Mitigation Measure HAZ-1:** Prior to soil disturbance, a consultant qualified under American Society for Testing and Materials (ASTM) International Standard E1527-13 for the purposes of identifying hazardous materials shall be retained to prepare a Soil Management Plan (SMP) address soil management procedures that may arise based on historical use of the project site and the known total petroleum hydrocarbons (TPH) and arsenic impacts. Construction may not proceed until the extent and nature of the TPH and arsenic	Less than Significant with implementation of Mitigation Measure HAZ-1.

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		impacts are determined by qualified personnel and in consultation with appropriate City staff. The removal and/or disposal of any contaminants shall be in accordance with all applicable local, State, and federal standards to the degree that adequate public health and safety standards are maintained, to the satisfaction of the City.	
Threshold 4.7.3: *The project would not 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.	N/A
Threshold 4.7.4: *The project would not 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 create a significant hazard to the public or the environment.*	No Impact.	No mitigation is required.	N/A
Threshold 4.7.5: *The project would be 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, and would not result in a safety hazard for people residing or working in the project area.*	Less than Significant Impact.	No mitigation is required.	N/A
Threshold 4.7.6: *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.	N/A
Threshold 4.7.7: *The project would not 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.	N/A
Threshold 4.7.8: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to*	Potentially Significant Impact.	Refer to Mitigation Measure HAZ-1 above.	Less than Significant with implementation of Mitigation Measure HAZ-1.

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
hazards and hazardous materials.			
4.8: HYDROLOGY AND WATER QUALITY			
Threshold 4.8.1: *The project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.*	Less Than Significant Impact.	No mitigation is required.	N/A
Threshold 4.8.2: *The project would not 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.	N/A
Threshold 4.8.3: *The project would not 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.	N/A
Threshold 4.8.4: *The project would not release of pollutants due to project inundation in a flood hazard, tsunami, or seiche zones.*	Less Than Significant Impact.	No mitigation is required.	N/A
Threshold 4.8.5: *The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (SGMA).*	Less Than Significant Impact.	No mitigation is required.	N/A
Threshold 4.8.6: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would not contribute to a significant cumulative impact with respect to hydrology and water quality.*	Less Than Significant Impact.	No mitigation is required.	N/A
4.9: NOISE			
Threshold 4.9.1: *The proposed 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 in*	Potentially Significant Impact.	**Mitigation Measure NOI-1:** The project contractor shall implement the following measures during construction of the project: ● Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.	Less than Significant with Mitigation Measures NOI-1 and NOI-2.

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
other applicable local, State, or federal standards.		• 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-2:** All loading dock activities shall be prohibited at the loading dock doors on the south end of Building 1 during the nighttime hours (10:00 p.m. to 7:00 a.m.) or once operational, the project proponent shall provide documentation to the City of Fresno Planning and Development Department that demonstrates that nighttime loading dock activities would comply with the noise level specifications of the City's Municipal Code.	
Threshold 4.9.2: *The proposed project would not generate excessive groundborne vibration or groundborne noise levels.*	Less Than Significant Impact.	No mitigation is required.	N/A
Threshold 4.9.3: *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.	N/A
Threshold 4.9.4: *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 and NOI-2.	Less than Significant with Mitigation Measures NOI-1 and NOI-2.
4.10: TRANSPORTATION			
Threshold 4.10.1: *The project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.*	Less Than Significant Impact.	No mitigation is required.	N/A

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Threshold 4.10.2: *The proposed project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).*	Less Than Significant Impact.	No mitigation is required.	N/A
Threshold 4.10.3: *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.	N/A
Threshold 4.10.4: *The project would not result in inadequate emergency access.*	Less Than Significant Impact.	No mitigation is required.	N/A
Threshold 4.10.: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would not contribute to a significant cumulative impact with respect to transportation.*	Less Than Significant Impact.	No mitigation is required.	N/A
4.11: UTILITIES			
Threshold 4.11.1: *The project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water 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.	N/A
Threshold 4.11.2: *The project would have insufficient 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.	N/A
Threshold 4.11.3: *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.	N/A

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Threshold 4.11.4: *The project would not the project 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.	N/A
Threshold 4.11.5: *The project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.*	Less Than Significant Impact.	No mitigation is required.	N/A
Threshold 4.11.6: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would not contribute to a significant cumulative impact with respect to aesthetics.*	Less Than Significant Impact.	No mitigation is required.	N/A
Initial Study			
AGRICULTURE AND FORESTRY RESOURCES			
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.	No Impact.	No mitigation is required.	No Impact.
Conflict with existing zoning for agricultural use or a Williamson Act contract.	No Impact.	No mitigation is required.	No Impact.
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)).	No Impact.	No mitigation is required.	No Impact.
Result in the loss of forest land or conversion of forest land to non-forest use.	No Impact.	No mitigation is required.	No Impact.

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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.	No Impact.	No mitigation is required.	No 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.	No Impact.	No mitigation is required.	No 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 2.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.
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant Impact.	**Mitigation Measure GEO-1:** Subsequent to a preliminary City review of the project grading plans, if there is evidence that a project will include excavation or construction activities within previously undisturbed soils, a field survey and literature search for unique paleontological/geological resources shall be conducted. The following procedures shall be followed: ● If unique paleontological/geological resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that unique paleontological/geological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified paleontologist shall be consulted to determine whether the resource requires further study. The qualified paleontologist shall make recommendations to the City 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. If the resources are determined to be significant, mitigation measures shall be identified by the monitor and recommended to the lead agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the lead agency approves the measures to protect these resources. Any paleontological/geological resources recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study. ● If unique paleontological/geological resources are found during the field survey or literature review, the resources shall be inventoried and evaluated for significance. If the resources are	Less Than Significant Impact.

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		found to be significant, mitigation measures shall be identified by the qualified paleontologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include a paleontological monitor. The monitoring period shall be determined by the qualified paleontologist. If additional paleontological/geological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.	
LAND USE AND PLANNING			
Physically divide an established community.	No Impact.	No mitigation is required.	No Impact.
Cause a 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.	No Impact.	No mitigation is required.	No Impact.
MINERAL RESOURCES			
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.	No Impact.	No mitigation is required.	No Impact.
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	No Impact.	No mitigation is required.	No Impact.
POPULATION AND HOUSING			
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.

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	No Impact.	No mitigation is required.	No Impact.
PUBLIC SERVICES			
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for 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 any of the 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?	No Impact.	No mitigation is required.	No 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			
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.	No Impact.	No mitigation is required.	No Impact.
Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	No Impact.	No mitigation is required.	No Impact.
WILDFIRE			
Substantially impair an adopted emergency response plan or emergency evacuation plan.	No Impact.	No mitigation is required.	No Impact.

Table 2.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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.	No Impact.	No mitigation is required.	No 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.	No Impact.	No mitigation is required.	No 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.	No Impact.	No mitigation is required.	No Impact.

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3.0 PROJECT DESCRIPTION

The following describes the proposed 2740 West Nielsen Office/Warehouse Project (Development Permit Application No. P21-02699 and Tentative Parcel Map Application No. P21 05930) proposed by Scannell Properties (Project Applicant). The project would consist of developing a 48.03-acre project site into four office/warehouse buildings with a total area of 901,438 square feet. The City of Fresno (City) is the lead agency for review of the proposed project under the California Environmental Quality Act (CEQA).

Pursuant to Section 15124(c) of the CEQA Guidelines, this chapter includes a description of the proposed project's location, objectives, and technical, economic, and environmental characteristics, which is followed by a summary of the intended uses of the EIR, including a list of agencies that are expected to use the EIR in their decision-making, a list of required permits and other approvals required to implement the project, and a list of related environmental review and consultation requirements required by federal, State, or local laws, regulations, or policies.

3.1 PROJECT LOCATION

The following section describes the location and characteristics of the project site and provides a brief overview of the existing land uses within and in the vicinity of the project site.

3.1.1 Regional Location and Access

The approximately 48.03-acre project site is located in the City of Fresno, on the northeast corner of the intersection of North Marks Avenue and West Nielsen Avenue and (Assessor's Parcel Number [APNs] 458-020-71 and 458-020-72). The project site itself is generally bounded to the north by vacant, undeveloped land and industrial uses, to the east by North Hughes Avenue, to the south by West Nielsen Avenue, and to the west by North Marks Avenue. Figure 3-1 shows the project site's regional and local context.

Regional access to the site is provided by State Route 180 (SR-180), which is located approximately 0.3 mile south of the project site and traverses the City in an east-west direction, and State Route 99 (SR-99), which is located approximately 0.8 miles east of the project site and traverses the City in a north-south direction.

The City of Fresno is located in Fresno County in the central San Joaquin Valley. The City is located approximately 200 miles north of Los Angeles, and 170 miles south of Sacramento. To the north of Fresno is Madera County, to the northeast and adjacent to Fresno, is the City of Clovis. Unincorporated land is located to the east, south, and west of Fresno. The Fresno Chandler Executive Airport is located approximately 0.8 mile from the project site, the Sierra Sky Airport is located approximately 6.7 miles from the project site, and the Fresno International Airport is located approximately 7.1 miles from the project site.

Fresno Area Express (FAX) is the Transportation Service Agency within the City and is responsible for coordinating transit services within its service area. FAX provides services via Route 1/Q (Bus Rapid

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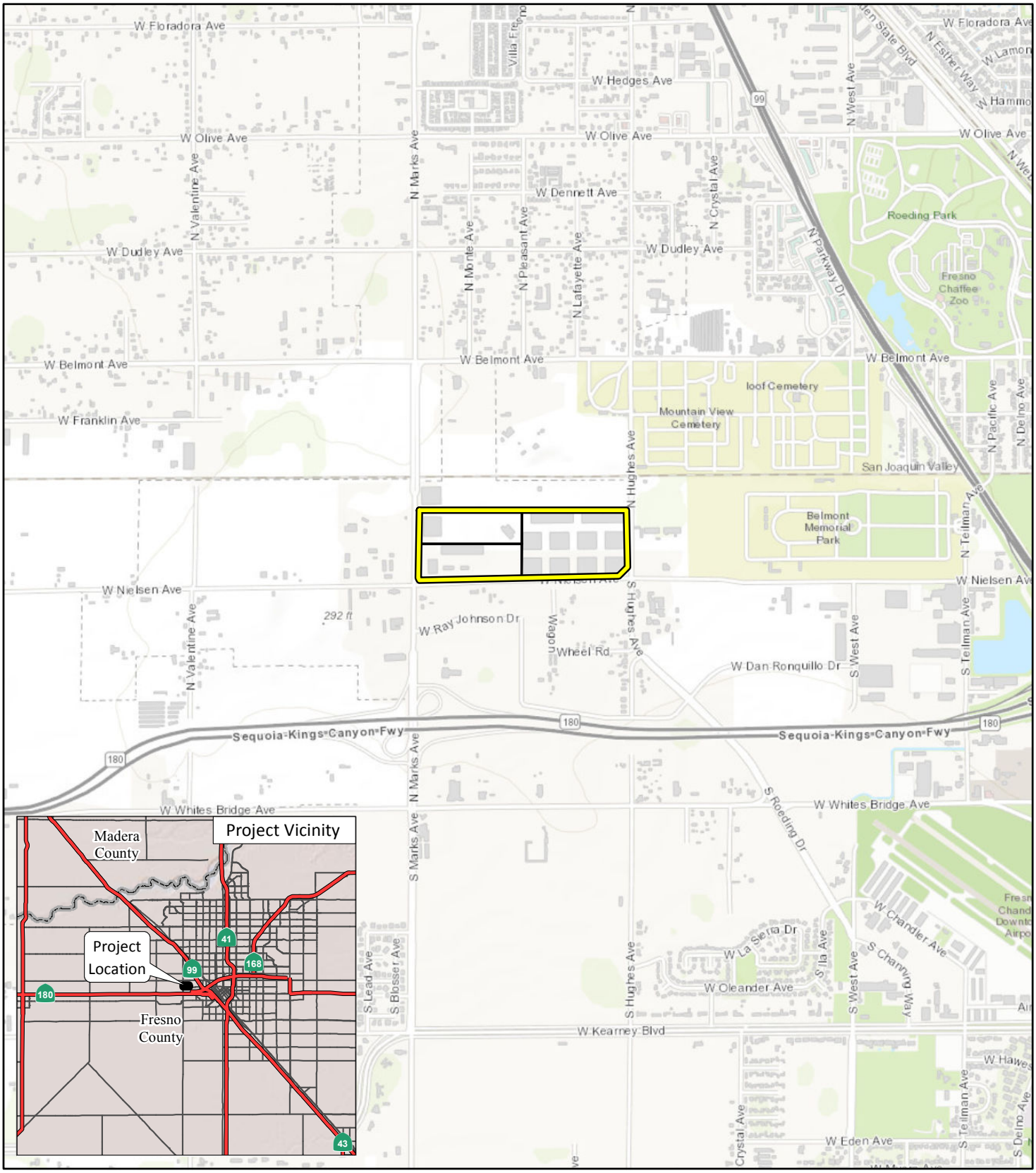

LSA

LEGEND

Project Location

Proposed Parcels

N

0 1000 2000

FEET

FIGURE 3-1

2740 West Nielsen Avenue Office/Warehouse Project

Regional Project Location

SOURCE: Esri Topographic Map (2021)

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Transit) as well as 17 other routes throughout the City, and four routes for Clovis Transit. There are currently no transit routes present within the project area.

3.1.2 Site Characteristics and Existing Site Conditions

The project site consists of a vacant urban lot with ruderal vegetation surrounded by chain link fencing. The site was formerly occupied by an industrial warehouse that has since been demolished.

3.1.3 Existing Zoning and General Plan Land Use Designation

The project site is zoned within the Heavy Industrial District (IH). The IH district allows for manufacturing, assembly, wholesaling, distribution, and storage activities that are essential to the development of a balanced economic base. Small-scale commercial services and ancillary office uses are also permitted. The Heavy Industrial (IH) zoning districts are intended to accommodate the broadest range of industrial uses on sites identified in the General Plan.

The project site is designated Heavy Industrial in the City of Fresno General Plan. This land use is intended to accommodate the broadest range of industrial uses including manufacturing, assembly, wholesaling, distribution, and storage activities that are essential to the development of a balanced economic base. Small-scale commercial services and ancillary office uses are also permitted. The maximum floor area ratio (FAR) is 1.5.

3.1.4 Surrounding Land Uses

The project site is surrounded by low density residential, light and heavy industrial, and cemetery uses, as well as vacant, undeveloped land, as indicted in Table 3.A. Figure 3-2 shows the project site and surrounding land uses. Photographs of existing site conditions are depicted in Figures 3-3 and 3-4.

Table 3.A: Surrounding Land Uses and Setting

	Planned Land Use	Existing Zoning	Existing Land Use
North	Heavy Industrial	Heavy Industrial (IH)	Heavy Industrial
East	Light Industrial	Light Industrial (IH)/ Public and Institutional (PI)	Light Industrial/ Public Facilities
South	Highway & Auto/ Business Park	Commercial Highway & Auto (CH)/ Business Park (BP)	Highway & Auto/ Business Park
West	Light Industrial	Light Industrial (IH)	Light Industrial

Source: Compiled by LSA (September 2022).

As indicated in Table 3.A above, the areas adjacent to the project site include the following uses:

- **North:** Existing vacant, undeveloped land and industrial uses;
- **East:** Cemetery and industrial uses opposite North Hughes Avenue;
- **South:** Existing single-family residential and industrial uses and vacant, undeveloped land opposite West Nielsen Avenue; and
- **West:** Existing industrial uses opposite North Marks Avenue.

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LSA

FIGURE 3-2

Project Site

Proposed Parcels

N

0 500 1000

FEET

2740 West Nielsen Office/Warehouse Project

Aerial Photograph of Project Site and Surrounding Land Uses

SOURCES: Google Earth, 9/9/2019; LSA 2021

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LSA

FIGURE 3-3

2740 West Nielsen Avenue Office/Warehouse Project

Existing Photos of the Project Site from West Nielsen Avenue

SOURCE: LSA, 2022

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LSA

FIGURE 3-4

2740 West Nielsen Avenue Office/Warehouse Project

Existing Photos of the Project Site from North Marks Avenue

SOURCE: LSA, 2022

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3.2 PROJECT OBJECTIVES

The objectives of the proposed project are to:

- Provide industrial warehousing consistent with the General Plan land use and zoning designation and that helps fulfil the unmet demands of businesses located in the City;
- Provide a variety of new employment opportunities for the residents of Fresno and surrounding communities;
- Provide new industrial development that is attractive and minimizes conflicts with the surrounding existing uses; and
- Promote sustainable development and operations.

3.3 PROPOSED PROJECT

The project would result in the construction of four office/warehouse buildings that would be configured for heavy industrial uses by tenants that have not been identified. The proposed buildings would result in a total gross floor area of approximately 901,438 square feet. The buildings' exterior would be up to 44 feet high with an interior height of up to 36 feet and designed with a total of 201 loading dock doors on the north and south sides of the buildings. The four buildings would be comprised of the following: Building 1 would be 468,812 square feet and would provide 122 loading dock doors; Building 2 would be 248,786 square feet and would provide 46 loading dock doors; Building 3 would be 93,074 square feet and would provide 18 loading dock doors; and Building 4 would be 90,766 square feet and would provide 15 loading dock doors. The proposed project would also subdivide the project site into four separate parcels and would consist of each proposed building on a separate parcel. Figure 3-5 shows the project site plan.

As identified above, future tenants have not been identified. Therefore, it is conservatively assumed that the proposed project would be operational 24 hours per day, 7 days per week; however, it is possible that future tenants may operate fewer hours.

The proposed project would comply with the latest California Green Building Standards Code (CALGreen) building measures and 2022 Title 24 Building Energy Efficiency Standards (Title 24 Standards). The proposed project would also include cool roof materials.

3.3.1 Access, Circulation, and Parking

As shown in Figure 3-5, vehicular access to the site would be provided by North Hughes Avenue, West Nielsen Avenue, and North Marks Avenue.

A total of 594 on-site parking spaces would be provided for vehicles and trucks. Of the 594 parking spaces, 385 spaces would be dedicated for standard vehicles, 11 spaces would be dedicated for accessible standard vehicles, and 10 spaces would be dedicated for accessible vans. The remaining

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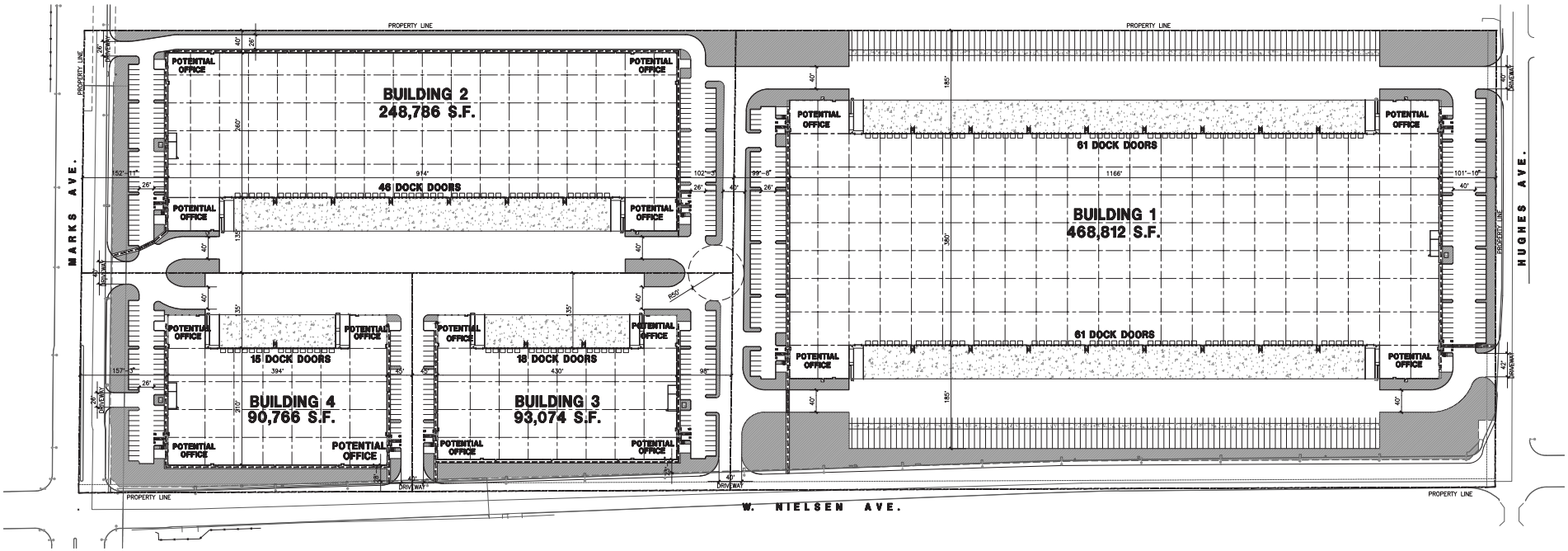

LSA

0 120 240
FEET

N

FIGURE 3-5

2740 West Nielsen Office/Warehouse Project
Site Plan

SOURCE: HPA Architecture, Inc., 2021

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188 spaces would be dedicated for trailers and would be located along the eastern and western edges of the project site and would be located behind two 8-foot-tall gates, which would be installed to separate the general parking area from the truck storage and dock loading area.

3.3.2 Open Space and Landscaping

Consistent with City requirements, landscaping would be provided throughout the project site. The project would also include a vegetative plan that includes the planning of trees and other landscaping materials throughout the perimeter of the project site.

3.3.3 Utilities and Infrastructure

The project site is located in an urban area and is currently served by existing utilities, including: water, sanitary sewer, storm drainage, electricity, and natural gas infrastructure. Proposed utility connections are discussed below.

3.3.3.1 Water

Water service to the project site would be provided by the City. New water within the project site would connect to the existing 14-inch main located on North Marks Avenue, the 14-inch main on West Nielsen Avenue, and the 16-inch main on North Hughes Avenue. The project would also include an on-site private 12-inch main.

3.3.3.2 Wastewater

The City would provide wastewater collection and treatment for the proposed project, and maintains an existing 12- to 18-inch line located in West Nielsen Avenue, a 36-inch main on North Marks Avenue, and an 8-inch main located on North Hughes Avenue. The proposed project includes the installation of a new on-site private 8-inch wastewater line that would connect to the City's existing lines.

3.3.3.3 Stormwater

The proposed project would include construction of a new curb and gutter along North Marks Avenue, West Nielsen Avenue, and North Hughes Avenue that would connect to the existing Fresno Metropolitan Flood Control District (FMFCD) stormwater system.

3.3.3.4 Solid Waste

Solid waste collection for the project site would be provided by the City of Fresno through the Department of Public Utilities (DPU) Solid Waste and Recycling Division.

3.3.3.5 Electricity, Natural Gas and Telecommunication

Electricity and natural gas services to the site are provided by Pacific Gas and Electric Company (PG&E). Existing underground utility connections and gas mains provide electricity and gas to the project site. New underground electrical lines would be installed. Telecommunication services to the project site would be provided by Comcast and AT&T.

3.3.4 Grading and Construction

The proposed project would include demolition of the existing asphalt on the project site, which would be collected and hauled off site for disposal. Construction of the proposed project is anticipated to occur in two phases occurring over a total 24-month period starting in the third quarter of 2023 and ending in 2025. The first phase would include the construction of Buildings 2, 3, and 4 and would occur for 12 months. The second phase would include the construction of Building 1 and would occur for 12 months. The proposed project would not require any soil import or export.

3.4 APPROVALS/PERMITS

While the City is the CEQA Lead Agency for the project, other agencies also have discretionary authority related to the project and approvals, or serve as a responsible and/or trustee agency in connection to the project. A list of these agencies and potential permits and approvals that may be required is provided below.

- City of Fresno, Certification of an Environmental Impact Report (EIR)
- City of Fresno, Design Review
- City of Fresno, Tentative Parcel Map
- City of Fresno, water connection(s)
- City of Fresno, sanitary sewer connection(s)
- Pacific Gas & Electric (PG&E), electrical and natural gas connection
- Central Valley Regional Water Quality Control Board (RWQCB) Storm Water Pollution Prevention Plan
- San Joaquin Valley Air Pollution Control District (SJVAPCD) (e.g., Dust Control Plan Approval letter and compliance with Rule 9510 – Indirect Source Review)

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

This chapter contains an analysis of each potentially significant environmental issue that has been identified for the proposed 2740 West Nielsen Office/Warehouse Project (Development Permit Application No. P21-02699 and Tentative Parcel Map No. P21 05930) ("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 4.11.

4.1 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.

4.2 ISSUES ADDRESSED IN THE DRAFT EIR

Sections 4.1 through 4.11 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 Aesthetics
4.2 Air Quality
4.3 Biological Resources
4.4 Cultural and Tribal Cultural Resources
4.5 Energy
4.6 Greenhouse Gas Emissions
4.7 Hazards and Hazardous Materials
4.8 Hydrology and Water Quality
4.9 Noise
4.10 Transportation
4.11 Utilities and Service Systems

It has been determined that the following potential environmental effects of the proposed project would be less than significant or have no impact, and therefore, these topics are "scoped out" and not further studied in detail in this EIR: agriculture and forestry resources, geology and soils, land use and planning, population and housing, mineral resources, public services, recreation, and wildfire. Each of these topic areas is summarized in the Initial Study (Appendix B) prepared for the proposed project.

4.3 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 are for each topic.

The cumulative context for land use development project effects is typically localized within the immediate vicinity of the project site or at the neighborhood level. Cumulative development in the project vicinity includes the projects listed in Table 4.A. For purposes of such analysis, cumulative projects are typically those within a 1-mile radius of the project site; however, to be conservative, this analysis includes projects within an approximately 2-mile radius of the project site. These projects are either projects for which the City has a project application on file or projects that have been entitled but were not yet operational at the time that the EIR analysis began (September 2022). Refer to the appropriate discussion in each topical section for further discussion of the cumulative assumptions relevant to each issue topic.

Table 4.A: Cumulative Projects in the Vicinity of the Project Site

Project/Location	Project Description	Project Status
Appliance Storage and Distribution Warehouse (1625 West Nielsen Avenue)	The project (Development Permit Application No. P21-02699) proposes the development of approximately 6.43 acres of property located in the southeast quadrant of Nielsen Avenue and Hughes Avenue with a 53,760 square foot warehouse, a future warehouse expansion of approximately 50,193 square feet, and a second future building of approximately 6,271 square feet. The project would not require changes to the Development Code, General Plan, Community Plan, Specific Plan, or Zoning Maps.	Under review
Truck Service Facility (50 South Hughes Avenue)	The project (Development Permit Application No. P19-02113) was filed by Sandeep Seghal of Royalty Holding Services Inc. and pertains to the 5.86 acres located at 50 South Hughes Avenue (Assessor's Parcel Number [APN]: 458-050-39). The applicant proposes to construct a new 26,143-square-foot truck service facility for truck repair, lube, washing, and tire repair. The parcel is zoned BP/UGM.	Compliance review
Truck Wash Building (125 South Pleasant)	The project (Development Permit Application No. P21-05148) was filed by Cynthia Zamora of CE Design Group and pertains to the 6.91 acres located at 125 South Pleasant. The applicant proposes a 9,090-square-foot new truck wash building and fully develop the site. The parcel is zoned BP/UGM.	On hold/under review
Large Vehicle and Equipment Sales (1984 West Dan Ronquillo Drive)	The project (Conditional Use Permit Application No. P22-04254) was filed by Nik Kirby of WW Enterprises on behalf of Jesus Sandoval and pertains to approximately 1.12 acres of property generally located on the northwest corner of South Roeding Drive and West Dan Ronquillo Drive, at 1984 West Dan Ronquillo Drive (APN 458-090-80). The application proposes construction of an approximately 3,750 square-foot building, including 3 service bays and attached 1,000 square-foot canopy. The project would be utilized by a large vehicle and equipment sales and service use. In addition, on and off-site improvements are proposed, including one new drive approach, 5 parking stalls, trash enclosure, fencing, landscaping, curbs, gutters, and sidewalks. The project would operate Monday through Friday 7:00 a.m. to 6:00 p.m.. The property is zoned CG (Commercial General).	On hold/under review
Single-Family Residential (Vesting Tentative Tract Map Nos. 5456, 5463, 6183, and 6184)	Development Agreement by and between the City of Fresno and Fagundes Bros. Dairy, relating to the development of the Oasis Master Plan Area, which consists of a total of 599 single-family residential homes as a component of Vesting Tentative Tract Map Nos. 5456, 5463, 6183, and 6184.	Approved

Source: City of Fresno, 2023

4.4 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:

AES	Aesthetics
AIR	Air Quality
BIO	Biological Resources
CUL	Cultural Resources and Tribal Cultural Resources
EN	Energy
GHG	Greenhouse Gas Emissions
HAZ	Hazards and Hazardous Materials
HYDRO	Hydrology and Water Quality
NOI	Noise
TRA	Transportation
UTL	Utilities and Service Systems

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

4.5 ENVIRONMENTAL ISSUES

Sections 4.1 through 4.11 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.

4.1 AESTHETICS

This section describes the existing visual and aesthetic resources of the project site and evaluates the potential for changes in aesthetic character that could result from implementation of the proposed project. This section also evaluates the potential loss of existing visual resources, effects on public views, visual compatibility with existing uses, and light and glare impacts.

4.1.1 Environmental Setting

This section provides a discussion of the existing visual and aesthetic resources in the project area.

4.1.1.1 Project Site and Surroundings

The 48.03-acre project site is currently vacant and located in the Heavy Industrial (IH) zoning district of the City of Fresno. The project site consists of a generally level, vacant lot with ruderal vegetation surrounded by chain link fencing. In addition, the project site is mainly paved over with a few areas of exposed soils; however, the soils are heavily disturbed. The site is mostly barren of vegetation; however, ruderal vegetation does occur in pavement cracks and in unpaved areas. The project site is bounded to the north by vacant, undeveloped land, to the east by North Hughes Avenue, to the south by West Nielsen Avenue, and to the west by North Marks Avenue. Nearby parcels consist mostly of low density residential, light and heavy industrial, and cemetery uses, and vacant, undeveloped land. Surrounding buildings generally consist of one-story, ranch single-family residences and low rise, primarily one- to two-story industrial buildings.

4.1.1.2 Scenic Resources

Scenic resources are defined as natural or man-made elements that contribute to an area's scenic value and are visually pleasing. Scenic resources include landforms, vegetation, water, or adjacent scenery and may include a cultural modification to the natural environment. The degree to which these resources are present in a community is subject to personal and cultural interpretation. However, it is possible to qualify certain resources as having aesthetic characteristics and establish general guidelines for assessing the aesthetic impacts of new development.

Scenic resources within the City of Fresno include landscaped open space areas including parks and golf courses; areas along the San Joaquin River due to varying topography; and the San Joaquin River Bluffs, which provide a unique geological feature in the San Joaquin Valley. Man-made scenic resources include historic buildings in Downtown Fresno, which provide a unique skyline. However, there are no trees, rock outcroppings, and/or historic buildings located on or near the project site that have been identified as important scenic resources or would otherwise constitute significant landscape features.

4.1.1.3 Scenic Vistas

A scenic vista is viewpoint that provides expansive views of a highly valued landscape for the public's benefit. It is usually viewed from some distance away. Aesthetic components of a scenic vista include (1) scenic quality; (2) sensitivity level; and (3) view access. A scenic vista can be impacted in two ways: a development project can have visual impacts by either directly diminishing the scenic quality of the vista or by blocking the view corridors or "vista" of the scenic resource. Important

factors in determining whether a proposed project would block scenic vistas include the project's proposed height, mass, and location relative to surrounding land uses and travel corridors. Typical scenic vistas are locations where views of rivers, hillsides, and open space areas are accessible from public vantage points.

Although no scenic vista has been designated for the City, the City's General Plan identifies six locations along the San Joaquin River Bluffs as designated vista points from which views should be maintained.[1] However, the project site is located approximately 8 miles south of the San Joaquin River Bluffs. Additionally, there are several locations throughout the eastern portion of the City that provide distant views of the Sierra Nevada foothills.

4.1.1.4 Scenic Corridors

Scenic corridors are channels that facilitate movement (primarily by automobile, transit, bicycle, or foot) from one location to another with expansive views of natural landscapes that may also include visually attractive development. Scenic corridors analyzed under the California Environmental Quality Act (CEQA) typically include State-designated scenic highways or local corridors defined in applicable planning documents. According to the California Department of Transportation (Caltrans) State Scenic Highway Mapping System, there are no eligible or officially designated State Scenic Highways within the City of Fresno.[2] However, Fresno County has three eligible State Scenic Highways; the nearest eligible highways include a portion of SR 180 (approximately 7 miles east of the City) and a portion of SR 168 (approximately 5 miles east of the City). The nearest officially designated State Scenic Highway is located more than 30 miles northeast of the City within the County of Madera. The City of Fresno General Plan does not identify any scenic corridors within the City.

4.1.1.5 Visual Character and Quality

The visual aesthetic character or quality of a streetscape, building, group of buildings, or other man-made or natural feature creates an overall impression of an area within an urban context. For example, a scenic vista along the boundary of a community, a pleasing streetscape with trees, and well-kept residences and yards are scenic resources that create a pleasing impression of an area. In general, concepts of visual character and quality can be organized around four basic elements: (1) site utilization; (2) buildings and structures; (3) landscaping; and (4) signage. Adverse visual quality effects can include the loss of aesthetic features or the introduction of contrasting features that could contribute to a decline in overall visual character. In addition, the degree of access to a visual resource contributes to the value of that resource so that an adverse visual quality effect can also occur if access to a visual resource is restricted.

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1 City of Fresno. 2014. Fresno General Plan. Chapter 5: Parks, Open Space, and Schools. Figure POSS-2: San Joaquin River Parkway Path & Trail Access Points. pg.5-19. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2019/07/General-Plan-5-Parks-Open-Space-and-Schools-7-19.pdf (accessed September 1, 2022).

2 Caltrans. 2017. Scenic Highway Program. Website: dot.ca.gov/-/media/dot-media/programs/ design/ documents/2017-03desigandeligible-a11y.xlsx (accessed September 6, 2019).

The visual quality and character of the project site is characterized by various aesthetic attributes including low density residential, light and heavy industrial, cemetery, and vacant, undeveloped uses. Surrounding buildings generally consist of one-story, ranch single-family residences and low rise, primarily one- to two-story industrial buildings.

4.1.1.6 Light Sources and Glare

A light source is a device that produces illumination, including incandescent and light-emitting diode (LED) bulbs, fluorescent and neon tubes, halogen and other vapor lamps, and reflecting surfaces or refractors incorporated into a lighting fixture. Any translucent enclosure of a light source is considered to be part of the light source. Glare is defined as a continuous or periodic intense light that may cause eye discomfort or be temporarily blinding to humans.

The project site and surrounding area is urbanized and is subject to preexisting sources of light and glare, including streetlights and light emitted from residential and non-residential buildings. Cemetery, and vacant, undeveloped lands that are located within the project area are not characterized by significant sources of light and glare.

4.1.2 Regulatory Setting

4.1.2.1 Federal Regulations

No federal policies or regulations pertaining to aesthetics are applicable to the proposed project.

4.1.2.2 State Regulations

Caltrans Scenic Highway Program. The Caltrans Scenic Highway Program protects the natural scenic beauty of the State's highways and corridors through designating scenic highways throughout the State. Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Other considerations given to a scenic highway designation include how much of the natural landscape a traveler may see and the extent to which visual intrusions degrade the scenic corridor.

California Building Energy Efficiency Standards. Title 24, Part 6 of the California Code of Regulations outlines mandatory provisions for lighting control devices and luminaires for all new developments. This code encourages buildings (both residential and nonresidential) to be constructed and operated utilizing energy-efficient development strategies.

4.1.2.3 Local Regulations

City of Fresno General Plan. The City of Fresno's General Plan Urban Form, Land Use, and Design Element includes objectives and policies that work to establish a comprehensive Citywide land use planning strategy to meet economic development objectives, achieve efficient and equitable use of resources and infrastructure, and create an attractive living environment. The following policies related to aesthetics are applicable to the proposed project.

- **Policy UF-12-g: Impacts on Surrounding Uses.** Establish design standards and buffering requirements for high-intensity Activity Centers to protect surrounding residential uses from

increased impacts from traffic noise and vehicle emissions, visual intrusion, interruption of view and air movement, and encroachment upon solar access.

- **Policy LU-1-a: Promote Development within the Existing City Limits as of December 31, 2012.** Promote new development, infill, and rehabilitation of existing building stock in the Downtown Planning Area, along BRT corridors, in established neighborhoods generally south of Herndon Avenue, and on other infill sites and vacant land within the City.

- **Policy LU-5-g: Scale and Character of New Development.** Allow new development in or adjacent to established neighborhoods that is compatible in scale and character with the surrounding area by promoting a transition in scale and architectural character between new buildings and established neighborhoods, as well as integrating pedestrian circulation and vehicular routes.

- **Policy D-4-f: Design Compatibility with Residential Uses.** Strive to ensure that all new non-residential land uses are developed and maintained in a manner complementary to and compatible with adjacent residential land uses, to minimize interface problems with the surrounding environment and to be compatible with public facilities and services.

- **Policy LU-2-a: Infill Development and Redevelopment.** Promote development of vacant, underdeveloped, and re-developable land within the City Limits where urban services are available by considering the establishment and implementation of supportive regulations and programs

- **Policy LU-7-b: Business and Industrial Parks.** Promote business and industrial park sites that are of sufficient size, unified in design, and diversified in activity to attract a full range of business types needed for economic growth

- **Policy LU-7-c: Efficiency of Industrial Uses.** Promote industrial land use clusters to maximize the operational efficiency of similar activities.

City of Fresno Municipal Code. The City's Zoning Ordinance (Chapter 15 of the Municipal Code) is intended to provide a guide for the physical development of the city in order to achieve the arrangement of land uses depicted in the approved General Plan, as well as implement goals, objectives, and policies of the approved General Plan. Among the aspects of development regulated by the Municipal Code are types of allowable land uses, setback and height requirements, landscaping, walls, fencing, signage, access, parking requirements, storage areas, and trash enclosures. Article 25, Performance Standards, of the Zoning Ordinance includes standards related to lighting and glare.

4.1.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to aesthetics 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.

4.1.3.1 Significance Criteria

The thresholds for impacts related to aesthetics used in this analysis are consistent with Appendix G of the State CEQA Guidelines. Development of the proposed project would result in a significant impact related to aesthetics if it would:

Threshold 4.1.1 **Have a substantial adverse effect on a scenic vista;**

Threshold 4.1.2 **Substantially damage scenic resources, including, but not limited to, trees, rock out-croppings, and historic buildings within a State scenic highway;**

Threshold 4.1.3 **In non-urbanized areas, substantially degrade the existing visual character or quality public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage point). If in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality; or**

Threshold 4.1.4 **Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.**

4.1.3.2 Project Impacts

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

Threshold 4.1.1 **Would the project have a substantial adverse effect on a scenic vista?**

A scenic vista is generally defined as a public vantage point with an expansive view of a significant landscape feature. An impact on scenic vistas is considered significant if it substantially diminishes, blocks, or impedes an expansive view of a significant landscape feature from a public vantage point.

The City of Fresno contains views of highly valued features such as the San Joaquin River, Sierra Nevada foothills, and buildings in Downtown Fresno. The General Plan also identifies six locations along the San Joaquin River Bluffs as designated vista points from which views should be maintained. However, the project site is located approximately 8 miles south of the San Joaquin River Bluffs. Additionally, there are several locations throughout the eastern portion of the City that provide distant views of the Sierra Nevada foothills.

The project site is located in a partially developed area of the city and is not located in an area with expansive or far field views. The proposed project would include the construction of four office/warehouse buildings that would be configured for heavy industrial uses. The proposed buildings would result in a total gross floor area of approximately 901,438 square feet. The buildings' exterior would be up to 44 feet high with an interior height of up to 36 feet and designed

with a total of 201 loading dock doors on the north and south sides of the buildings. Adjacent parcels consist mostly of single-story residential, and low-rise, primarily one- to two-story, light and heavy industrial, a cemetery, and vacant, undeveloped uses. There are no significant trees, rock outcroppings, and/or historic buildings located on or adjacent to the project site that have been identified as important scenic resources or would otherwise constitute significant landscape features. Therefore, the proposed project would not substantially diminish any scenic vistas within or near the project area and would likewise not substantially block or impede surrounding views. Therefore, the proposed project would result in a less-than-significant impact related to a substantial adverse effect on a scenic vista.

Level of Significance Without Mitigation**:** Less than Significant Impact.

Threshold 4.1.2 Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

According to Caltrans mapping of State Scenic Highways,[3] the County of Fresno has one officially designated State Scenic Highway located along SR-180, east of the City of Fresno. Three eligible State Scenic Highways are also located within the County of Fresno, the nearest of which is located along SR-168 east of the City of Clovis. None of these are in the immediate vicinity of the project site. Since there are no eligible or officially designated State Scenic Highways within the immediate vicinity of the project site, the project would not impact a designated State Scenic Highway. Furthermore, the eligibility of the three State Scenic Highways, scenic resources located within the highway segments or its viewshed would not be impacted by the proposed project. Therefore, no impact on scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway would occur as a result of the proposed project.

Level of Significance Without Mitigation**:** No Impact.

Threshold 4.1.3 In non-urbanized areas, would the project 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). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The project site is located in a primarily urbanized area surrounded by existing developed uses. The project site is generally level with no existing structures and is disturbed. Nearby parcels consist mostly of low-density residential, light and heavy industrial, cemetery, and vacant, undeveloped uses. Surrounding buildings generally consist of one-story, ranch single-family residences and low rise, primarily one- to two-story industrial buildings. The proposed project would include four office/warehouse buildings that would be configured for heavy industrial uses. Although the

[3] California Department of Transportation (Caltrans). State Scenic Highways. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways (accessed on September 1, 2022).

proposed project would change the visual characteristics of the project site by developing the site with industrial buildings, the design of the project would be consistent with the visual character within the project area.

Additionally, the project site is zoned within the City's Heavy Industrial (IH) district and designated Heavy Industrial in the General Plan. This land use is intended to accommodate the broadest range of industrial uses including manufacturing, assembly, wholesaling, distribution, and storage activities that are essential to the development of a balanced economic base. Small-scale commercial services and ancillary office uses are also permitted. The project would not require a change of the project site's current General Plan land use designation or current zoning and would be consistent with the City's General Plan and Zoning Ordinance. As such, the proposed project would not conflict with any applicable zoning or other regulations governing scenic quality. Therefore, this impact would be less than significant.

Level of Significance Without Mitigation**:** Less than Significant Impact.

Threshold 4.1.4 Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The project site is located in a primarily urbanized area, which is subject to preexisting exterior lighting from surrounding development and existing street lighting.

Construction of the proposed project would include temporary light and glare resulting from construction activities that could adversely affect day or nighttime views. Sources of construction-related light and glare include usage of construction vehicles and equipment; however, construction activities are anticipated to occur primarily during daylight hours and once construction is completed, light and glare from these activities would cease to occur.

The main sources of daytime glare are generally sunlight reflecting from structures and other reflective surfaces and windows. Implementation of the proposed project would introduce new sources of daytime glare through the construction of new structures and use of automobiles traveling to and from the project site. Building materials (i.e., reflective glass and polished surfaces) are the most substantial sources of glare.

Implementation of the proposed project would result in an increase of nighttime lighting levels over current levels in the project area, associated with parking lot lights and security-related lighting in the project site. While compliance with California Building Code (Title 24, California Code of Regulations [CCR]) standards would minimize the proposed project's light and glare impacts, the proposed project's lighting systems could constitute substantial new sources of light relative to baseline conditions if the project's lighting systems are significantly more intense than existing lighting sources or if they are not appropriately shielded to prevent light diffusion. Additionally, the proposed project could create a substantial new source of glare if highly reflective building materials are used.

All exterior lighting at the project site would be pointed downward toward the project site to minimize lighting levels at nearby uses. In addition, the proposed project would be required to

comply with Article 25, Performance Standards, of the Zoning Ordinance, which includes standards related to lighting and glare. Further, Mitigation Measures AES-1 through AES-3 would ensure that the proposed project's lighting systems do not create a substantial new source of light by requiring shielding mechanisms to direct light away from nearby uses. As a result, any new sources of light resulting from the proposed project would not be substantial in the context of existing lighting sources. Implementation of Mitigation Measure AES-4 would ensure that the proposed project's lighting systems do not create a substantial new source of light by imposing a cap on the intensity of lighting systems based on the average intensity of the surrounding streets.

Additionally, while the project does not propose use of highly reflective glass elements or building materials, Mitigation Measure AES-5 requires materials used on building façades to be non-reflective. Therefore, any new source of glare would not be substantial.

Accordingly, with the incorporation of Mitigation Measures AES-1 through AES-5, the project's potential impacts would be less than significant.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure AES-1: Lighting systems for street and parking areas shall include shields to direct light to the roadway surfaces and parking areas. Vertical shields on the light fixtures shall also be used to direct light away from adjacent light sensitive land uses such as residences.

Mitigation Measure AES-2: Lighting systems for public facilities such as active play areas shall provide adequate illumination for the activity; however, low intensity light fixtures and shields shall be used to minimize spillover light onto adjacent properties.

Mitigation Measure AES-3: Lighting systems for non-residential uses, not including public facilities, shall provide shields on the light fixtures and orient the lighting system away from adjacent properties. Low intensity light fixtures shall also be used if excessive spillover light onto adjacent properties will occur.

Mitigation Measure AES-4: Lighting systems for freestanding signs shall not exceed 100 foot Lamberts (FT-L) when adjacent to streets which have an average light intensity of less than 2.0 horizontal footcandles and shall not exceed 500 FT-L when adjacent to streets which have an average light intensity of 2.0 horizontal footcandles or greater.

Mitigation Measures AES-5: Materials used on building facades shall be non-reflective.

Level of Significance With Mitigation**:** Less than Significant with implementation of Mitigation Measures AES-1 through AES-5.

4.1.3.3 Cumulative Impacts

The cumulative geographical context for aesthetics consists of the project site in addition to past, current, and reasonably foreseeable future projects in the region. Development of the proposed project would result in the construction of four office/warehouse buildings on a currently vacant and disturbed 48.03-acre project site which would contribute to the alteration of the visual character of the region anticipated from growth and development (e.g., growth and development in the City and County of Fresno).

As discussed above, there are no designated scenic vistas or publicly accessible vantage points near the project site that provide views of scenic vistas that would be altered or obstructed as a result of project construction. Similarly, other projects in the project area would also not obstruct or alter views of scenic vistas. Therefore, there would not be a cumulative effect on scenic vistas.

With regard to a cumulative impact on scenic resources within a State Scenic Highway, as noted above, the project site is not within the viewshed of a State Scenic Highway. Since there are no designated State Scenic Highways within or in the vicinity of the project site, the proposed project and any other projects in the project area would not impact eligible or officially designated State Scenic Highways. There would not be a cumulative impact on scenic resources.

The project would not require a change of the project site's General Plan land use designation or the current zoning and would be consistent with the City's General Plan and Zoning Ordinance. As such, the proposed project would not conflict with any applicable zoning or other regulations governing scenic quality. Similarly, other reasonably foreseeable projects would be reviewed by the City for their consistency with the applicable zoning and approved following the determination that they comply with the City's design standards. The development review process is intended to assure the proposed development is well designed, in and of itself, and in relation to surrounding properties, and that individual rights are weighed against the needs and requirements of the community. As a result, cumulative development in the project area, including the proposed project, would not result in a significant cumulative impact on visual quality of this part of the City.

Although the project and other projects in the project area would increase the amount of nighttime light and glare in the City, all projects are subject to the Article 25, Performance Standards, of the Zoning Ordinance, which includes standards related to lighting and glare. Additionally, the project's contribution of the illumination of the night sky would be less than significant with implementation of Mitigation Measures AES-1 through AES-5. As such the proposed project would not contribute to cumulative aesthetic impacts in the study area. Therefore, the combined increase in light and glare would not be substantial. With the implementation of Mitigation Measures AES-1 through AES-5, the project would not make a considerable contribution to cumulative light and glare impacts. The cumulative impact would be less than significant.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures AES-1 through AES-5 above.

Level of Significance With Mitigation: Less than Significant with implementation of Mitigation Measures AES-1 through AES-5.

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 2020.4.0 (CalEEMod) and the findings of the Health Risk Assessment[1] prepared for the proposed project (Appendix C and D, 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 Fresno. 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 in the City of Fresno in the San Joaquin Valley Air Basin (SJVAB). The SJVAB consists of 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 Basin 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

[1] LSA. 2023. *Health Risk Assessment for the 2740 West Nielsen Avenue Office/Warehouse Project*. February 3.

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. These populations are referred to as sensitive receptors.

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

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.

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.

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.[2] 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

[2] 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).

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 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.[3] 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.[4] 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

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

4 CARB. 2000. *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).

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 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.[5] 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 Fresno 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.

[5] United States Environmental Protection Agency (USEPA). 2017. Criteria Air Pollutants. October. Website: www.epa.gov/criteria-air-pollutants (accessed September 2022).

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

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24-Hour	–		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO_2)[10]	Annual Arithmetic Mean	0.03 ppm (57 µg/m^3)	Gas Phase Chemi-luminescence	53 ppb (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m^3)		100 ppb (188 µg/m^3)	–	
Lead (Pb)[12,13]	30-Day Average	1.5 µg/m^3	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[l]	Same as Primary Standard	
	Rolling 3-Month Average [i]	–		0.15 µg/m^3		
Sulfur Dioxide (SO_2)[11]	24-Hour	0.04 ppm (105 µg/m3)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m^3)	
	1-Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3)[11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[11]	–	
Visibility-Reducing Particles [12]	8-Hour	See footnote [14]	Beta Attenuation and Transmittance through Filter Tape	No Federal Standards		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [10]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: Ambient Air Quality Standards (California Air Resources Board 2016).

Table notes continued on the following page

[1] 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.

[2] 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.

[3] 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.

[4] 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.

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

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

[7] 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.

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

[9] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24- hour $PM_{2.5}$ 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 PM_{10} 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.

[10] To attain the 1-hour national standard, the three-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.

[11] 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 three-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.

[12] 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.

[13] 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.

[14] 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

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. 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.[6] 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.

[6] 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 September 2022).

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.[7] Patterns in monthly and yearly rainfall totals are predictable due to the recognizable differences in seasons within the valley.

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.

In addition, the Office of Environmental Health Hazard Assessment (OEHHA), on behalf of the California Environmental Protection Agency (CalEPA), released Version 4.0 of the California

[7] 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 September 2022.

Communities Environmental Health Screening Tool (CalEnviroScreen) in October 2021. CalEnviroScreen identifies California communities by census tract that are disproportionately burdened by, and vulnerable to, multiple sources of pollution. Pollution Burden scores for each census tract are derived from the average percentiles of the seven Exposures indicators (ozone and $PM_{2.5}$ concentrations, diesel PM emissions, drinking water contaminants, pesticide use, toxic releases from facilities, and traffic density) and the five Environmental Effects indicators (cleanup sites, impaired water bodies, groundwater threats, hazardous waste facilities and generators, and solid waste sites and facilities). According to the CalEnviroScreen 4.0 Map,[8] the project site has a pollution burden percentile of 97. Surrounding areas have pollution burdens ranging from 56 to 100.0. In addition, according to the Senate Bill (SB) 535 Disadvantaged Communities Map,[9] the project area is designated as an SB 535 disadvantaged community.

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: SJVAB 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 Regulation
Hydrogen Sulfide	Unclassified	No Federal Regulation

Source: California Air Resources Board and USEPA, 2016.

8 Office of Environmental Health Hazard Assessment (OEHHA). 2021. *CalEnviroScreen 4.0.* Website: https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40 (accessed May 2021).

9 OEHHA. 2022. *SB 535 Disadvantaged Communities using CalEnviroScreen 4.0 results.* Website: https://experience.arcgis.com/experience/1c21c53da8de48f1b946f3402fbae55c/page/SB-535-Disadvantaged-Communities/.pdf (accessed October 2022).

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 4706 E. Drummond St. and 3727 N. First Street in Fresno, California.

Pollutant monitoring results for years 2019 to 2021 at the 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 2019 and 2020 only. The State PM_{10} standard was exceeded 13 times in 2019, 25 times in 2020, and 20 times in 2021. $PM_{2.5}$ levels exceeded the federal standard an unknown number of times during the three-year period. The State 1-hour ozone standards were exceeded 1 time in 2019, 11 times in 2020, and 9 times in 2021. The State 8-hour ozone standards were exceeded 11 times in 2019, 27 times in 2020, and 41 times in 2021. The federal 8-hour standards were exceeded 10 times in 2019, 27 times in 2020, and 39 times in 2021. The CO, SO_2, and NO_2 standards were also not exceeded in this area during the 3-year period.

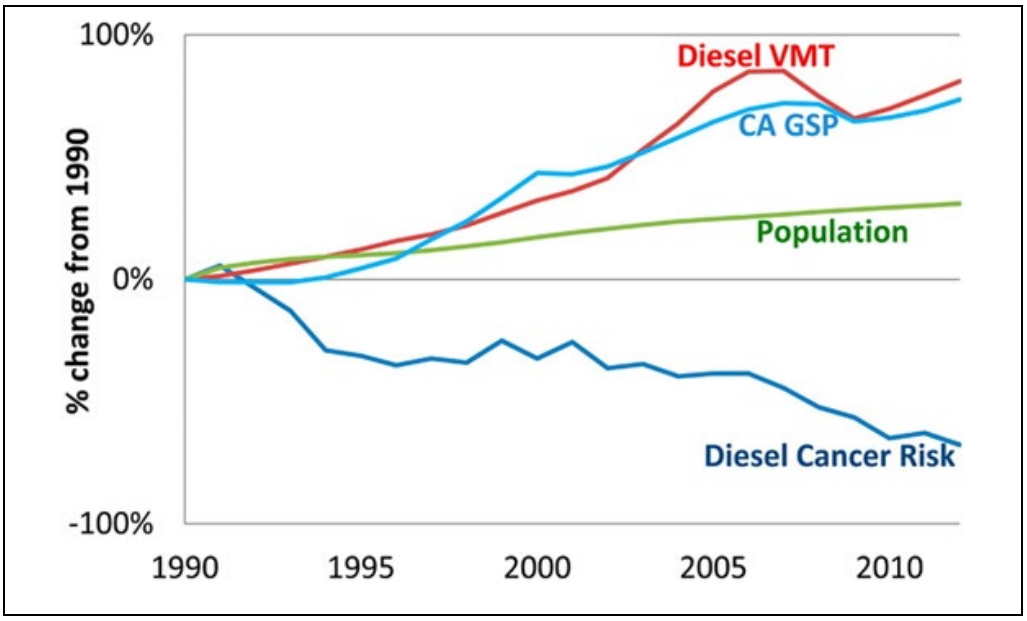
Toxic Air Contaminant Trends. In 1984, the CARB adopted regulations to reduce TAC emissions from mobile and stationary sources, as well as consumer products. A CARB study showed that ambient concentrations and emissions of the seven TACs responsible for the most cancer risk from airborne exposure declined by 76 percent between 1990 and 2012.[10] 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.

[10] Propper, Ralph, et al. 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 September 2022).

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

Pollutant	Standard	2019	2020	2021
Carbon Monoxide (CO)[2]				
Maximum 1-hour concentration (ppm)		1.9	5.0	1.9
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.5	2.5	1.7
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O_3)[1]				
Maximum 1-hour concentration (ppm)		0.099	0.123	0.125
Number of days exceeded:	State: > 0.09 ppm	1	11	9
Maximum 8-hour concentration (ppm)		0.080	0.092	0.100
Number of days exceeded:	State: > 0.07 ppm	11	27	41
	Federal: > 0.07 ppm	10	27	39
Coarse Particulates (PM_{10})[1]				
Maximum 24-hour concentration (µg/m^3)		181.3	349.2	149.8
Number of days exceeded:	State: > 50 µg/m^3	13	25	20
	Federal: > 150 µg/m^3	1	1	0
Annual arithmetic average concentration (µg/m^3)		39.6	ND	ND
Exceeded for the year:	State: > 20 µg/m^3	Yes	ND	ND
	Federal: > 50 µg/m^3	No	ND	ND
Fine Particulates ($PM_{2.5}$)[2]				
Maximum 24-hour concentration (µg/m^3)		51.3	168.6	99.9
Number of days exceeded:	Federal: > 35 µg/m^3	ND	ND	ND
Annual arithmetic average concentration (µg/m^3)		11.2	18.1	15.6
Exceeded for the year:	State: > 12 µg/m^3	No	Yes	Yes
	Federal: > 15 µg/m^3	No	No	No
Nitrogen Dioxide (NO_2)[1]				
Maximum 1-hour concentration (ppm)		0.042	0.066	0.064
Number of days exceeded:	State: > 0.250 ppm	0	0	0
Annual arithmetic average concentration (ppm)		ND	ND	0.0011
Exceeded for the year:	Federal: > 0.053 ppm	ND	ND	No
Sulfur Dioxide (SO_2)[2]				
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 (2021) and USEPA (2021).
[1] Data taken from 4706 E. Drummond St., Fresno monitoring station
[2] Data were taken from 3727 N. First Street, Fresno 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



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., 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.

On-Road Heavy-Duty Vehicle Program. The CARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, and test procedures.[11] CARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.

In addition, the CARB's Truck and Bus regulation was established to meet federal attainment standards. This regulation requires heavy-duty diesel vehicles that operate in California to reduce TAC emissions from their exhaust. Diesel exhaust is responsible for 70 percent of the cancer risk from airborne toxics. Therefore, by January 1, 2023, nearly all trucks and buses will be required to have 2010 or newer model year engines to reduce PM and NO_x emissions. To help ensure that the benefits of this regulation are achieved, starting in 2020, only vehicles compliant with this regulation will be registered by the California Department of Motor Vehicles (DMV).[12]

Air Quality Land Use Handbook. The CARB has developed an Air Quality and Land Use Handbook[13] 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;

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11 California Air Resources Board. 2019. *On-Road Heavy-Duty Vehicle Program*. Last reviewed July 2. Website: ww3.arb.ca.gov/msprog/onroadhd/onroadhd.htm (accessed September 2022).

12 California Air Resources Board. 2019. *Truck and Bus Regulation.* Website: ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation (accessed September 2022).

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

- Within 1,000 feet of a major service and maintenance rail yard;
- 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.

Recommendations on siting new sensitive land uses such as residences, schools, daycare centers, playgrounds, or medical facilities are provided in Table 4.2.E.

Table 4.2.E: Recommendations on Siting New Sensitive Land Uses Near Toxic Air Contaminant Sources

Source Category	Advisory Recommendation
Freeways and High-Traffic Roads	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.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week).
	Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district.
	Do not site new sensitive land uses in the same building with Perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

Source: CARB (2006).
Note: These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

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. This was completed for the City of Fresno with the adoption of the Fresno General Plan Resource Conservation and Resilience Element adopted December 18, 2014, which includes an air quality and greenhouse gas emissions section.

The Air Quality Guidelines for General Plans (AQGGP), adopted by the SJVAPCD in 1994 and amended in 2005, is a guidance document containing goals and policy examples that cities and counties may want to incorporate into their General Plans to satisfy Section 65302.1. When adopted in a general plan and implemented, the suggestions in the AQGGP can reduce vehicle trips and miles traveled and improve air quality. The specific suggestions in the AQGGP are voluntary. The SJVAPCD strongly encourages cities and counties to use their land use and transportation planning authority to help achieve air quality goals by adopting the suggested policies and programs. The approved General Plan integrates many of the recommended goals and policies of the AQGGP.

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. Although these thresholds are project specific, a conservative interpretation of this threshold would apply the annual emission thresholds to annual emission generated during continued implementation of the approved General Plan. The combined annual emissions of projects during construction and operation are compared to the annual threshold.

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:

- 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 blow.

Ozone Plans. The SJVAPCD's Governing Board approved the 2016 Plan for the 2008 8-Hour Ozone Standard on June 16, 2016. The comprehensive strategy in this plan will reduce NO_x emissions by over 60 percent between 2012 and 2031, and will bring the San Joaquin Valley into attainment of USEPA's 2008 8-hour ozone standard as expeditiously as practicable, no later than December 31, 2031.

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.F.

Table 4.2.F: 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, 2015.

Community Emissions Reductions Program: Assembly Bill 617. AB 617 requires the CARB and air districts to develop and implement a Community Emission Reduction Plan (CERP) with additional emissions reporting, monitoring, and reduction plans and measures in an effort to reduce air pollution exposure in disadvantaged communities. Given that 20 of the 30 most disadvantaged communities in California are in the San Joaquin Valley, this process is expected to bring additional clean air resources and strategies to many Valley communities.

South Central Fresno and the City of Shafter are the first Valley communities selected by the California Air Resources Board for investment of additional resources under AB 617. The Valley Air District has established a steering committee for each of these communities comprising community residents, businesses, community advocates, and government representatives to assist in the development and implementation of community air monitoring and emission reduction programs. Fresno's CERP was adopted by CARB and is now in the implementation phase.

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, PM_{10} and $PM_{2.5}$ 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 Fresno General Plan. The City of Fresno's General Plan Resources Conservation and Resilience Element includes objectives and policies that work to achieve and maintain compliance with State and federal air quality standards for criteria pollutants. The following policies related to air quality are applicable to the proposed project:

- **Policy RC-4-a: Support Regional Efforts.** Support and lead, where appropriate, regional, State and federal programs and actions for the improvement of air quality, especially the SJVAPCD's efforts to monitor and control air pollutants from both stationary and mobile sources and implement Reasonably Available Control Measures in the Ozone Attainment Plan.

- **Policy RC-4-b: Conditions of Approval.** Develop and incorporate air quality maintenance requirements, compatible with Air Quality Attainment and Maintenance Plans, as conditions of approval for General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals.

- **Policy RC-4-c: Evaluate Impacts with Models.** Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.

- **Policy RC-4-e: Support Employer-Based Efforts.** Support and promote employer implementation of staggered work hours and employee incentives to use carpools, public transit, and other measures to reduce vehicular use and traffic congestion.

- **Policy RC-4-k: Electric Vehicle Charging.** Develop standards to facilitate electric vehicle charging infrastructure in both new and existing public and private buildings, in order to accommodate these vehicles as the technology becomes more widespread.

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

The thresholds for impacts related to air quality used in this analysis are consistent with Appendix G of the State CEQA Guidelines. Development of the proposed project would result in a significant impact related to air quality if it would:

Threshold 4.2.1 **Conflict with or obstruct implementation of the applicable air quality plan;**

Threshold 4.2.2 **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;**

Threshold 4.2.3 **Expose sensitive receptors to substantial pollutant concentrations; or**

Threshold 4.2.4 **Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.**

4.2.3.2 Project Impacts

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

Threshold 4.2.1 **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 2016 Plan for the 2008 8-Hour

Ozone Standard in June 2016 to satisfy Clean Air Act requirements and ensure attainment of the 75 parts per billion (ppb) 8-hour ozone standard.[14]

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.[15] 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 (µg/m^3) and 24-hour $PM_{2.5}$ standard of 65 µg/m^3, the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m^3, and the 2012 annual $PM_{2.5}$ standard of 12 µg/m^3.[16]

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 2016 Plan for the 2008 8-Hour Ozone Standard in June 2016 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 µg/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 two phases occurring over a total 24-month period starting in the third quarter of 2023 and ending in 2025 and would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance. Implementation of Mitigation Measure AIR-1, which requires the implementation of measures required under SJVAPCD's Regulation VIII would further reduce construction dust impacts. As discussed below and shown in Table 4.2.G, long-term operational emissions associated with the proposed project, including area, energy, and mobile source emissions, would also not exceed SJVAPCD established significance

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14 San Joaquin Valley Air Pollution Control District, 2016. *2016 Plan for the 2008 8-Hour Ozone Standard*. June 16. Website: www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm (accessed September 2022).

15 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).

16 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).

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 with implementation of Mitigation Measure AIR-1.

Conclusion. 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 with implementation of Mitigation Measure AIR-1.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure AIR-1 below.

Level of Significance With Mitigation: Less than Significant with implementation of Mitigation Measure AIR-1.

Threshold 4.2.2 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 following analysis assesses the potential heat island effect, construction- and operation-related air quality impacts.

Heat Island Effect. The heat island effect occurs when natural land cover is replaced with pavement, buildings, and other surfaces that absorb and retain heat. This effect increases energy costs, air pollution levels, and heat-related illness. CEQA does not require an analysis of heat island effects, and neither the SJVACD nor the City of Fresno have adopted specific criteria for this topic. However, the project's potential for increasing the heat island effect in Fresno has been evaluated as it relates to potentially resulting in a net increase in pollutants related to the Basin's non-attainment status as heat islands increase ozone production.

The proposed project would include cool roof materials. Cool roofs work to reflect heat and stay cooler. The project would also include a vegetative plan that includes the planning of trees and other landscaping materials throughout the perimeter of the project site. Trees provide shade and building cooling. With the implementation of the project's cool roofing material and landscape plan, the proposed project would not result in a significant localized heat island effect.

Short-Term Construction Emissions. The proposed project's short-term construction emissions would consist of: (1) dust-related PM_{10} emissions and (2) exhaust-related emissions consisting of CO, SO_2, NO_x, ROG, and some soot particulates ($PM_{2.5}$ and PM_{10}) from heavy trucks and construction equipment powered by gasoline and diesel engines.

Emissions Sources. During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by grading, hauling, 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.

Project construction activities would include site preparation, grading, building construction, paving, and architectural coating 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}). Regulation VIII is a series of rules designed to reduce fugitive dust from construction sites, parking and staging areas, open areas, material storage areas, etc. No permits are required by Regulation VIII, but failure to comply can result in fines and penalties. The SJVAPCD provides a synopsis describing requirements and exemptions from Regulation VIII when commenting on proposed projects. 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 particulates ($PM_{2.5}$ 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.

Significance Thresholds. The SJVAPCD has established construction emissions thresholds on an annual basis as shown in Table 4.2.G below. If a project's potential emissions exceed any applicable threshold, then the project's emissions are potentially significant.

Impact Analysis. Construction emissions for the proposed project were analyzed using the CalEEMod. Construction of the proposed project is anticipated to occur in two phases occurring over a total 24-month period starting in the third quarter of 2023 and ending in 2025. 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.G. CalEEMod output sheets are included in Appendix C.

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

Project Construction	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
2023	0.1	2.5	2.0	<0.1	0.5	0.2
2024	0.3	4.3	4.0	<0.1	0.8	0.3
2025	6.4	1.5	1.4	<0.1	0.2	0.1
Maximum Annual Construction Emissions	**6.4**	**4.3**	**4.0**	**<0.1**	**0.8**	**0.3**
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 (September 2022).

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

As shown in Table 4.2.G, 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 Mitigation Measure AIR-1, would ensure that the proposed project complies with Regulation VIII and further reduces the short-term construction period air quality impacts.

With implementation of Mitigation Measure AIR-1, construction 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 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 (1) mobile sources (e.g., vehicle trips), (2) energy sources (e.g., electricity and natural gas), and (3) area sources (e.g., architectural coatings and the use of landscape maintenance equipment).

Emissions Sources. 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.

Energy source emissions result from activities in buildings for which natural gas is used. The quantity of emissions is the product of usage intensity (i.e., the amount of natural gas) and the emission factor of the fuel source. The proposed project would be consistent with 2022 Title 24 standards (or building code standards applicable at the time the buildings are constructed); however, based on available modeling tools, the CalEEMod analysis of energy use assumed the construction of buildings based on the 2019 Title 24 standards which is a conservative analysis.

As identified in Chapter 3.0, Project Description, the proposed project would be consistent with 2022 Title 24 Building Energy Efficiency Standards (Title 24 Standards) and would include “cool roof” materials for the roof. The Title 24 Standards contain energy and water efficiency requirements (and indoor air quality requirements) for newly constructed buildings, additions to existing buildings, and alterations to existing buildings. The Title 24 Standards establish performance metrics in the form of an "energy budget” based on energy consumption per square foot of floor space. For this reason, the Title 24 Standards include both a prescriptive option, allowing builders to comply by using methods known to be efficient, and a performance option, allowing builders complete freedom in their designs provided the building achieves the same overall efficiency as an equivalent building using the prescriptive option. Reference appendices are adopted along with the Title 24 Standards containing data and various compliance tools to help builders achieve compliance.

Typically, area source emissions consist of direct sources of air emissions located at the project site, including architectural coatings and the use of landscape maintenance equipment. Area source emissions associated with the project would include emissions from the use of landscaping equipment and the use of consumer products.

Significance Thresholds. The SJVAPCD has established operational emissions thresholds on an annual basis as shown in Table 4.2.H below. If a project’s potential emissions exceed any applicable threshold, then the project’s emissions are potentially significant.

Impact Analysis. Emission estimates for operation of the project were calculated using CalEEMod. Model results are shown in Table 4.2.H. Trip generation rates for the proposed project were based on the project’s trip generation estimate, as identified in Section 4.10, Transportation. As discussed in Section 4.10, Transportation, the proposed project would generate approximately 1,920 average daily trips, including 1,578 vehicle trips and 342 truck trips.

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.H for ROG, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. CalEEMod output sheets are included in Appendix C.

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

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Source Emissions	4.2	<0.1	<0.1	0.0	<0.1	<0.1
Energy Source Emissions	0.1	0.8	0.7	<0.1	0.1	0.1
Mobile Source Emissions	0.5	3.1	5.7	<0.1	2.2	0.6
Total Project Operation Emissions	**4.8**	**3.9**	**6.4**	**<0.1**	**2.3**	**0.7**
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 (September 2022).
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 shown in Table 4.2.H 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.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure AIR-1 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**:** Less than Significant with implementation of Mitigation Measure AIR-1.

Threshold 4.2.3 Would the project expose sensitive receptors to substantial pollutant concentrations?

This section describes the potential impact on sensitive receptors from construction and operation of the proposed project based on a health risk assessment (HRA) prepared for the project, included in Appendix D.[17] 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. The closest sensitive receptors include the single-family residences located approximately 110 feet south of the project site across West Nielsen Avenue.

Project Construction – Toxic Air Contaminants. A construction HRA, which evaluates construction-period health risk to off-site receptors, was performed for the proposed project and is included in Appendix D 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.

Emissions Sources. 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

[17] LSA. 2023. op. cit.

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.

Significance Thresholds. 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.

Impact Analysis. Table 4.3.I, 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 snap shots of the sources are shown in Appendix D of this EIR.

Table 4.2.I: Unmitigated 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	41.59	0.030	0.000
Worker Receptor Risk	0.35	0.014	0.000
Threshold	**20.0**	**1.0**	**1.0**
Exceed?	**Yes**	**No**	**No**

Source: LSA (October 2022).
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$\mu g/m^3$ = micrograms per cubic meter

As shown in Table 4.2.I, the maximum cancer risk for the sensitive receptor MEI would be 41.59 in one million, which would exceed the SJVAPCD cancer risk threshold of 20 in one million. The worker receptor risk would be lower at 0.35 in one million, which would not exceed the threshold. The total chronic hazard index would be 0.030 for the sensitive receptor MEI and 0.0014 for the worker receptor MEI, which would both 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, since the maximum cancer risk for the worker sensitive receptor MEI would exceed the SJVAPCD threshold, implementation of Mitigation Measure AIR-2 would be required to reduce substantial pollutant concentrations during project construction by requiring the use of Tier 4 construction equipment.

Table 4.2.J identifies the results of the analysis with implementation of Mitigation Measure AIR-2.

Table 4.2.J: Mitigated 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	4.33	0.003	0.000
Worker Receptor Risk	0.04	0.002	0.000
Threshold	**20.0**	**1.0**	**1.0**
Exceed?	**No**	**No**	**No**

Source: LSA (October 2022).
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$\mu g/m^3$ = micrograms per cubic meter

As shown in Table 4.2.J, the mitigated cancer risk at the sensitive receptor MEI would be 4.33 in one million, which would not exceed the SJVAPCD cancer risk of 20 in one million. Therefore, with implementation of Mitigation Measure AIR-2, 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.

Project Operation – Toxic Air Contaminants. To determine the potential health risk to people living and working near the proposed project associated with the exhaust of diesel-powered trucks and equipment, LSA conducted an HRA for the proposed project that is included in Appendix D.

The HRA was prepared in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment (OEHHA) and the SJVAPCD. It evaluates the project against the significance criteria established by the SJVAPCD and was prepared in compliance with all applicable requirements, including, but not limited to, City of Fresno General Plan Program Environmental Impact Report Mitigation Measure AIR-3.1.

In order to assess the dispersion of emissions associated with the project, air dispersion modeling was performed using AERMOD. The model is approved by the USEPA when estimating the air quality impacts associated with point and fugitive sources in simple and complex terrain. The model was used to calculate the annual average pollutant concentrations associated with each emitting source.

CARB's HARP2 model was used to translate the TAC concentrations from AERMOD into long-term carcinogenic and chronic, and short-term acute health risk levels following the guidance in the SJVAPCD risk assessment guidelines. To estimate chronic noncancer risks at residential receptors, the "OEHHA-Derived Method" risk-calculation option was used. Following the OEHHA guidance, an 8-hour chronic noncancer risk was calculated for residential receptors because the project would operate more than 8 hours per day and 5 days per week.

Discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the OEHHA guidance document entitled *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* and guidance from SJVAPCD.

Emissions Sources. The first step of an HRA is to characterize the project-related emissions of TACs.

The proposed project would generate a total of 1,920 daily trips, with up to 342 truck trips per day. The trucks would access the site by North Hughes Avenue, West Nielsen Avenue, and North Marks Avenue. As identified in the Project Description, Building 1 would provide 122 loading dock doors; Building 2 would provide 46 loading dock doors; Building 3 would provide 18 loading dock doors; and Building 4 would provide 15 loading dock doors. As such, the proposed project would have a total of 201 loading dock doors. As the project would contain multiple loading docks, offsite queuing of trucks is not anticipated. While the TAC emissions from gasoline-powered vehicles have a small health effect compared to DPM, this HRA includes both gasoline- and diesel-powered vehicle emissions. For the diesel exhaust emissions, it is sufficient to only consider the DPM (PM_{10} and $PM_{2.5}$) portions of the exhaust; all the TACs for the gasoline exhaust emissions are contained in the ROG emissions. Using speciation data from CARB, the emission rates of the TAC components are derived from the total ROG emissions.

Project trucks would operate in two modes: stationary idling and moving on and off the site. The emissions from trucks while idling result in a much higher concentration of TACs at nearby sensitive receptors compared to the emissions from moving trucks. This is due to the dispersion

of emissions that occurs with distance and with travel of the vehicle. For this HRA, the truck travel emissions were modeled as a series of volume sources along the on-site driveway and along East Avenue going north and south of the site driveway. LSA assumed vehicles traveling on site would maneuver slowly, averaging approximately 5-15 miles per hour (mph), and that vehicles traveling on roadways would average 5–55 mph.

The idling emissions of trucks operating on the project site were modeled as point sources within the area sources representing the planned loading docks. EMFAC2021 was used to determine the emissions factors of idling and operating diesel trucks to determine the total emissions of DPM. While it is expected that the truck emissions rate will continue to reduce over time, an HRA only allows for a single emission rate to represent the entire 70-year exposure period. The use of emissions factors for the year 2022, was used as a conservative estimate of emissions, although, the project is not expected to be fully operational until 2025.

Significance Thresholds. 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.

Impact Analysis. The carcinogenic and chronic health risks from the proposed project are shown in Table 4.2.K. The residential risk incorporates both the risk for a child living in a nearby residence for 9 years (the standard period of time for child risk) and an adult living in a nearby

residence for 70 years (considered a conservative period of time for an individual to live in any one residence).

Table 4.2.K: Health Risks Levels from Project Operation to Off-Site Receptors

	Carcinogenic Inhalation Health Risk in One Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index
Sensitive Receptor Risk	6.154	0.001	0.001
Worker Receptor Risk	0.417	0.001	0.001
Threshold	**20.0**	**1.0**	**1.0**
Exceed?	**No**	**No**	**No**

Source: LSA (October 2022).
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$\mu g/m^3$ = micrograms per cubic meter

For the nearest residential receptor, the maximum cancer risk for the MEI would be 6.154 in one million, less than the threshold of 20 in one million. The chronic health risks from the project's activity would be 0.001, which would not exceed the threshold of 1.0. In addition, the total acute hazard index would be 0.001, which would also not exceed the threshold of 1.0. See Appendix D for additional details on the modeling.

For the nearest worker receptor, the maximum cancer risk for the MEI would be 0.417 in one million, less than the threshold of 20 in one million. The chronic health risks from the project's activity would be 0.001, which would not exceed the threshold of 1.0. In addition, the total acute hazard index would be 0.001, which would also not exceed the threshold of 1.0.

As demonstrated in the analysis, the health risk levels to nearby residents from project operation-related emissions of TACs would be well below the SJVAPCD's HRA thresholds. However, as discussed above, CalEnviroScreen identifies California communities by census tract that are disproportionately burdened by, and vulnerable to, multiple sources of pollution. Pollution Burden scores for each census tract are derived from the average percentiles of the seven exposures indicators (ozone and $PM_{2.5}$ concentrations, diesel PM emissions, drinking water contaminants, pesticide use, toxic releases from facilities, and traffic density) and the five Environmental Effects indicators (cleanup sites, impaired water bodies, groundwater threats, hazardous waste facilities and generators, and solid waste sites and facilities). According to the CalEnviroScreen 4.0 Map,[18] the project site has a pollution burden percentile of 97. Surrounding areas have pollution burdens ranging from 56 to 100.0. In addition, according to the SB 535 Disadvantaged Communities Map,[19] the project area is designated as an SB 535 disadvantaged community. Based on the CalEnviroScreen results, the project area is already at an elevated risk level. Therefore, although the maximum cancer risk for the MEI would be 6.154 in one million is

[18] Office of Environmental Health Hazard Assessment (OEHHA). 2021. *CalEnviroScreen 4.0.* Website: https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40 (accessed May 2021).

[19] OEHHA. 2022. *SB 535 Disadvantaged Communities using CalEnviroScreen 4.0 results.* Website: https://experience.arcgis.com/experience/1c21c53da8de48f1b946f3402fbae55c/page/SB-535-Disadvantaged-Communities/.pdf (accessed October 2022).

less than the project risk criteria, any additional risk increase is cumulatively potentially significant. Therefore, to reduce the cumulative health risk, the project applicant shall ensure that the proposed project would provide the infrastructure for AC and/or DC chargers for electric heavy-duty trucks, which would further reduce TAC emissions. The infrastructure provided shall accommodate a minimum of one future charger per 50,000 square feet. With implementation of Mitigation Measure AIR-3, cumulative health risk impacts would be less than significant related to the exposure of sensitive receptors to substantial pollutant concentrations during project operation.

Conclusion. With implementation of Mitigation Measures AIR-2 and AIR-3, the proposed project's potential air quality impacts from construction and operation would not expose sensitive receptors to substantial pollutant concentrations. As such, 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 with mitigation incorporated.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure AIR-2 During construction of the proposed project, the project contractor shall ensure all off-road diesel-powered construction equipment of 50 horsepower or more used for the project construction at a minimum meets the California Air Resources Board Tier 4 emissions standards or equivalent.

Mitigation Measure AIR-3 The project applicant shall ensure that the proposed project provides the infrastructure for AC and/or DC chargers for electric heavy-duty trucks. The infrastructure provided shall accommodate a minimum of one future charger per 50,000 square feet.

Level of Significance With Mitigation**:** Less than Significant with implementation of Mitigation Measures AIR-2 and AIR-3.

Threshold 4.2.4 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.

Once operational, the proposed project would include truck activity, which could result in diesel odor impacts. The closest sensitive receptors include the single-family residences located approximately 110 feet south of the project site across West Nielsen Avenue. These residences would be located approximately 260 feet south of the loading docks south of Building 1. These odor

emissions may be noticeable from time to time near the project site; however, they would be localized and are not likely to adversely affect a substantial number of people by resulting in confirmed odor complaints. In addition, idling of trucks would be limited by the CARB's In-Use Off-Road Diesel Vehicles regulation, which limits idling to 5 minutes or less. Minimizing idling time reduces odors, as unburned fuel and products of combustion from some engines condense in the exhaust, particularly during warmup or shortly after engine startup, resulting in more intense odors.[20] Therefore, the proposed project would result in a less-than-significant impact related to other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.2.3.3 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 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.G and Table 4.2.H, with implementation of Mitigation Measure AIR-1, the proposed project would not generate significant construction operational emissions. 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.

[20] USEPA, 1971. *Guide to Reduction of Smoke and Odor from Diesel-Powered Vehicles*. September. Website: https://nepis.epa.gov/Exe/ZyPDF.cgi/9100JLQ0.PDF?Dockey=9100JLQ0.PDF (accessed April 2022).

In addition, as demonstrated in the analysis, with implementation of Mitigation Measures AIR-2 and AIR-3, 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 with mitigation.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures AIR-1 through AIR-3 above.

Level of Significance With Mitigation: Less than Significant with Mitigation Measures AIR-1 through AIR-3.

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4.3 BIOLOGICAL RESOURCES

This section describes how the proposed project may affect biological resources occurring in the project vicinity, both at the individual and cumulative levels. This section also addresses local, State, and federal regulations as they pertain to project impacts on biological resources. The analysis in this section is based on findings of the Biological Evaluation[1] prepared for the proposed project (Appendix E).

4.3.1 Environmental Setting

4.3.1.1 Biotic Habitat

The project site consists of a vacant urban lot surrounded by chain link fencing and supports a single biotic habitat/land use type characterized as ruderal. In addition, the project site has mostly been paved over with a few areas of exposed soils; however, the soils here have been significantly disturbed through decades of industrial and agricultural activity. The site is mostly barren of vegetation; however, vegetation does occur in pavement cracks and in unpaved areas. Where vegetation is present, it consists of non-native herbaceous weed species such as red brome (*Bromus madritensis ssp. rubens*), telegraphweed (*Heterotheca grandiflora*), red-stemmed filaree (*Erodium cicutarium*), prickly lettuce (*Lactuca serriola*), and common and small-flowered fiddleneck (*Amsinckia intermedia and menziesii*). A few non-native trees and shrubs occur on the site including Mexican fan palm (*Washingtonia robusta*), oleander (*Nerium oleander*), and red gum (*Eucalyptus camaldulensis*).

Due to the site's extensive hardscape, lack of vegetation, and perimeter fencing, it provides limited habitat value for native wildlife species. Amphibians are absent from the site due to the absence of aquatic habitats on the site. A limited number of reptile species would be expected to forage on the site. Two lizard species were observed during the field survey of the site: the western fence lizard (*Sceloporus occidentalis*) and common side-blotched lizard (*Uta stansburiana*). Few, if any, other reptile species are expected to occur on the site. The few shrubs and trees on the site, as well as the ground, provide possible nesting habitat for a few urban adapted avian species. Birds potentially nesting on the site include mourning doves (*Zenaida macroura*), killdeer (*Charadrius vociferus*), and northern mockingbird (*Mimus polyglottos*). The likelihood of nesting is however diminished by the limited foraging opportunity on the site. At the time of the field survey, the only bird species actually observed utilizing the site was the killdeer.

Although small mammal burrows were scarce on the site at the time of the field survey, a few small mammal species would be expected to occasionally occur in earthen areas of the site. These include California ground squirrels (*Otospermophilus beecheyi*), deer mice (*Peromyscus maniculatus*), house mice (*Mus musculus*), and Botta's pocket gophers (*Thomomys bottae*). Mammalian predators potentially occurring on the site would be limited by the surrounding fence. Species that may occasionally occur on the site include the raccoon (*Procyon lotor*) and feral cat (*Felis catus*).

[1] Live Oak Associates, Inc. 2021. *Biological Evaluation Nielsen Avenue Office/Warehouse Project, Fresno County, California*. April 13.

4.3.1.2 Special Status Plants and Animals

A number of species of plants and animals within the project area have low populations and/or limited distributions. Such species may be considered “rare” and are vulnerable to extirpation as the State’s human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described in Section 4.3.2 Regulatory Setting, federal and State regulations have provided the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) with a mechanism for conserving and protecting the diversity of plant and animal species native to the State. A sizable number of native plants and animals have been formally designated as “threatened” or “endangered” under federal and State endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as “species of special concern” by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists (i.e., California Rare Plant Ranks [CRPR]) of native plants considered rare, threatened, or endangered). Collectively, these plants and animals are referred to as “special status species.”

The California Natural Diversity Data Base (CNDDB) was queried for special status species occurrences in the nine U.S. Geological Survey (USGS) 7.5-minute quadrangles containing and surrounding the project site. These quads included Fresno South, Malaga, Conejo, Caruthers, Raisin, Kearney Park, Herndon, Fresno North, and Clovis. These species, and their potential to occur on the project site, are listed in Table 4.3.1. Other sources of information for this table included California’s Wildlife, Volumes I, II, and III, The Jepson Manual: Vascular Plants of California, second edition, the California Native Plant Society’s Inventory of Rare and Endangered Vascular Plants of California, Calflora.org, and eBird.org.

4.3.1.3 Sensitive Natural Communities

Sensitive natural communities are those that are of limited distribution, distinguished by significant biological diversity, home to special status plant and animal species, of importance in maintaining water quality or sustaining flows, etc. Examples of sensitive natural communities include various types of wetlands, riparian habitat, and valley scrub habitats. CDFW has assigned State Ranks to California’s natural communities that reflect the condition and imperilment of that community throughout its range within the State. State Ranks are represented with a letter and number score. Older ranks, which need to be updated in the CNDDB, may still contain a decimal "threat" rank of .1, .2, or .3, where .1 indicates very threatened status, .2 indicates moderate threat, and .3 indicates few or no current known threats. The project site does not support sensitive natural communities.

4.3.1.4 Wildlife Movement Corridors

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and interpopulation movements. Movement corridors in California are typically associated with valleys, rivers and creeks supporting riparian vegetation, and ridgelines. The project site does not contain features that would function as a wildlife movement corridor and the existing perimeter fencing would greatly inhibit wildlife movement on or off the site.

Table 4.3.1: Table of Special Status Species Potentially Occurring within Habitats of the Project Site

Species	Status	Habitat/Range	Occurrence within the Project Site
Plants			
Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act			
Succulent Owl's Clover (*Castilleja campestris ssp. succulenta*)	FT, CE, CRPR 1B	Occurs in vernal pools and swales in valley foothills and grasslands of the San Joaquin and Sacramento Valleys from Fresno County on the south to Solano County on the north; blooms April to May.	**Absent.** Vernal pool habitat required by this species is absent from the project site.
California Jewel-flower (*Caulanthus californicus*)	FT, CT, CRPR 1B	Chenopod scrub, pinyon juniper woodland, valley and foothill scrub. Blooms February to May.	**Absent.** Suitable habitat for this species is absent from the project site.
San Joaquin Valley Orcutt Grass (*Orcuttia ineaqualis*)	FT, CE, CRPR 1B	Occurs in deep vernal pools of California's San Joaquin Valley; blooms April to September.	**Absent.** Vernal pool habitat required by this species is absent from the project site.
Hairy Orcutt Grass (*Orcuttia pilosa*)	FE, CE, CRPR 1B	Occurs in vernal pools of California's Central Valley. Requires deep pools with prolonged periods of inundation; blooms May to September.	**Absent.** Vernal pool habitat required by this species is absent from the project site.
Greene's Tuctoria (*Tuctoria greenei*)	FE, CRPR 1B	Occurs in vernal pools of California's Central Valley from Shasta County on the north to Tulare County on the south; blooms May to September.	**Absent.** Vernal pool habitat required by this species is absent from the project site.
CNPS-listed Species			
Lesser Saltscale (Atriplex minuscula)	CRPR 1B	Occurs in sandy, alkaline soils of alkali sinks and grasslands. Blooms May to October.	**Absent.** Habitat and soils required by this species are absent from the project site. No Atriplex species were observed during the field survey.
California Satintail (Imperata brevifolia)	CRPR 2B	This perennial grass is found in scrubland and chaparral habitats where water is available. Blooms September to May.	**Absent.** Suitable habitat for this species is absent from the project site.
Alkali-Sink Goldfields (Lasthenia chrysantha)	CRPR 1B	Occurs in alkaline vernal pools. Blooms February to June.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.

Table 4.3.1: Table of Special Status Species Potentially Occurring within Habitats of the Project Site

Species	Status	Habitat/Range	Occurrence within the Project Site
Madera Leptosiphon (Leptosiphon serrulatus)	CRPR 1B	Occurs in cismontane woodland, lower montane coniferous forests, and annual grasslands of the Sierra foothills from Madera County on the north to Kern County on the south. This species prefers dry slopes, often on decomposed granite in woodland. Blooms April to May.	**Absent.** Suitable habitat for this species is absent from the project site.
Sanford's Arrowhead (Sagittaria sanfordii)	CRPR 1B	Occurs in freshwater marshes, pond margins, sloughs, canals of California's Central Valley and low Sierra Foothills. Blooms May to October.	**Absent.** Suitable habitat for this species is absent from the project site.
Animals			
Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act			
Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)	FT	Primarily found in vernal pools of California's Central Valley.	**Absent.** Vernal pool habitat required by this species is absent from the project site.
Crotch Bumble Bee (*Bombus crotchii*)	CCE	Inhabits open grassland and scrub habitats of the southern 2/3 of California. Historically in, but largely extirpated from the Central Valley. Flight period for queens is late February to late October peaking in April and July; flight period for males and workers is March through September peaking in early July. Constructs nests underground in animal burrows. Overwintering sites are likely in soft soils or in debris or leaf litter. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	**Absent.** Suitable habitat for this species is absent from the project site.
Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra foothills.	**Absent.** Blue elderberry shrubs required by this species are absent from the project site. Furthermore, the current opinion of the USFWS is that Fresno County is outside the range of this subspecies.

Table 4.3.1: Table of Special Status Species Potentially Occurring within Habitats of the Project Site

Species	Status	Habitat/Range	Occurrence within the Project Site
California Tiger Salamander (*Ambystoma californiense*)	FT, CT	Found primarily in annual grasslands; requires vernal pools for breeding and rodent burrows for refuge.	**Absent.** Suitable breeding habitat in the form of large vernal pools within grassland habitat is absent from the project site and surrounding lands.
Giant Garter Snake (*Thamnophis gigas*)	FT, CT	Requires permanent or summer water with vegetative cover and a dense prey population at higher elevation uplands not prone to flooding.	**Absent.** Suitable habitat for this species is absent from the project site and surrounding lands.
Least Bell's Vireo (*Vireo bellii pusillus*)	FE, CE	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms. Typically nests in willow, *Baccharis*, or mesquite shrubs.	**Absent.** The project site provides no breeding or foraging habitat for this species. Moreover, this species has been extirpated from the project vicinity.
Swainson's Hawk (*Buteo swainsoni*)	CT	Summer migrant in the Central Valley. Forages in grasslands and fields close to riparian areas.	**Unlikely.** Suitable nesting habitat is absent from the project site. Foraging habitat is absent to extremely marginal on the site due to the predominance of paved surfaces on the site. At most, this species may occasionally pass over the site during migration.
Tricolored Blackbird (*Agelaius tricolor*)	CT	Breeds colonially near fresh water in dense bulrush, cattails, or thickets of willows or shrubs. Occasionally nests in wheat fields. Forages in a wide variety of habitats.	**Absent.** Suitable habitat for this species is absent from the project site and surrounding lands. Furthermore, this species is currently only known to occur in Kings County.
Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)	CE	Frequents valley foothill and desert riparian habitats in scattered locations in California	**Absent.** Suitable habitat for this species is absent to extremely marginal. While this species has adapted to urban environments in the Bakersfield area, no urban adapted populations of San Joaquin kit fox are known to occur in the Fresno metropolitan area.
Fresno Kangaroo Rat (*Dipodomys nitratoides exilis*)	FE, CE	Inhabits grassland on gentle slopes of generally less than 10°, with friable, sandy-loam soils.	**Absent.** Suitable habitat for this species is absent from the project site and surrounding lands. Furthermore, this species is currently only known to occur in Kings County.

Table 4.3.1: Table of Special Status Species Potentially Occurring within Habitats of the Project Site

Species	Status	Habitat/Range	Occurrence within the Project Site
San Joaquin Kit Fox (*Vulpes macrotis mutica*)	FE, CT	Occurs in desert alkali scrub and annual grasslands of California's San Joaquin Valley and Tulare Basin, extending west into San Luis Obispo County. This species may forage in adjacent agricultural habitats.	**Absent.** Suitable habitat for this species is absent to extremely marginal. While this species has adapted to urban environments in the Bakersfield area, no urban adapted populations of San Joaquin kit fox are known to occur in the Fresno metropolitan area.
State Species of Special Concern			
Western Spadefoot (*Spea hammondii*)	CSC	Primarily occurs in grasslands, but also occurs in valley and foothill hardwood woodlands. Requires vernal pools or other temporary wetlands for breeding.	**Absent.** Suitable breeding habitat in the form of vernal pools is absent from the project site and surrounding lands.
Western Pond Turtle (*Emys marmorata*)	CSC	Occurs in ponds and slow-moving rivers and streams of the Sierra foothills and Central Valley.	**Absent.** Suitable aquatic habitat required by this species is absent from the project site and surrounding lands.
Coast Horned Lizard (*Phrynosoma blainvillii*)	CSC	Occurs in a wide variety of natural habitats. Most common in lowlands along sandy washes with scattered low bushes where there are open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	**Absent.** Suitable habitat for this species is absent from the project site and surrounding lands.
Northern California Legless Lizard (*Anniella pulchra*)	CSC	Moist sandy or loose loamy soils under sparse vegetation.	**Absent.** Suitably loose and moist soils are absent from the project site. Furthermore, the only documented occurrence in the region is an 1880s specimen collection.
California Glossy Snake (*Arizona elegans occidentalis*)	CSC	Occurs in arid scrub, rocky washes, grasslands, and chaparral from the eastern San Francisco Bay Area south to northwestern Baja, excluding coastal areas in Central California. Known from up to 7,200 feet in elevation.	**Absent.** Ruderal habitat found on the project site provides unsuitable habitat for this species.

Table 4.3.1: Table of Special Status Species Potentially Occurring within Habitats of the Project Site

Species	Status	Habitat/Range	Occurrence within the Project Site
Burrowing Owl (*Athene cunicularia hypugaea*)	CSC	Found in open, dry grasslands, deserts, and ruderal areas; requires ground squirrel burrows for cover and nesting.	**Unlikely.** The site's urban setting and preponderance of paved surfaces are generally incompatible with burrowing owl ecology. No evidence of burrowing owl occupation such as cough pellets, whitewash, or feathers was observed during the field survey. The nearest documented occurrence is approximately 6.5 miles to the northeast at the Fresno International Airport.
Western Mastiff Bat (*Eumops perotis ssp. californicus*)	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, and tunnels.	**Possible.** The project site provides possible foraging habitat for this species. Roosting and breeding habitat is absent from the site.
Pallid Bat (*Antrozous pallidus*)	CSC	Grasslands, chaparral, woodlands, and forests of California; most common in dry rocky open areas providing roosting opportunities.	**Possible.** The site could be used for foraging; roosting and breeding habitat is absent.
American Badger (*Taxidea taxus*)	CSC	This species inhabits open and dry sections of grasslands, shrub, and forest habitats with friable soil.	**Absent.** The site provides unsuitable habitat conditions for this species based on its urban setting and predominance of paved surfaces.

Source: Live Oak Associates, Inc. (April 2021)
Notes:
Present: Species observed on the Site at time of field surveys or during recent past.
Likely: Species not observed on the Site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the Site, but it could occur there from time to time.
Unlikely: Species not observed on the Site, and would not be expected to occur there except, perhaps, as a transient
Absent: Species not observed on the Site and precluded from occurring there because habitat requirements not met.
CCE = California Candidate Endangered
CE = California Endangered
CFP = California Fully Protected
CNPS = California Native Plant Society Listing
CSC = California Species of Special Concern
CT = California Threatened
FC = Federal Candidate
FE = Federally Endangered
FPD = Federally (Proposed) Delisted
FPT – Federally Proposed Threatened
FT = Federally Threatened

4.3.1.5 Designated Critical Habitat

The USFWS often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Designated critical habitat is absent from the project site and immediately surrounding lands.

4.3.2 Regulatory Setting

4.3.2.1 Federal Regulations

Federal Endangered Species Act. The United States Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (ESA). The ESA provides a process for listing species as either threatened or endangered and methods of protecting listed species. The ESA defines as "endangered" any plant or animal species that is in danger of extinction throughout all or a significant portion of its known geographic range. A "threatened" species is a species that is likely to become endangered. A "proposed" species is one that has been officially proposed by the USFWS for addition to the federal threatened and endangered species list.

Per Section 9 of the ESA, "take" of threatened or endangered species is prohibited. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct (codified at 16 U.S.C.A. § 1532(19). "Take" can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

Federal Clean Water Act - Section 404. The US Army Corps of Engineers (USACE) administers Section 404 of the federal Clean Water Act (CWA). This section regulates the discharge of dredge and fill material into waters of the United States. "Discharge of fill material" is defined as the addition of fill material into waters of the United States, including, but not limited to, the following: placement of fill that is necessary for the construction of any structure or impoundment requiring rock, sand, dirt, or other material for the structure's construction; site development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 C.F.R. §328.2[f]).

The USACE has established a series of nationwide permits that authorize certain activities in waters of the United States, if a proposed activity can demonstrate compliance with standard conditions. Normally, USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the United States. Projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. USACE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.5 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Federal Clean Water Act - Section 401. Per Section 401 of the CWA, "any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable waters at the point where the discharge originates or will originate, that any such discharge will comply with the applicable provisions of sections 1311, 1312, 1313, 1316, and 1317 of this title" (33 U.S.C.A. § 1341(a)(1)). Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification from the Regional Water Quality Control Board.

Waters of the United States. USACE has primary federal responsibility for administering regulations that concern "waters of the U.S." The Corps acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters of the U.S.," and the Clean Water Act (CWA) (Section 404), which governs specified activities in "other waters of the U.S.," including wetlands. The Corps requires that a permit be obtained if a project proposes placing structures within, over, or under navigable waters or discharging dredged or fill material into "waters of the U.S." below the ordinary high-water mark in non-tidal waters. The U.S. Environmental Protection Agency (USEPA), USFWS, NMFS, and several other agencies can provide comments on Corps permit applications.

The federal government defines wetlands in CWA Section 404 as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support (and do support, under normal circumstances) a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR § 328.3(b) and 40 CFR § 230.3). The federal definition of wetlands requires three wetland identification parameters to be present: wetland hydrology, hydric soils, and hydrophytic vegetation.

"Other waters of the U.S." refers to those hydric features that are regulated by the CWA but are not wetlands (33 CFR § 328.4). To be considered jurisdictional, these features must exhibit a defined bed and bank and an ordinary high-water mark. Examples of other waters of the U.S. include rivers, creeks, intermittent and ephemeral channels, ponds, and lakes. Human-made wetland areas that are not regulated under this act include stock watering ponds and created water treatment facilities.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (MBTA) protects all common wild birds found in the United States except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. Under the MBTA, "it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof …" (16 U.S.C.A. § 703(a)).

4.3.2.2 State Regulations

California Endangered Species Act. The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA). CESA applies to "endangered" or "threatened" birds, mammals, fish, amphibians, reptiles, and plants, but does not apply to insects (see 81 Cal. Op. Att'y Gen. 222 (1998)). The State of California considers an "endangered" species one whose prospects of survival and reproduction are in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease. Any species determined by the commission as "endangered" on or before January 1, 1985, is an "endangered species." A "threatened" species is one present in such small numbers throughout its range that it is likely to become an endangered species in the foreseeable future in the absence of special protection or management. The California Endangered Species Act of 1970 created the categories of "Endangered" and "Rare." The California Endangered Species Act of 1984 created the categories of "Endangered" and "Threatened." On January 1, 1985, all animal species designated as "Rare" were reclassified as "Threatened" (see Fish and Game Code § 2067).

Section 2080 of the Fish and Game Code prohibits "take" of any species that the commission determines to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project caused losses of listed species populations and their essential habitats.

"Candidate species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list (Fish and Game Code § 2068).

The CDFW exercises authority over mitigation projects involving State-listed species, including those resulting from CEQA mitigation requirements. Lead agencies are directed by the CESA to consult with the CDFW on projects or actions that could affect listed species. A "taking" may be authorized by the CDFW if an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy is implemented. In addition, the CDFW requires preparation of mitigation plans in accordance with published guidelines.

California Department of Fish and Wildlife "Species of Special Concern." A Species of Special Concern (SSC) is a species, subspecies, or distinct population of an animal (i.e., fish, amphibian, reptile, bird and mammal) native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role;
- is listed as Federally-, but not State-, threatened or endangered;

- meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

SSCs tend to have a number of factors in common, including that they:

- occur in small, isolated populations or in fragmented habitat, and are threatened by further isolation and population reduction;
- show marked population declines;
- depend on a habitat that has shown substantial historical or recent declines in size and/or quality or integrity;
- have few California records, or which historically occurred in the State but for which there are no recent records; and
- occur largely in areas where current management practices are inconsistent with the animal's persistence.

"Species of Special Concern" is an administrative designation that carries no formal legal status per se, but signifies that the species is recognized as sensitive by the CDFW. Section 15380 of the State CEQA Guidelines clearly indicates that species of special concern should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined therein.

California Native Plant Protection Act. In 1977, the Legislature formally recognized the status of rare or endangered plants with the passage of the Native Plant Protection Act (NPPA) (Fish and Game Code, Section 1900 et seq.). The NPPA directed the CDFW to preserve, protect, and enhance rare and endangered plants in California. The NPPA also authorized the Fish and Game Commission to designate native plants as "rare" or "endangered" and to require permits for collecting, transporting, or selling such plants.

Under Section 1901 of the Fish and Game Code, "native plant" means a plant growing in a wild uncultivated state, which is normally found native to the plant life of this state. A species, subspecies, or variety is considered "endangered" when its prospects of survival and reproduction are in immediate jeopardy from one or more causes. A species, subspecies, or variety is considered "rare" when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens.

Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of plant.

Fish and Wildlife Protection - California Fish and Game Code, Sections 1600 to 1603. The California Fish and Game Code mandates that "it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity." CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses, including dry washes, characterized by the presence of hydrophytic vegetation, the location of definable bed and banks, and the presence of existing fish or wildlife resources.

Furthermore, CDFW jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdiction. However, CDFW does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

Porter-Cologne Water Quality Act. The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state" (Water Code Section 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code Section 13050 (e)).

Regional Water Quality Control Board Regulated Activities. Under Section 401 of the CWA, the RWQCB regulates all activities that are regulated by the USACE. Additionally, under the Porter-Cologne Water Quality Act, the RWQCB regulates all activities, including dredging, filling, or discharge of materials into waters of the state that are not regulated by the USACE due to a lack of connectivity with a navigable water body and/or lack of an OHWM.

California Fish and Game Code - Section 3503 and Section 3511. The CDFW administers the California Fish and Game Code. There are particular sections of the Fish and Game Code that are applicable to natural resource management. For example, Section 3503 of the Fish and Game Code states it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird that is protected under the MBTA. Fish and Game Code Section 3503.5 further protects all birds in the orders Falconiformes and Strigiformes, birds of prey such as hawks and owls, and their eggs and nests, from any form of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is also considered a "taking" by the CDFW. Fish and Game Code Section 3511 lists fully protected bird species where the CDFW is unable to authorize the issuance of permits or licenses to take these species.

Natural Community Conservation Planning Act - Fish and Game Code Sections 2800 et seq. The State of California has adopted the Natural Community Conservation Planning and Habitat Conservation Planning (NCCP/HCP) program to focus on creating a multiple-species, multiple-habitat subregional Reserve System and implementing a long-term "adaptive management" program. To accomplish this, the NCCP/HCP creates a subregional habitat Reserve System and implements a coordinated program to manage biological resources within the habitat reserve. The creating of a defined Reserve System provides certainty to the public and to affected landowners with respect to the location of future development and open space within the subregion. The NCCP/HCP was

developed with coordination through the CDFW and the USFWS, in order to account for the CESA and the federal ESA. The City does not occur within any NCCP/HCP designated area.

California Native Plant Society. The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California. Potential impacts to populations of CNPS-listed plants require consideration under CEQA. The following identifies the definitions of the California Rare Plant Ranks (formerly known as the CNPS lists):

- California Rare Plant Rank 1A: Plants believed extirpated in California and either rare or extinct elsewhere.
- California Rare Plant Rank 1B: Plants rare, threatened, or endangered in California and elsewhere.
- California Rare Plant Rank 2A: Plants presumed extirpated in California, but more common elsewhere.
- California Rare Plant Rank 2B: Plants rare threatened or endangered in California but more common elsewhere.
- California Rare Plant Rank 3: Plants about which more information is needed - a review list.
- California Rare Plant Rank 4: Plants of limited distribution – a watch list.

The CNPS Threat Rank is an extension added onto the California Rare Plant Rank, which designates the level of threats by a 1 to 3 ranking, with 1 being the most threatened and 3 being the least threatened. Each threat rank is defined as follows:

- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).
- 0.2-Moderately threatened in California (20 - 80% occurrences threatened / moderate degree and immediacy of threat).
- 0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

4.3.2.3 Local Regulations

City of Fresno General Plan. The City of Fresno's General Plan Parks, Open Space, and Schools Element includes objectives and policies that work to provide for long-term preservation, enhancement, and enjoyment of plant, wildlife, and aquatic habitat. The following policies related to biological resources are applicable to the proposed project:**Policy POSS-5-c: Buffers for Natural Areas.** Require development projects, where appropriate and warranted, to incorporate natural

features (such as ponds, hedgerows, and wooded strips) to serve as buffers for adjacent natural areas with high ecological value.

- **Policy POSS-6-b: Effects of Stormwater Discharge.** Support efforts to identify and mitigate cumulative adverse effects on aquatic life from stormwater discharge to the San Joaquin River.
    - Avoid discharge of runoff from urban uses to the San Joaquin River or other riparian corridors.
    - Approve development on sites having drainage (directly or indirectly) to the San Joaquin River or other riparian areas only upon a finding that adequate measures for preventing pollution of natural bodies of water from their runoff will be implemented.
    - Periodically monitor water quality and sediments near drainage outfalls to riparian areas. Institute remedial measures promptly if unacceptable levels of contaminant(s) occur.
- **Policy POSS-7-a: Preserve Wildlife Corridors.** Acquire and expand natural reserves and wildlife corridors through purchase, easements, mitigation for proposed activities, or other mutually satisfactory transactions.

City of Fresno Municipal Code. Chapter 13, Article 3, Street Trees and Parkways of the City of Fresno Municipal Code provides guidelines and requirements for the preservation and protection existing street trees, as well as guidelines establishing the installation of city-owned trees along streets.

4.3.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to biological 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.

4.3.3.1 Significance Criteria

The thresholds for impacts related to biological resources used in this analysis are consistent with Appendix G of the State CEQA Guidelines. Development of the proposed project would result in a significant impact related to biological resources if it would:

Threshold 4.3.1 **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;**

Threshold 4.3.2 **Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;**

Threshold 4.3.3 **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;**

Threshold 4.3.4 **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or**

Threshold 4.3.5 **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or**

Threshold 4.3.6 **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.**

4.3.3.2 Project Impacts

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

Threshold 4.3.1 **Would the project have 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?**

The Fresno region supports various special-status natural communities, plants, and animals. Table 4.3.A above identifies those special-status plant and animal species known to occur or that potentially occur in the vicinity of the project site (based on a literature review and experience in the region) and includes detailed information about each species' habitat and distribution, State and federal status designations, and probability of occurrence within the project site. As stated in the Environmental Setting section above, the background research included occurrence records from nine USGS topographic quadrangles surrounding the survey area. A nine-USGS quadrangle search covers a large, variable geographic and topographic area containing numerous habitat types not found within or around the project site.

Special-Status Plants. Ten special-status vascular plant species are known to occur in the region. However, no special-status plants exist within the project site or in adjacent parcels. The project site does not contain suitable habitat and is situated outside of the species' known distribution.

Therefore, as the project site does not contain any special-status plants, special-status plants would not be impacted by the proposed project.

Special-Status Species. In total, 20 special-status species could potentially occur in the project vicinity; however, 18 are considered absent or unlikely to occur on the project site due to past and ongoing disturbance of the site and surrounding lands, the absence of suitable habitat, and/or the project site being situated outside of the species' known distribution. The 18 species considered absent or unlikely to occur on the project site include vernal pool fairy shrimp, Crotch bumble bee, valley elderberry longhorn beetle, California tiger salamander, giant garter snake, least Bell's vireo, Swainson's hawk, tricolored blackbird, western yellow-billed cuckoo, Fresno kangaroo rat, San Joaquin kit fox, western spadefoot, western pond turtle, coast horned lizard, northern California legless lizard, California glossy snake, burrowing owl, and American badger. The proposed project does not have the potential to impact these species through project-related mortality or loss of habitat as there is little or no likelihood that they are present or would be present during construction activity.

The two special-status species that have the potential to forage over the project site from time to time, but would not roost on the site, include western mastiff bat and pallid bat. These two bat species would not be adversely affected from project-related loss of habitat nor is foraging habitat uniquely important for these species. These species would not be vulnerable to construction-related injury or mortality while foraging because they are highly mobile during foraging and are expected to avoid active construction zones. These bats would be expected to continue to use the project site for foraging after redevelopment. No other special-status species were determined to have a moderate or high probability of occurrence on the project site.

However, the project site does contain suitable nesting habitat for a few urban adapted native avian species. The on-site trees and shrubs have the potential to support nesting birds such as northern mockingbird or mourning dove. In addition, the project site also has the potential to support the ground-nesting and disturbance-tolerant killdeer. Nearly all native birds are protected by the Federal Migratory Bird Treaty Act, the California Migratory Bird Protection Act, and the California Fish and Game Code. Construction activities that occur during the nesting bird season (typically February 1 through August 31 have potential to result in the mortality/disturbance of nesting birds.

Without avoidance or mitigation, these potential impacts on nesting birds could be considered potentially significant. However, avoidance, conducting pre-construction surveys, and establishing buffers would prevent or compensate for impacts on special-status bird species. Therefore, implementation of Mitigation Measure BIO-1, which would require avoidance, conducting pre-construction surveys, and establishing buffers, would effectively mitigate any impacts on special-status species to less-than-significant levels.

Critical Habitat. The project would not result in any impacts to critical habitat, and no additional mitigation is required.

Summary. The proposed project would have a less-than-significant impact with implementation of Mitigation Measure BIO-1 related to 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 the U.S. Fish and Wildlife Service.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure BIO-1: If project construction activities occur during nesting season (between February 1 and August 31), a qualified biologist shall conduct pre-construction surveys for active migratory bird nests at the project site within 14 days of the onset of these activities. Should any active nests be discovered in or near proposed construction zones, the biologist shall identify a suitable construction-free buffer around the nest. This buffer shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the young have fledged.

Level of Significance With Mitigation: Less than Significant with implementation of Mitigation Measure BIO-1.

Threshold 4.3.2 Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Habitat values of the urban project site have been severely diminished due to the extensive hardscape, scarcity of vegetation, and perimeter chain-link fencing. No riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulation by the CDFW or USFWS is present on the project site. Designated critical habitat, sensitive natural communities, and other sensitive habitats are absent from the project site and adjacent lands. Therefore, implementation of the proposed project would have no impact on riparian habitat and other sensitive natural communities identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service,.

Level of Significance Without Mitigation: No Impact.

Threshold 4.3.3 Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

No aquatic resources occur within the project site, or within the vicinity of the project site. The project site consists entirely of previously developed areas. As a result, no impact would occur related to 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.

Level of Significance Without Mitigation: No Impact.

Threshold 4.3.4 Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife movement corridors are linear habitats that function to connect two or more areas of significant wildlife habitat. These corridors may function on a local level as links between small habitat patches (e.g., streams in urban settings) or may provide critical connections between regionally significant habitats (e.g., deer movement corridors). Wildlife corridors typically include vegetation and topography that facilitate the movements of wild animals from one area of suitable habitat to another, in order to fulfill foraging, breeding, and territorial needs. These corridors often provide cover and protection from predators that may be lacking in surrounding habitats. Wildlife corridors generally include riparian zones and similar linear expanses of contiguous habitat.

The project site does not contain any features that would function as wildlife movement corridors for resident or migratory wildlife species. In addition, the perimeter chain-link fence would inhibit the movement of native or migratory wildlife. Therefore, the proposed project would not place any permanent barriers within any known wildlife movement corridors or interfere with habitat connectivity. The proposed project would result in a less-than-significant impact related to the potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

Level of Significance With Mitigation: Less Than Significant Impact.

Threshold 4.3.5 Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The project would not conflict with any local policies or ordinances protecting biological resources. Buildout of the proposed project would not impact any biological resources protected by local policies or ordinances. As a result, no impact would occur related to local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Level of Significance Without Mitigation: No Impact.

Threshold 4.3.6 Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The City of Fresno is not located within the boundaries of any approved or draft Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other adopted local, regional or State HCP. Therefore, development within the City would not result in any impacts to an adopted HCP or NCCP.

The PG&E San Joaquin Valley Operation and Maintenance (O&M) Habitat Conservation Plan (HCP) was approved in 2007 and covers portions of nine counties, including Fresno County and the City of Fresno. This HCP covers PG&E activities which occur as a result of ongoing O&M that would have an

adverse impact on any of the 65 covered species and provides incidental take coverage from the USFWS and CDFW. The project site is not located within the covered area of any other HCP, Natural Community Conservation Plan, or other approved local, regional, or State HCP.

Therefore, the project would not conflict with the provisions of the PG&E HCP. The proposed project would have no impact to the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Level of Significance Without Mitigation: No Impact.

4.3.3.3 Cumulative Impacts

Cumulative impacts arise due to the linking of impacts from past, current, and reasonably foreseeable future projects in the region. Future development activities in the City of Fresno would result in impacts on the same habitat types and species that would be affected by the proposed project. The proposed project, in combination with other projects in the area and other activities that impact the species that are affected by this project, could contribute to cumulative effects on special-status species.

The cumulative impact on biological resources resulting from the project in combination with other projects in the project area and larger region would be dependent on the relative magnitude of adverse effects of these projects on biological resources compared to the relative benefit of impact avoidance and minimization efforts prescribed by planning documents, CEQA mitigation measures, and permit requirements for each project; and compensatory mitigation and proactive conservation measures associated with each project. In the absence of such avoidance, minimization, compensatory mitigation, and conservation measures, cumulatively significant impacts on biological resources would occur.

However, the City of Fresno General Plan contains conservation measures that would benefit biological resources. Further, the project would implement Mitigation Measure BIO-1 to reduce impacts on nesting birds, as described above. The proposed project is not expected to have a substantial adverse effect on any other special-status species. Thus, the project would not contribute to any significant cumulative impacts to biological resources, and cumulative impacts to these resources would be less than significant.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure BIO-1 above.

Level of Significance With Mitigation: Less than Significant with implementation of Mitigation Measure BIO-1.

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4.4 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

This section describes the baseline conditions for cultural resources in the project area, identifies potentially-significant impacts to cultural resources that may result from project implementation, and recommends mitigation measures to reduce the severity of potentially significant impacts. Cultural resources include prehistoric-era archaeological sites, historic-era archaeological sites, Native American traditional cultural properties, sites of religious and cultural significance, and historical buildings, structures, objects, and sites. Appendix G of the California Environmental Quality Act (CEQA) Guidelines separates the resource topic areas of Cultural Resources and Tribal Cultural Resources. This Environmental Impact Report (EIR) combines these two resource topic areas to provide the reader one condensed location with pertinent information. The analysis in this section is based on the Phase I Cultural Resources Survey[1] prepared for the proposed project (Appendix F).

4.4.1 Environmental Setting

The project site is depicted on the United States Geological Survey (USGS) Fresno South, California 7.5-minute topographic quadrangle map in Section 06 of Township 14 South, Range 20 East, Mount Diablo Baseline and Meridian. The project site is relatively flat and is at an elevation of 290 feet. The nearest current water source is a man-made ditch, and the nearest natural freshwater source (the San Joaquin River) is 7.5 miles north of the project site. Subsurface sediments of the project site consist of Quaternary marine and nonmarine alluvium, lake, playa, and terrace deposits that date to the Pleistocene and Holocene (ranging from 2.58 million years ago to the present).

To characterize the setting for cultural resources at the project site, the following tasks were completed: (1) a records search at the Southern San Joaquin Valley Information Center (SSJVIC) to identify prior cultural resource studies and previously recorded cultural resources in the project area and surrounding 0.5-mile area; (2) a search of the Native American Heritage Commission (NAHC) Sacred Lands File; (3) additional background research including a review of aerial photographs and historic-period maps that include the project site; and (4) a pedestrian field survey of the project area to identify potential historical resources within the project area.

4.4.1.1 Southern San Joaquin Valley Information Center

A record search of the project site and a 0.5-mile search radius was conducted on May 10, 2021, by staff members at the SSJVIC of the California Historical Resources Information System (CHRIS) at California State University, Bakersfield (SSJVIC Records Search File No. 21-161). The SSJVIC, an affiliate of the California Office of Historic Preservation (OHP), is the official repository of cultural resources records and reports for Fresno County. Background research also included a review of the following State and federal inventories:

[1] LSA. 2021. *Phase I Cultural Resources Survey for the 2740 West Nielsen Avenue Office/Warehouse Project in Fresno, Fresno County, California (LSA Project No. SNN2102)*. August 3.

- Built Environment Resources Directory (BERD)[2]
- California Historical Landmarks[3]
- California Points of Historical Interest[4]
- *Five Views: An Ethnic Historic Site Survey for California*[5]
- California Inventory of Historic Resources[6]

The record search results indicate that no previous cultural resources studies have included the project site and that four previous studies have included a portion of the area within a 0.5 mile radius of the project site. All four previous studies were field surveys. No cultural resources have been previously recorded in the project site, and one cultural resource (P-10-003930, the historic-period Southern Pacific Railroad) has been recorded within 0.5 miles of the project site. No resources listed in the BERD are within the project site.

4.4.1.2 Native American Heritage Commission

LSA submitted a request to the NAHC for review of the Sacred Lands File (SLF) for the presence of Native American cultural resources that might be impacted by the proposed project. The NAHC maintains the SLF database and is the official State repository of Native American sacred-site location records in California. Nancy Gonzalez-Lopez, NAHC Cultural Resources Analyst, responded to the SLF search request on May 18, 2021, stating that the results were negative and that no Native American cultural resources were known in the area. The NAHC also provided a suggested list of Native American individuals to contact for information regarding the project site.

4.4.1.3 Aerial Photographs and Historic Maps

Additional background research included a review of aerial photographs and historic-period maps that include the project site.[7] The purpose of this review was to assess the potential for historic period archaeological deposits in the project site. The oldest available aerial photograph that includes the project site dates to 1962, at which time the project site was already disturbed with buildings on the western portion and cleared land on the eastern portion. By 1972, the square buildings on the eastern portion of the project site were constructed. The rectangular buildings on the eastern portion of the project site were constructed by 1998. All buildings were demolished by 2014.

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2 California Office of Historic Preservation. Built Environment Resources Directory (BERD). n.d. Website: https://ohp.parks.ca.gov/?page_id=30338 (accessed July 31, 2021).

3 California Office of Historic Preservation. 1996. California Historical Landmarks. California Department of Parks and Recreation, Sacramento.

4 California Office of Historic Preservation. 1992. California Points of Historical Interest. California Department of Parks and Recreation, Sacramento.

5 California Office of Historic Preservation. 1988. *Five Views: An Ethnic Historic Site Survey for California*. California Department of Parks and Recreation, Sacramento.

6 California Office of Historic Preservation. 1976. California Inventory of Historic Resources. California Department of Parks and Recreation, Sacramento.

7 National Environmental Title Research. n.d. Historic Aerials. Website: http://www.historicaerials.com (accessed July 31, 2021).

The earliest available topographic quadrangle reviewed by LSA dates to 1923 and depicts the roads along the borders of the project site but depicts no buildings on the project site itself. Buildings in the southwestern corner of the project site are depicted on a 1947 map, and the remainder of the buildings on the western portion of the project site are depicted on a 1964 map along with two reservoirs just west of the center of the southern edge of the project site. The map dating to 1974 depicts the square buildings on the eastern portion of the project site (which were visible on the 1972 aerial photograph). The remaining building foundations within the project site are not 50 years old and as such do not meet the age threshold for evaluation per CEQA.

4.4.1.4 Field Survey

On June 11, 2021, a pedestrian survey of the project site was conducted by spot-checking areas of exposed sediment. Areas not surveyed were covered with concrete or asphalt. Transects spaced less than 5 meters (16.4 feet) apart were walked within the survey areas. A trowel was used to periodically expose native soil to obtain a better view of the ground surface. Rodent burrowing holes and backdirt piles were examined for indications of archaeological deposits and/or human remains. The field survey did not identify any cultural resources in the project site. Observed sediments consisted of a light-brown loam and were recently disturbed by mechanical equipment. Much of the project site was covered by concrete (building foundations) or asphalt (driving areas).

4.4.2 Regulatory Setting

State and local laws, regulations, plans, or guidelines that are potentially applicable to the project are summarized below.

4.4.2.1 Federal Regulations

National Historic Preservation Act. The National Historic Preservation Act of 1966 (NHPA) is the most concise and effective federal law dealing with historic preservation. While federal preservation law does not apply to the proposed project, applicable State and local requirements have been derived from this legislation. The NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our cultural heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes regulations specifically for federal land-holding agencies, but also includes regulations (known as Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. In addition, the NHPA authorizes the Secretary of the Interior to establish a National Register of Historic Places (National Register). The National Register is an inventory of districts, sites, buildings, structures and objects significant at a national, State, or local level in American history, architecture, archaeology, engineering, and culture. The National Register is wholly maintained by the National Park Service, the Advisory Council on Historic Preservation, and the State Office of Historic Preservation (SHPO) and grants-in-aid programs.

4.4.2.2 State Regulations

California Register of Historical Resources. The California Register of Historical Resources (California Register or CRHR) is an inventory of significant architectural, archaeological, and historical resources in the State of California. Important cultural resources can be listed in the California Register

through a number of methods, and listing requires approval from the State Historical Resources Commission. Properties can be nominated to the California Register by local governments, private organizations, or citizens. State Historical Landmarks and National Register-listed properties gain automatic listing in the California Register. The evaluative criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places. For a cultural resource to be significant, or eligible, for listing in the California Register, it must reflect one or more of the following criteria (PRC 5024.1c):

- Criterion 1 (Events): Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

- Criterion 2 (Persons): Resources that are associated with the lives of persons important to local, California, or national history.

- Criterion 3 (Architecture): Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.

- Criterion 4 (Information Potential): Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the nation.

California Environmental Quality Act. CEQA requires that public agencies assess the effects on historical resources of public or private projects that the agencies finance or approve. Historical resources are defined as buildings, sites, structures, objects, areas, places, records, or manuscripts that the lead agency determines to have historical significance, including architectural, archaeological, cultural, or scientific significance. CEQA requires that if a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, alternative plans or mitigation measures must be considered.

However, only significant historical resources need to be addressed. Therefore, before the assessment of effects or development of mitigation measures, the significance of cultural resources must be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are as follows:

1. Identify potential historical resources.
2. Evaluate the eligibility of historical resources.
3. Evaluate the effects of the project on all eligible historical resources.

In addition, properties that are listed in or eligible for listing in the NRHP are considered eligible for listing in the CRHR and thus are significant historical resources for the purposes of CEQA (PRC Section 5024.1[d][1]).

According to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant impact on the environment (State CEQA

Guidelines 15064.5[b]). CEQA also states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of an historical resource or its immediate surroundings such that the significance of the resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or materially and adversely alter the physical characteristics of a historical resource that convey its historical significance and qualify or justify its eligibility for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

Significant Historical Resources under State CEQA Guidelines. In completing an analysis of a project under CEQA, it must first be determined if the project site possesses a historical resource. A site may qualify as a historical resource if it falls within at least one of four categories listed in State CEQA Guidelines Section 15064.5(a). The four categories are:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et seq.).

2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1 (g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

These conditions are related to the eligibility criteria for inclusion in the CRHR (PRC Sections 5020.1[k], 5024.1, 5024.1[g]). A cultural resource may be eligible for inclusion in the CRHR if it:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

- Is associated with the lives of persons important in our past;

- Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values; or

- Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Pub. Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Pub. Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Pub. Resources Code sections 5020.1(j) or 5024.1.

A lead agency must consider a resource that has been listed in, or determined to be eligible for listing in the California Register (Category 1) as an historical resource for CEQA purposes. In general, a resource that meets any of the other three criteria listed in State CEQA Guidelines Section 15064.5(a) is also considered to be a historical resource unless "the preponderance of evidence demonstrates" that the resource is not historically or culturally significant."

State Health and Safety Code. The discovery of human remains is regulated according to California Health and Safety Code Section 7050.5, which states, "If human remains are encountered, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified to the find immediately. If the remains are determined to be precontanct, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify Most Likely Descendant (MLD). With the permission of the landowner or his or her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials."

California Government Code 65352.3-5: Local Government-Tribal Consultation. California Government Code Sections 65092, 65351, 65352, 65352.3, and 65352.4, formally known as Senate Bill (SB) 18, regulate the consultation with California Native American tribes having traditional lands located within the jurisdiction of applicable cities and counties. The intent of the underlying legislation was to provide all California Native American tribes that are on the contact list maintained by the Native American Heritage Commission, an opportunity to consult with specific local governments for the purpose of preserving and protecting their sacred places. Such consultations apply to the preparation, adoption, and amendment of general plans.

Senate Bill 18. Senate Bill (SB) 18, signed into law in September 2004, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places through local land use planning. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting or mitigating impacts to cultural places. The consultation and notice requirements apply to adoption and amendment of both general plans (Government Code Section 65300 et seq.) and specific plans (Government Code Section 65450 et seq.). Specifically, Government Code Section 65352.3 requires local governments, prior to making a decision to adopt or amend a general plan, to consult with California Native American tribes identified by the NAHC for the purpose of protecting or mitigating impacts to cultural places. As previously discussed, the NAHC is the State agency responsible for the protection of Native American burial and sacred sites.

Assembly Bill 52. Assembly Bill (AB) 52, the Native American Historic Resource Protection Act, sets forth a proactive approach intended to reduce the potential for delay and conflicts between Native American and development interests. Projects subject to AB 52 are those that file a notice of preparation for an EIR or notice of intent to adopt a negative or mitigated negative declaration on or after July 1, 2015. AB 52 adds tribal cultural resources (TCR) to the specific cultural resources protected under CEQA. Under AB 52, a TCR is defined as a site, feature, place, cultural landscape (must be geographically defined in terms of size and scope), sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register, or included in a local register of historical resources. A Native American Tribe or the lead agency, supported by substantial evidence, may choose at its discretion to treat a resource as a TCR. AB 52 also mandates lead agencies to consult with tribes, if requested by the tribe, and sets the principles for conducting and concluding consultation.

4.4.2.3 Local Regulations

City of Fresno General Plan. The City of Fresno's General Plan Historic and Cultural Resources Element includes objectives and policies that work to identify and preserve Fresno's historic and cultural resources that reflect important cultural, social, economic, and architectural features. The following policies related to biological resources are applicable to the proposed project:

- **Policy HCR-1-c: Historic Preservation Ordinance.** Maintain the provisions of the City's Historic Preservation Ordinance, as may be amended, and enforce the provisions as appropriate.

- **Policy HCR-2-a: Identification and Designation of Historic Properties.** Work to identify and evaluate potential historic resources and districts and prepare nomination forms for Fresno's Local Register of Historic Resources and California and National registries, as appropriate.

- **Policy HCR-2-b: Historic Surveys.** Prepare historic surveys according to California Office of Historic Preservation protocols and City priorities as funding is available.

- **Policy HCR-2-c: Project Development.** Prior to project approval, continue to require a project site and its Area of Potential Effects (APE), without benefit of a prior historic survey, to be evaluated and reviewed for the potential for historic and/or cultural resources by a professional who meets the Secretary of Interior's Qualifications. Survey costs shall be the responsibility of the project developer. Council may, but is not required, to adopt an ordinance to implement this policy.

- **Policy HCR-2-d: Native American Sites.** Work with local Native American tribes to protect recorded and unrecorded cultural and sacred sites, as required by State law, and educate developers and the community-at-large about the connections between Native American history and the environmental features that characterize the local landscape.

- **Policy HCR-2-f: Archaeological Resources.** Consider State Office of Historic Preservation guidelines when establishing CEQA mitigation measures for archaeological resources.

- **Policy HCR-2-n: Property Database and Informational System.** Identify all historic resources within the city designated on the Local, State, or National register, and potential significant resources (building, structure, object or site) in existence for at least 45 years, and provide this information on the City's website.

- **Policy HCR-3-c: Context Sensitive Design.** Work with architects, developers, business owners, local residents and the historic preservation community to ensure that infill development is context-sensitive in its design, massing, setbacks, color, and architectural detailing.

City of Fresno Municipal Code. The City of Fresno has established a Historic Preservation Commission and a Local Register of Historic Resources (Fresno Municipal Code, Chapter 12, Article 16). The Ordinance is used to provide local levels of control over the historical aesthetics of cultural resources within the city, and to ensure that the potential impact to locally significant historical resources that may be the subject of redevelopment are given reasonable consideration. The purpose of the Ordinance is to:

> […] continue to preserve, promote and improve the historic resources and districts of the City of Fresno for educational, cultural, economic and general welfare of the public; to continue to protect and review changes to these resources and districts which have a distinctive character or a special historic, architectural, aesthetic or cultural value to this city, state and nation; to continue to safeguard the heritage of this city by preserving and regulating its historic buildings, structures, objects, sites and districts which reflect elements of the city's historic, cultural, social, economic, political and architectural history; to continue to preserve and enhance the environmental quality and safety of these landmarks and districts; to continue to establish, stabilize and improve property values and to foster economic development. (Article 16 Section 12-1602(a).)

The Ordinance provides legislative mechanisms to protect certain historical resources. Local registers of identified historical resources are known, including:

1. **Heritage Properties.** These are defined as a resource which is worthy of preservation because of its historical, architectural, or aesthetic merit but which is not proposed for and is not designated as an Historic Resource under the ordinance.

2. **Historic Resources.** These are defined as any building, structure, object or site that has been in existence more than fifty years and possesses integrity of location, design, setting, materials, workmanship, feeling and association, and is associated with events that have made a significant contribution to the broad patterns of city history, or is associated with the lives of persons significant in our past, or embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master or possesses high artistic values; or has yielded, or may be likely to yield, important information in prehistory or history; and has been designated as such by the Council pursuant to the provisions of the Ordinance.

3. **Local Historic Districts.** These are defined as any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a

significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. The Local Historic District must be significant as well as identifiable and it must meet Local Register Criteria for listing on that Register. Contributors to Historic Districts are defined as any Historic Resource that contributes to the significance of the specific Local Historic District or a proposed National Register Historic District under the criteria set forth in the Ordinance.

4. **National Register Historic Districts**, which shall mean any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. A National Register Historic District must be significant as well as identifiable and it must meet National Register Criteria for listing on that Register. Contributors to a National Register Historic District are defined as any individual Historic Resource which contributes to the significance of a National Register Historic District under the criteria set forth in the Ordinance.

4.4.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to cultural and tribal cultural 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.

4.4.3.1 Significance Criteria

The thresholds for impacts related to cultural resources used in this analysis are consistent with Appendix G of the State CEQA Guidelines. Development of the proposed project would result in a significant impact related to cultural resources if it would:

Threshold 4.4.1 **Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;**

Threshold 4.4.2 **Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;**

Threshold 4.4.3 **Disturb any human remains, including those interred outside of formal cemeteries; or**

Threshold 4.4.4 **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 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), or**

- **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.**

4.4.3.2 Project Impacts

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

Threshold 4.4.1 Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

A historical resource defined by CEQA includes one or more of the following criteria:

1. The resource is listed, or found eligible for listing in, the California Register of Historical Resources

2. The resource is listed in a local register of historical resources as defined by Public Resources Code (PRC) Section 5020.1(k)

3. The resource is identified as significant in a historical resources survey meeting the requirements of PRC Section 5024.1(g), or

4. The resource is determined to be a historical resource by the project's lead agency (PRC Section 21084.1; *State CEQA Guidelines* Section 15064.(a)).

Under CEQA, historical resources include built-environment resources and archaeological sites.

As discussed above, the Cultural Survey included: (1) a records search at the SSJVIC to identify prior cultural resource studies and previously recorded cultural resources in the project area and surrounding 0.5-mile area; (2) a search of the NAHC's Sacred Lands File; (3) additional background research including a review of aerial photographs and historic-period maps that include the project site; and (4) a pedestrian field survey of the project area to identify potential historical resources within the project area.

No historical resources were identified within or adjacent to the project site. In the event that unknown resources are discovered during project construction, existing federal, State, and local laws and regulations would require construction activities to cease until such artifacts are properly examined and determined not to be of significance by a qualified professional. Additionally, implementation of Mitigation Measure CUL-1, described in Threshold 4.4.2, would require

consultation with a historical resources specialist to assess if the discovered resource qualifies as a historical resource and to identify appropriate mitigation measures, if applicable. Therefore, potential impacts related to a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 would be less than significant with mitigation.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure CUL-1 below.

Level of Significance With Mitigation: Less than Significant. See Mitigation Measure CUL-1.

Threshold 4.4.2 Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

According to the State CEQA Guidelines, "When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource" (State CEQA Guidelines Section 15064.5(c)(1)). Those archaeological sites that do not qualify as historical resources shall be assessed to determine if these qualify as "unique archaeological resources" (California PRC Section 21083.2). No archaeological resources were identified in the project site. However, there is a potential for unknown archaeological resources to be discovered during construction of the proposed project. Mitigation Measure CUL-1 requires that if unknown archaeological resources are discovered during construction, work in the area would halt and a qualified archaeologist would be contacted and consulted regarding how to appropriately address the situation. This would minimize or eliminate any potential for an adverse change to the significance of any discovered archaeological resources. Therefore, adherence to the requirements in Mitigation Measure CUL-1 would reduce potential impacts to a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 to less than significant with mitigation.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure CUL-1: If previously unknown resources are encountered before or during any ground disturbing activities, construction shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist shall make recommendations to the City 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 and the City's Historic Preservation Ordinance.

If the resources are determined to be unique archeological resources as defined under Section 15064.5 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 the site in green space, parks, or open space, or data recovery excavations of the finds.

No further ground disturbing activity shall occur in the area of the discovery until the lead agency approves the measures to protect identified resources. Any significant or unique artifacts recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.

Level of Significance With Mitigation**:** Less than Significant with implementation of Mitigation Measure CUL-1.

Threshold 4.4.3 Would the project disturb any human remains, including those interred outside of formal cemeteries?

Disturbance of human remains interred outside of formal cemeteries would result in a significant impact. If human remains are identified during project construction, Section 7050.5 of the California Health and Safety Code and PRC Section 5097.98 shall apply, as appropriate. Mitigation Measure CUL-2 requires adherence to Section 7050.5 of the California Health and Safety Code and PRC Section 5097.98. With implementation of Mitigation Measure CUL-2, potential impacts related to disturbance of any human remains, including those interred outside of formal cemeteries would be less than significant with mitigation.

Level of Significance Without Mitigation: 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 (HSC) Section 7050.5, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to 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 descendent 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 landowner 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 landowner has discussed and conferred with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The

landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

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

Threshold 4.4.4 Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code sections, 21074, 5020.1(k), or 5024.1?

The State requires lead agencies to consider the potential effects of proposed projects and consult with California Native American tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Resources through the State CEQA Guidelines. Pursuant to PRC Section 21080.3.1, the lead agency shall begin consultation with the California Native American tribe that is traditionally and culturally affiliated with the geographical area of the proposed project. Such significant cultural resources are either sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe which is either on or eligible for inclusion in the California Register or local historic register, or, the lead agency, at its discretion, and support by substantial evidence, choose to treat the resources as a Tribal Cultural Resources (PRC Section 21074(a)(1 2)).

Additional information may also be available from the California NAHC's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.

AB 52, which became law January 1, 2015, requires that, as part of the CEQA review process, public agencies provide early notice of a project to California Native American Tribes to allow for consultation between the tribe and the public agency. The purpose of AB 52 is to provide the opportunity for public agencies and tribes to consult and consider potential impacts to Tribal Cultural Resources (TCRs), as defined by PRC Section 2107(a). Under AB 52, public agencies shall reach out to California Native American Tribes who have requested to be notified of projects in areas within or which may have been affiliated with their tribal geographic range. Pursuant to AB 52, the Table Mountain Rancheria Tribe and the Dumna Wo Wah Tribe were invited to consult under AB 52. A certified letter was mailed to the above-mentioned tribes on December 17, 2021. The 30-day request for consultation period ended on January 17, 2022. Neither tribe requested consultation.

The site is currently vacant. While there is no evidence to suggest the presence of TCRs, if any artifacts are inadvertently discovered during ground-disturbing activities, existing federal, State, and local laws and regulations would require construction activities to cease until such artifacts are properly examined and determined not to be of significance by a qualified cultural resource professional. In addition, Mitigation Measure CUL-1 included above under Threshold 4.4.2, requires that if unknown archaeological resources are discovered during construction, work in the area would halt and a qualified archaeologist would be contacted. Therefore, adherence to the requirements in Mitigation Measure CUL-1 would reduce potential impacts related to the substantial adverse change in the significance of a tribal cultural resource to less than significant.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure CUL-1 above.

Level of Significance With Mitigation**:** Less than Significant with implementation of Mitigation Measure CUL-1.

4.4.3.3 Cumulative Impacts

Potential impacts of the proposed project to cultural resources and tribal cultural resources, when combined with the impacts of past, present, and probable future projects in the City of Fresno, could contribute to a cumulatively significant impact due to the overall loss of historical and archaeological artifacts unique to the region.

Archaeological and historical resources are recorded throughout the City of Fresno, and it is possible that previously unknown archaeological and historical resources also exist within the City of Fresno. Compliance within Mitigation Measures CUL-1 requires that if unknown historical or archaeological resources are discovered during construction of the proposed project, work in the area would halt and a qualified historical resource specialist or archaeologist would be contacted and consulted regarding how to appropriately address the situation. In addition, each discretionary development proposal received by the City would be required to evaluate the potential to impact unknown historical and archaeological resources. If there were any potential for significant impacts to archaeological or historical resources as a result of present or reasonably foreseeable projects in Fresno, an investigation would be required to determine the nature and extent of the resources and identify appropriate mitigation measures. When archaeological and historical resources are assessed and/or protected as they are discovered, impacts to these resources are less than significant. Similarly, implementation of Mitigation Measure CUL-1 would ensure that the proposed project would not make a cumulatively considerable contribution to any cumulative impact on cultural resources.

In addition, no known precontanct or Native American human remains have been identified within or in the vicinity of the project site. There is a possibility that ground-disturbing activities associated with cumulative development may uncover previously unknown buried human remains. The uncovering of human remains that may be of precontanct or Native American origin is considered a significant impact. However, Mitigation Measure CUL-2 requires adherence to Section 7050.5 of the California Health and Safety Code and PRC Section 5097.98. With implementation of Mitigation Measure CUL-2, potential impacts related to the potential disturbance of any human remains would be less than significant with mitigation. Similar measures are required for other projects per regulatory requirements. Thus, the project would not contribute to any significant cumulative impacts to human remains.

Additionally, the presence of listed tribal cultural resources was not identified near the project site and no tribes affiliated to the project site requested consultation under AB 52. However, if tribal cultural resources are found during construction of the proposed project, compliance with applicable federal, State, and local laws and regulations and compliance with Mitigation Measure CUL-1 would reduce impacts to tribal cultural resources to less than significant. Similar measures are

required for other projects per regulatory requirements. The proposed project would not contribute to cumulative impacts to tribal cultural resources.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures CUL-1 and CUL-2 above.

Level of Significance With Mitigation**:** Less than Significant with implementation of Mitigation Measures CUL-1 and CUL-2.

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4.5 ENERGY

This section discusses energy use resulting from the proposed project and evaluates whether the proposed project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency. The analysis in this section is based on the California Emissions Estimator Model version 2020.4.0 (CalEEMod) prepared for the proposed project (Appendix C). Energy calculations are included in Appendix G.

4.5.1 Environmental Setting

4.5.1.1 Energy Resources

Electricity. Electricity is a man-made resource. The production of electricity requires the consumption or conversion of energy resources (including water, wind, oil, gas, coal, solar, geothermal, or nuclear resources) into energy. Electricity is used for a variety of purposes (e.g., lighting, heating, cooling, and refrigeration, and for operating appliances, computers, electronics, machinery, and public transportation systems).[1]

According to the most recent data available, in 2021, California's electricity was generated primarily by natural gas (37.9 percent), renewable sources (33.6 percent), large hydroelectric (9.2 percent), nuclear (9.3 percent), coal (3.0 percent), and other unspecified sources. Total electric generation in California in 2021 was 277,764 gigawatt-hours (GWh), up 2 percent from the 2020 total generation of 272,576 GWh.[2]

The City receives its electricity from PG&E. According to the California Energy Commission (CEC), total electricity consumption in the PG&E service area in 2020 was 78,518 gigawatt hours (GWh) (78,518,835,142 kilowatt-hours [kWh]).[3] Total electricity consumption in Fresno County in 2020 was 8,017.8 GWh (8,017,830,742 kWh).[4]

Natural Gas. Natural gas is a non-renewable fossil fuel. Fossil fuels are formed when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over many years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses (e.g.,

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1 United States Energy Information Administration (EIA). 2019a. Electricity Explained. Website: eia.gov/energyexplained/electricity/ (accessed September 2022).

2 California Energy Commission (CEC). 2022a. *2021 Total System Electric Generation*. Website: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation (accessed September 2022).

3 CEC. 2019b. Electricity Consumption by Entity. Website: ecdms.energy.ca.gov/elecbyutil.aspx (accessed September 2022).

4 CEC. 2019c. Electricity Consumption by County. Website: ecdms.energy.ca.gov/elecbycounty.aspx (accessed September 2022).

heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills).[5]

Natural gas consumed in California is used for electricity generation (45 percent), residential uses (21 percent), industrial uses (25 percent), and commercial uses (9 percent). California continues to depend on out-of-state imports for nearly 90 percent of its natural gas supply.[6]

PG&E is the natural gas service provider for the City of Fresno. According to the CEC, total natural gas consumption in the PG&E service area in 2020 was 4,508.5 million therms (4,508,542,540 therms).[7] Total natural gas consumption in Fresno County in 2020 was 325.9 million therms (325,915,257 therms).[8]

Fuel. Petroleum is also a non-renewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a large number of consumer products, primarily fuel oil and gasoline.

The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 miles per gallon (mpg) in 1980 to 22.9 mpg in 2020.[9] Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007. The Act, which originally mandated a national fuel economy standard of 35 mpg by year 2020[10], applies to cars and light trucks of Model Years 2011 through 2020. In March 2020, the United States Environmental Protection Agency (USEPA) and National Highway Traffic Safety Administration (NHTSA) finalized the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks, further detailed below.

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. According to the most recent data available, total gasoline consumption in California was 289,918 thousand barrels or 1,464.7 trillion British Thermal Units (BTU) in 2020.[11] Of the total gasoline consumption, 273,289 thousand

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5 EIA. 2019b Natural Gas Explained-Use of Natural Gas. Website: eia.gov/energyexplained/index.php?page=natural_gas_use (accessed September 2022).

6 CEC. 2020d. Supply and Demand of Natural Gas in California. Website: https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california (accessed September 2022).

7 CEC. 2019e. Gas Consumption by Entity. Website: ecdms.energy.ca.gov/gasbyutil.aspx (accessed September 2022).

8 CEC. 2019f Gas Consumption by County. Website: ecdms.energy.ca.gov/gasbycounty.aspx (accessed September 2022).

9 U.S. Department of Transportation (DOT). "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: https://www.bts.dot.gov/bts/bts/content/average-fuel-efficiency-us-light-duty-vehicles (accessed September 2022).

10 U.S. Department of Energy. 2007. "Energy Independence & Security Act of 2007." Website: https://www.afdc.energy.gov/laws/eisa (accessed September 2022).

11 A British Thermal Unit is defined as the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

barrels or 1,380.7 trillion BTU were consumed for transportation.[12] Based on fuel consumption obtained from EMFAC2021, 157.1 million gallons of diesel and 375.2 million gallons of gasoline will be consumed from vehicle trips in Fresno County in 2022.

4.5.2 Regulatory Setting

This section includes applicable federal, State, and City regulations.

4.5.2.1 Federal Regulations

Energy Policy Act of 2005. The Energy Policy Act of 2005 seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under this Act, consumers and businesses can obtain federal tax credits for purchasing fuel-efficient appliances and products (including hybrid vehicles), building energy-efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

Safer Affordable Fuel-Efficient Vehicles Rule. On March 21, 2020, the USEPA and National Highway Traffic Safety Administration (NHTSA) finalized the SAFE Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). The SAFE Vehicles Rule amends certain existing corporate average fuel economy (CAFE) and tailpipe CO_2 emissions standards for passenger cars and light trucks and establishes new standards, all covering model years 2021 through 2026. More specifically, the NHTSA set new CAFE standards for model years 2022 through 2026 and amended its 2021 model year CAFE standards, and the USEPA amended its CO_2 emissions standards for model years 2021 and later.

The current administration withdrew portions of the SAFE Rule, concluding that the SAFE Rule overstepped the agency's legal authority and finalized updated CAFE Standards for model years 2024 through 2026. The final rule establishes standards that 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 and 2025, and 10 percent annually for model years 2026. The agency projects the final standards will save consumers nearly $1,400 in total fuel expenses over the lifetimes of vehicles produced in these model years and avoid the consumption of about 234 billion gallons of gas between model years 2030 to 2050. The NHTSA also projects that the standards will cut greenhouse gases from the atmosphere, reduce air pollution, and reduce the country's dependence on oil.

4.5.2.2 State Regulations

Assembly Bill 1575, Warren-Alquist Act. In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted Assembly Bill (AB) 1575 (also known as the Warren-Alquist Act), which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs; license power plants of 50 megawatts (MW) or larger; develop energy

[12] EIA. 2020a. California State Profile and Energy Estimates. Table F3: Motor gasoline consumption, price, and expenditure estimates, 2018. Website: eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_mg.html&sid=CA (accessed September 2022).

technologies and renewable energy resources; plan for and direct State responses to energy emergencies; and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code (PRC) Section 21100(b)(3) and *State CEQA Guidelines* Section 15126.4 to require EIRs to include, where relevant, mitigation measures proposed to minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *State CEQA Guidelines*. Appendix F assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *State CEQA Guidelines* also states that the goal of conserving energy implies the wise and efficient use of energy and the means of achieving this goal, including (1) decreasing overall per capita energy consumption; (2) decreasing reliance on fossil fuels such as coal, natural gas, and oil; and (3) increasing reliance on renewable energy sources.

Senate Bill 1389, Energy: Planning and Forecasting. In 2002, the State Legislature passed Senate Bill (SB) 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles (ZEVs) and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

In compliance with the requirements of SB 1389, the CEC adopts an Integrated Energy Policy Report every 2 years and an update every other year. The most recently adopted reports include the *2021 Integrated Energy Policy Report*[13] and the *2022 Integrated Energy Policy Report Update.*[14] The *Integrated Energy Policy Report* covers a broad range of topics, including decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast. The *Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs.

Renewable Portfolio Standards. SB 1078 established the California Renewable Portfolio Standards program in 2002. SB 1078 initially required that 20 percent of electricity retail sales be served by renewable resources by 2017; however, this standard has become more stringent over time. In 2006, SB 107 accelerated the standard by requiring that the 20 percent mandate be met by 2010. In April 2011, SB 2 required that 33 percent of electricity retail sales be served by renewable resources by 2020. In 2015, SB 350 established tiered increases to the Renewable Portfolio Standards of

[13] CEC. 2021. *2021 Integrated Energy Policy Report*. California Energy Commission. Docket Number: 21-IEPR-01.

[14] CEC. 2022. *2020 Integrated Energy Policy Report Update*. California Energy Commission. Docket Number: 22-IEPR-01.

40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. In 2018, SB 100 increased the requirement to 60 percent by 2030 and required that all State's electricity to come from carbon-free resources by 2045. SB 100 took effect on January 1, 2019.[15]

Title 24, California Building Code. Energy consumption by new buildings in California is regulated by the Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations (CCR), known as the California Building Code (CBC). The CEC first adopted the Building Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. The CBC is updated every 3 years, and the current 2019 CBC went into effect on January 1, 2020. The efficiency standards apply to both new construction and rehabilitation of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in CCR Title 24. Title 24 standards are updated every 3 years and was most recently updated in 2019 to include new mandatory measures for residential as well as non-residential uses; the new measures took effect on January 1, 2020. The next set of standards will be adopted in 2022 and apply to projects seeking building permits on or after January 1, 2023.

California Green Building Standards Code (CALGreen Code). In 2010, the California Building Standards Commission (CBSC) adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the California Green Building Standards Code (CALGreen Code). The CALGreen Code took effect on January 1, 2011. The CALGreen Code is updated on a regular basis, with the most recent update consisting of the 2019 CALGreen Code standards that became effective January 1, 2020. The CALGreen Code established mandatory measures for residential and non-residential building construction and encouraged sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce greenhouse gas (GHG) emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and non-residential buildings subject to the standard.

California Energy Efficiency Strategic Plan. On September 18, 2008, the California Public Utilities Commission (CPUC) adopted California's first Long-Term Energy Efficiency Strategic Plan, presenting a roadmap for energy efficiency in California. The Plan articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term, and long-term strategies to assist in achieving those goals. The Plan also reiterates the following four specific programmatic goals known as the "Big Bold Energy Efficiency Strategies" that were established by the CPUC in Decisions D.07-10-032 and D.07-12-051:

- All new residential construction will be zero net energy (ZNE) by 2020.
- All new commercial construction will be ZNE by 2030.

[15] California Public Utilities Commission (CPUC). 2020. Renewables Portfolio Standard (RPS) Program. Website: https://www.cpuc.ca.gov/rps/ (accessed September 2022).

- 50 percent of commercial buildings will be retrofitted to ZNE by 2030.
- 50 percent of new major renovations of State buildings will be ZNE by 2025.

4.5.2.3 Local Regulations

City of Fresno General Plan. The City of Fresno's General Plan Resource and Conservation Element includes objectives and policies that work to reduce the consumption of non-renewable energy resources by requiring and encouraging conservation measures and the use of alternative energy sources. The following policies related to energy are applicable to the proposed project:**Policy RC8-b: Energy Reduction Targets.** Strive to reduce per capita residential electricity use to 1,800 KWh per year and non-residential electricity use to 2,700 KWh per year per capita by developing and implementing incentives, design and operation standards, promoting alternative energy sources, and cost-effective savings.

- **Policy RC-8-c: Energy Conservation in New Development.** Consider providing an incentive program for new buildings that exceed California Energy Code requirements by fifteen percent.

- **Policy RC8-i: Renewable Target.** Adopt and implement a program to increase the use of renewable energy to meet a given percentage of the city's peak electrical load within a given time frame.

- **Policy RC8-j: Alternative Fuel Network.** Support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development.

4.5.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to energy 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.

4.5.3.1 Significance Criteria

The thresholds for impacts related to energy used in this analysis are consistent with Appendix G of the State CEQA Guidelines. Development of the proposed project would result in a significant impact related to energy if it would:

Threshold 4.5.1 **Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or**

Threshold 4.5.2 **Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.**

4.5.3.2 Project Impacts

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

Threshold 4.5.1 Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

The proposed project would increase the demand for energy through day-to-day operations and fuel consumption associated with project construction. This section discusses energy use resulting from implementation of the proposed project and evaluates whether the proposed project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency.

Construction-Period Energy Use. Project construction would require energy resources primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Construction of the proposed project would begin in the third quarter of 2023 and would occur for 24 months, ending in 2025. The proposed project would require site preparation, grading, infrastructure, surface paving activities during construction, and architectural coatings (painting). The construction-related equipment would not be powered by natural gas, and no natural gas demand is anticipated during construction.

Transportation energy represents the largest energy use during construction and would occur from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction worker vehicles that would use petroleum fuels (e.g., diesel fuel and/or gasoline). Therefore, the analysis of energy use during construction focuses on fuel consumption. Construction trucks and vendor trucks hauling materials to and from the project site would be anticipated to use diesel fuel, whereas construction workers traveling to and from the project site would be anticipated to use gasoline-powered vehicles. Fuel consumption from transportation uses depends on the type and number of trips, VMT, the fuel efficiency of the vehicles, and the travel mode.

Estimates of fuel consumption (diesel fuel and gasoline) from construction equipment, construction trucks, and construction worker vehicles were based on default construction equipment assumptions and trip estimates from CalEEMod and fuel efficiencies from EMFAC2021. Fuel consumption estimates are presented in Table 4.5.A. CalEEMod output sheets are included in Appendix C and detailed energy calculations are included in Appendix G.

Table 4.5.A: Energy Consumption Estimates During Construction

Energy Type	Total Energy Consumption	Percentage Increase Countywide
Gasoline (total gallons)	155,125.8	0.04
Diesel (total gallons)	212,178.9	0.14

Source: Compiled by LSA (October 2022).

As indicated in Table 4.5.A, the project would consume approximately 155,125.8 gallons of gasoline and approximately 212,178.9 gallons of diesel fuel during project construction. Based on fuel

consumption obtained from EMFAC2021, approximately 375.2 million gallons of gasoline and 157.1 million gallons of diesel will be consumed from vehicle trips in Fresno County in 2022. Therefore, construction of the proposed project would increase the annual fuel use in Fresno County by approximately 0.04 percent for gasoline fuel usage and by approximately 0.14 percent for diesel fuel usage. As such, project construction would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Fresno County's overall use of the State's available energy resources. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State. In addition, construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. The project would not cause or result in the need for additional energy facilities or an additional or expanded delivery system. For these reasons, fuel consumption during construction would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature, and impacts would be less than significant.

Operational Energy Use. Energy use consumed by the proposed project would be associated with natural gas use, electricity consumption, and fuel used for vehicle and truck trips associated with the project. Energy and natural gas consumption was estimated for the project using default energy intensities by land use type in CalEEMod. The proposed buildings would likely be constructed using the 2022 Title 24 standards; however, based on available modeling tools, the CalEEMod analysis of energy use assumed the construction of buildings based on the 2019 Title 24 standards which is a conservative analysis.

The 2022 Title 24 Building Energy Efficiency Standards (Title 24 Standards) contain energy efficiency requirements for newly constructed buildings, additions to existing buildings, and alterations to existing buildings. The Title 24 Standards establish performance metrics in the form of an "energy budget" based on energy consumption per square foot of floor space. For this reason, the Title 24 Standards include both a prescriptive option, allowing builders to comply by using methods known to be efficient, and a performance option, allowing builders complete freedom in their designs provided the building achieves the same overall efficiency as an equivalent building using the prescriptive option. Reference appendices are adopted along with the Title 24 Standards containing data and various compliance tools to help builders achieve compliance. Electricity and natural gas usage estimates associated with the proposed project are shown in Table 4.5.B.

In addition, the proposed project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. Trip generation rates for the proposed project were based on the project's trip generation estimates, as identified in Section 4.10, Transportation. As discussed in Section 4.10, Transportation, the proposed project would generate approximately 1,920 average daily trips, including 1,578 vehicle trips and 342 truck trips. Gasoline and diesel fuel usage associated with the proposed project is also shown in Table 4.5.B.

Table 4.5.B: Energy Consumption Estimates During Operation

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Electricity Consumption (kWh/year)	8,448,500	0.11
Natural Gas Consumption (therms/year)	161,487	0.05
Automotive Fuel Consumption		
Gasoline (gallons/year)	175,434.7	0.05
Diesel Fuel (gallons/year)	144,777.4	0.09

Source: Compiled by LSA (October 2022).
kWh = kilowatt-hours

As shown in Table 4.5.B, the estimated potential increase in electricity demand associated with the operation of the proposed project is 8,448,500 kWh per year. Total electricity consumption in Fresno County in 2020 was 8,017.8 GWh (8,017,830,742 KWh). Therefore, operation of the proposed project would increase the annual electricity consumption in Fresno County by approximately 0.11 percent.

As shown in Table 4.5.B, the estimated potential increase in natural gas demand associated with the proposed project is 161,487 therms per year. Total natural gas consumption in Fresno County in 2020 was 325,915,257 therms. Therefore, operation of the proposed project would negligibly increase the annual natural gas consumption in Fresno County by approximately 0.05 percent.

The proposed project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. As shown in Table 4.5.B, fuel use associated with the vehicle trips generated by the proposed project is estimated at 175,434.7 gallons of gasoline and 144,777.4 gallons of diesel fuel per year. This analysis conservatively assumes that all vehicle trips generated as a result of project operation would be new to Fresno County. Based on fuel consumption obtained from EMFAC2021, approximately 157.1 million gallons of diesel and approximately 375.2 million gallons of gasoline will be consumed from vehicle trips in Fresno County in 2022. Therefore, vehicle and truck trips associated with the proposed project would increase the annual fuel use in Fresno County by approximately 0.11 percent for gasoline fuel usage and approximately 0.05 percent for diesel fuel usage. Therefore, gasoline and diesel fuel demand generated by vehicle trips associated with the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in Fresno County.

In addition, proposed new development would be constructed using energy efficient modern building materials and construction practices, and the proposed project also would use new modern appliances and equipment, in accordance with the Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608). The expected energy consumption during construction and operation of the proposed project would be consistent with typical usage rates for industrial uses; however, energy consumption is largely a function of personal choice and the physical structure and layout of buildings.

PG&E is the private utility that would supply the proposed project's electricity and natural gas services. In 2021, a total of 50 percent of PG&E's delivered electricity came from renewable sources,

including solar, wind, geothermal, small hydroelectric and various forms of bioenergy.[16] PG&E reached California's 2020 renewable energy goal in 2017, and is positioned to meet the State's 60 percent by 2030 renewable energy mandate set forth in Senate Bill (SB) 100. In addition, PG&E plans to continue to provide reliable service to their customers and upgrade their distribution systems as necessary to meet future demand.

Therefore, the proposed project would result in a less than significant impact during project operation.

Level of Significance Without Mitigation: Less Than Significant Impact.

Threshold 4.5.2 Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

In 2002, the Legislature passed SB 1389, which required the California Energy Commission (CEC) to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission (ZE) vehicles and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The most recently adopted reports include the *2021 Integrated Energy Policy Report*[17] and the *2022 Integrated Energy Policy Report Update.*[18] The *2021 Integrated Energy Policy Report* and the *2022 Integrated Energy Policy Report Update* provide the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The 2020 Integrated Energy Policy Report covers a broad range of topics, including implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to SB 1383), updates on California electricity reliability, natural gas outlook, and climate adaptation and resiliency.

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16 PG&E, 2022. *Exploring Clean Energy Solutions*. https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy (accessed October 2022).

17 CEC. 2021. *2021 Integrated Energy Policy Report*. California Energy Commission. Docket Number: 21-IEPR-01.

18 CEC. 2022. *2020 Integrated Energy Policy Report Update*. California Energy Commission. Docket Number: 22-IEPR-01.

As indicated above, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Because California's energy conservation planning actions are conducted at a regional level, and because the proposed project's total impact to regional energy supplies would be minor, the proposed project would not conflict with California's energy conservation plans as described in the CEC's 2021 Integrated Energy Policy Report and 2021 Integrated Energy Policy Report Update.

In addition, the proposed project would comply with the CALGreen Code (CCR Title 24, Part 11) and the California Energy Code (CCR Title 24, Part 6), which includes provisions related to insulation and design aimed at minimizing energy consumption. The California Energy Code includes solar photovoltaic system requirements for all newly constructed low-rise residential buildings; however, it currently does not include solar requirements for nonresidential buildings. The proposed project would also comply with objectives and policies included in the City's General Plan that are aimed at reducing energy consumption. In addition, as discussed in Section 4.6, Greenhouse Gas Emissions, the proposed project would be consistent with the applicable strategies from the GHG Reduction Plan.

Thus, as shown above, the proposed project would be consistent with applicable State and local plans related to renewable energy and energy efficiency. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and impacts would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.5.3.3 Cumulative Impacts

The cumulative geographical context for energy consists of the project site in addition to past, current, and reasonably foreseeable future projects in the PG&E service area for electricity and natural gas demand and Fresno County for gasoline and diesel fuel usage. Development of the proposed project would result in the construction of four office/warehouse buildings on a currently vacant 48.03-acre project site which would contribute to energy demand in the region anticipated from growth and development (e.g., growth and development in the City and County of Fresno).

Development of cumulative projects within the PG&E service area which encompasses 70,000 square miles would result in a substantial increase in electricity and natural gas demand as well as an increase in the consumption of fuel for vehicles. Although the proposed project would result in a net increase in demand for electricity, implementation of the proposed project would not result in the construction of new electric or natural gas infrastructure beyond what has already been assumed and will be included in PG&E's regional forecasts.

As discussed previously, the total annual electricity consumption in the PG&E service area in 2020 was 78,518 GWh (78,518,835,142 kWh). As shown in Table 4.5.B, the estimated potential increase in electricity demand associated with the operation of the proposed project is 8,448,500 kWh per year. Therefore, operation of the proposed project would increase the annual electricity consumption in the PG&E service area by approximately 0.01 percent. As such, the proposed project's share of cumulative electricity consumption would negligible.

Total natural gas consumption in the PG&E service area in 2020 was 4,508.5 million therms (4,508,542,540 therms). As shown in Table 4.5.B, the estimated potential increase in natural gas demand associated with the proposed project is 161,487 therms per year. Therefore, operation of the proposed project would increase the annual natural gas consumption in the PG&E service area by less than 0.01 percent. The proposed project's share of cumulative consumption of natural gas in the PG&E service area would be negligible.

In addition, as identified above, in 2021, a total of 50 percent of PG&E's delivered electricity came from renewable sources, including solar, wind, geothermal, small hydroelectric and various forms of bioenergy.[19] PG&E reached California's 2020 renewable energy goal in 2017, and is positioned to meet the State's 60 percent by 2030 renewable energy mandate set forth in Senate Bill (SB) 100. In addition, PG&E plans to continue to provide reliable service to their customers and upgrade their distribution systems as necessary to meet future demand.

Transportation energy use would also increase; however, as described above, fuel use associated with the vehicle trips generated by the proposed project is estimated at 175,434.7 gallons of gasoline and 144,777.4 gallons of diesel fuel per year. This analysis conservatively assumes that all vehicle trips generated as a result of project operation would be new to Fresno County. Based on fuel consumption obtained from EMFAC2021, approximately 157.1 million gallons of diesel and approximately 375.2 million gallons of gasoline will be consumed from vehicle trips in Fresno County in 2022. Therefore, vehicle and truck trips associated with the proposed project would increase the annual fuel use in Fresno County by approximately 0.11 percent for gasoline fuel usage and approximately 0.05 percent for diesel fuel usage. Therefore, gasoline and diesel fuel demand generated by vehicle trips associated with the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in Fresno County. As such, the project's share of cumulative consumption of gasoline and diesel fuel consumption in Fresno County would be negligible.

Therefore, implementation of the proposed project would result in a less-than-significant cumulative impact related to the inefficient, wasteful and unnecessary consumption of energy.

Level of Significance Without Mitigation: Less Than Significant Impact.

[19] PG&E, 2022. *Exploring Clean Energy Solutions*. https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy (accessed October 2022).

4.6 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 and truck traffic, energy consumption and other emission sources. The project's consistency with the City of Fresno's Greenhouse Gas Reduction Plan Update Consistency Checklist is included in Appendix H.

4.6.1 Environmental Setting

The following discussion describes existing GHG emissions in the City of Fresno 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.

4.6.1.1 Background

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

Global Climate Change. Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose 0.6 ± 0.2° Celsius (°C) or 1.1 ± 0.4° Fahrenheit (°F) in the 20th century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.[1]

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)

[1] The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse allows heat from sunlight in and reduces the heat escaping, GHGs like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of GHGs results in global warming, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

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 analysis, the term "GHGs" will refer collectively only 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 4.6.A shows the GWP for each type of GHG. For example, sulfur hexafluoride is 22,800 times more potent at contributing to global warming than carbon dioxide.

Table 4.6.A: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoromethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: *Climate Change 2007: The Physical Science Basis* (Intergovernmental Panel on Climate Change [IPCC] 2007).

The following 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.[2] 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.

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.[3] PFCs and SF_6 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 5.5 percent of GHG emissions in California in 2020.[4]

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

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

3 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.

4 CARB. 2022. op cit.

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.[5] 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.

Most U.S. emissions of black carbon come from mobile sources (52 percent), particularly from diesel fueled vehicles.[6] 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.[7]

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 result in impacts to local air quality from increased ground-level ozone and particulate matter.[8]

Additionally, according to the 2006 California Climate Action Team (CAT) Report,[9] the following climate change effects, which are based on trends established by the United Nations Intergovernmental Panel on Climate Change (IPCC), can be expected in California over the course of the next century:

- The loss of sea ice and mountain snowpack, 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;[10]

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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 Ibid.

7 CARB. 2017. *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).

8 USEPA. 2020. Air Quality and Climate Change Research. Website: https://www.epa.gov/air-research/air-quality-and-climate-change-research (accessed September 2022).

9 California Environmental Protection Agency (CalEPA). 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

10 California Environmental Protection Agency (CalEPA). 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

- 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;[11]

- 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;[12]

- 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;[13]

- Increase in the number of days conducive to ozone (O_3) formation by 25 to 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;[14] 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.[15]

A summary of these potential effects is provided in Table 4.6.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,[16] 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

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11 Ibid.

12 Intergovernmental Panel on Climate Change (IPCC). 2007. *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*. February.

13 CalEPA. 2006, op. cit.

14 CalEPA. 2006, op. cit.

15 Ibid.

16 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).

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. [17]

Table 4.6.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	● 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 Sacramento-San Joaquin River Delta (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 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 O3 formation	● Increased temperatures ● Potential health effects, including adverse impacts to respiratory systems

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

[17] 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.

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.[18]

United States Emissions. In 2019, the year for which the most recent data are available, the United States emitted about 6,558 million metric tons of CO_2e (MMT CO_2e). Overall, emissions in 2019 decreased by 1.7 percent since 2018 and were 13 percent lower than 2005 levels. This decrease was driven largely by a decrease in emissions from fossil fuel combustion resulting from a decrease in total energy use in 2019 compared to 2018 and a continued shift from coal to natural gas and renewables in the electric power sector. Of the six major sectors – residential, commercial, agricultural, industry, transportation, and electricity generation – transportation accounted for the highest amount of GHG emissions in 2019 (approximately 29 percent), with electricity generation second at 25 percent and emissions from industry third at 23 percent.[19]

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.[20] The 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

[18] 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).

[19] 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).

[20] CARB. 2022. *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).

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.[21]

City of Fresno Emissions. The City of Fresno baseline inventory year was 2010. The City has prepared an updated inventory for 2016 that accounts for regulations adopted to that point in time. Therefore, 2016 provides the best available baseline for the GHG Plan and can be compared directly with State progress to date and targets. Table 4.6.C shows the baseline inventory.

Table 4.6.C: City of Fresno GHG Emissions by Sector for 2016

Sector	2016 (MT CO_2e)	Percent of Total Emissions
Motor Vehicles	1,520,052	52
Residential Energy	479,371	16
Commercial Energy	524,838	18
Fugitive Emissions	270,130	9
Solid Waste	119,167	4
Industrial Energy	10,055	<1
Agriculture Energy	20	<1
Total	**2,923,633**	**100**

Source: ICLEI Local Governments for Sustainability, City of Fresno 2016 Inventory Update, 2018.

As shown in Table 4.6.C, motor vehicles were the largest source at approximately 52 percent of the City's GHG emissions in 2016, followed by commercial and residential energy at 18 and 16 percent respectively. The remaining sources included fugitive emissions at 9 percent and solid waste sources at 4 percent. Agriculture and industrial energy emissions each account for less than 1 percent of total emissions.

4.6.2 Regulatory Setting

4.6.2.1 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.

[21] Ibid.

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 21, 2020, the USEPA and NHTSA finalized the SAFE Vehicles Rule. The SAFE Vehicles Rule amends certain existing CAFE and tailpipe CO_2 emissions standards for passenger cars and light trucks and establish new standards, all covering model years 2021 through 2026. More specifically, NHTSA set new CAFE standards for model years 2022 through 2026 and amended its 2021 model year CAFE standards, and the USEPA amended its CO_2 emissions standards for model years 2021 and later. On May 12, 2021, the NHTSA published a notice of proposed rulemaking in the *Federal Register*, proposing to repeal key portions of the SAFE Vehicles Rule that would have reduced CAFE standards. The final rule repealing portions of the SAFE Vehicles Rule was published on December 29, 2021. The repeal will allow California to set its own GHG standards if it chooses, even if the emissions standards conflict with CAFE standards enacted by the U.S. Department of Transportation.

4.6.2.2 State Regulations

The California Air Resources Board (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).[22] 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

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

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.[23]

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 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,[24] to reflect the 2030 target set by EO B-30-15 and codified by SB 32.

The 2022 Scoping Plan[25] 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

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

24 CARB. 2017. *California's 2017 Climate Change Scoping Plan*. November.

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

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 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 4.6.D.

Table 4.6.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 EO 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. 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 CPUC 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 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 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, consistent with an IPCC analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million CO_2e 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. EO 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." EO B-55-18 directs the 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 CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Title 24, Building Standards Code and CALGreen Code. 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 CALGreen Code is updated every 3 years and was most recently updated in 2019 to include new mandatory measures for residential as well as non-residential uses; the new measures took effect on January 1, 2020. The next set of standards will be adopted in 2022 and apply to projects seeking building permits on or after January 1, 2023.

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. All buildings for which an application for a building permit is submitted on or after January 1, 2020, must follow the 2019 standards. The next set of standards is anticipated for release in 2022. 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.[26]

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

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

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 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.

4.6.2.3 Regional Regulations

San Joaquin Valley Air Pollution Control District. The City of Fresno 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.

4.6.2.4 Local Regulations

Greenhouse Gas Reduction Plan Update. The City of Fresno's first GHG Reduction Plan was adopted in December 2014 to reduce local community GHG emissions to 1990 levels by the year 2020, consistent with the State objectives set forth in AB 32. In 2020, the City of Fresno updated its 2014 GHG Reduction Plan (GHG Reduction Plan Update) to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32 and the 2017 Scoping Plan. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA.

City of Fresno General Plan. The City of Fresno's General Plan Resources Conservation and Resilience Element includes objectives and policies that work to achieve and maintain reductions in GHG emissions and all strategies that reduce the causes of climate change. The following policies related to GHG emissions are applicable to the proposed project:

- **Policy RC-5-a: Support State Goal to Reduce Statewide GHG Emissions.** As is consistent with State law, strive to meet AB 32 goal to reduce greenhouse gas emissions to 1990 levels by 2020 and strive to meet a reduction of 80 percent below 1990 levels by 2050 as stated in Executive Order S-03-05. As new statewide GHG reduction targets and dates are set by the State update the City's Greenhouse Gas Reduction Plan to include a comprehensive strategy to achieve consistency with those targets by the dates established.

- **Policy RC-5-b: Greenhouse Gas Reduction Plan.** As is consistent with State law, prepare and adopt a Greenhouse Gas Reduction Plan as part of the Master Environmental Impact Report to be concurrently approved with the Fresno General Plan in order to achieve compliance with State mandates, assist development by streamlining the approval process, and focus on feasible actions the City can take to minimize the adverse impacts of growth and development on global climate change. The Greenhouse Gas Reduction Plan shall include, but not be limited to:

- A baseline inventory of all known or reasonably discoverable sources of GHGs that currently exist in the city and sources that existed in 1990.
- A projected inventory of the GHGs that can reasonably be expected to be emitted from those sources in the year 2035 with implementation of this General Plan and foreseeable communitywide and municipal operations.
- A target for the reduction of emissions from those identified sources.
- A list of feasible GHG reduction measures to meet the reduction target, including energy conservation and "green building" requirements in municipal buildings and private development.
- Periodically update municipal and community wide GHG emissions inventories to determine the efficacy of adopted measures and to guide future policy formulation needed to achieve and maintain GHG emissions reduction targets.

- **Policy RC-5-c: GHG Reduction through Design and Operations.** Increase efforts to incorporate requirements for GHG emission reductions in land use entitlement decisions, facility design, and operational measures subject to City regulation through the following measures and strategies:
  - Promote the expansion of incentive-based programs that involve certification of projects for energy and water efficiency and resiliency. These certification programs and scoring systems may include public agency "Green" and conservation criteria, Energy Star™ certification, CALGreen Tier 1 or Tier 2, Leadership in Energy Efficient Design (LEED™) certification, etc.
  - Promote appropriate energy and water conservation standards and facilitate mixed-use projects, new incentives for infill development, and the incorporation of mass transit, bicycle and pedestrian amenities into public and private projects.
  - Require energy and water audits and upgrades for water conservation, energy efficiency, and mass transit, pedestrian, and bicycle amenities at the time of renovation, change in use, change in occupancy, and change in ownership for major projects meeting review thresholds specified in an implementing ordinance.
  - Incorporate the City's "Guidelines for Ponding Basin/Pond Construction and Management to Control Mosquito Breeding" as conditions of approval for any project using an on-site stormwater basin to prevent possible increases in vector-borne illnesses associated with global climate change.
  - Periodically evaluate the City's facility maintenance practices to determine whether there are additional opportunities to reduce GHGs through facility cleaning and painting, parks maintenance, road maintenance, and utility system maintenance.
  - Periodically evaluate standards and mitigation strategies for highly vehicle-dependent land uses and facilities, such as drive-through facilities and auto-oriented development.

- **Policy RC-5-d: SCS and CAP Conformity Analysis.** Ensure that the City includes analysis of a project's conformity to an adopted regional Sustainable Community Strategy or Alternative Planning Strategy (APS), an adopted Climate Action Plan (CAP), and any other applicable City and regional greenhouse gas reduction strategies in affect at the time of project review.

- **Policy RC-5-e: Ensure Compliance.** Ensure ongoing compliance with GHG emissions reduction plans and programs by requiring that air quality measures are incorporated into projects' design, conditions of approval, and mitigation measures.

- **Policy RC-5-f: Toolkit.** Provide residents and project applicants with a "toolkit" of generally feasible measures that can be used to reduce GHG emissions, including educational materials on energy-efficient and "climate-friendly" products.

- **Policy RC-5-g: Evaluate Impacts with Models.** Continue to use computer models such as those used by SJVAPCD to evaluate greenhouse gas impacts of plans and projects that require such review.

4.6.3 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.

4.6.3.1 Significance Criteria

The thresholds for impacts related to greenhouse gas emissions used in this analysis are consistent with Appendix G of the State CEQA Guidelines. Development of the proposed project would result in a significant impact related to greenhouse gas emissions if it would:

Threshold 4.6.1 **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or**

Threshold 4.6.2 **Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.**

4.6.3.2 Project Impacts

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

Threshold 4.6.1 **Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

An evaluation of the project's impacts related to the release of GHG emissions for both construction and operational phases of the project is described below.

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 Fresno 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 the California Emissions Estimator Model version 2020.4.0 (CalEEMod), it is estimated that construction of the proposed project would generate approximately 1,961.0 metric tons of CO_2e. Table 4.6.E lists the annual GHG emissions (details are provided in the CalEEMod output in Appendix C).

Even though the City of Fresno does not have any adopted GHG emission thresholds, the emission results shown in Table 4.6.E would be temporary in nature and would only occur for the duration construction.

Table 4.6.E: Construction Greenhouse Gas Emissions

Construction Year	Annual Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	CO_2e
2022	404.7	0.1	<0.1	411.3
2023	1,155.4	0.1	0.1	1,181.4
2024	360.8	<0.1	<0.1	368.2
Total Construction Emissions				**1,961.0**

Source: Compiled by LSA (October 2022).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
N_2O = nitrous oxide

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 4.6.F shows the emissions sources by category; mobile source emissions are the largest category, at approximately 50 percent of total CO_2e emissions, followed by energy source emissions at approximately 33 percent of the total, waste source emissions at approximately 9 percent of the total, water source emissions at approximately 8 percent of the total, and area source emissions with less than 1 percent of the total emissions. CalEEMod output sheets are included in Appendix C.

Table 4.6.F: Operational Greenhouse Gas Emissions

Emissions Category	Operational Emissions (Metric Tons per Year)				
	CO_2	CH_4	N_2O	CO_2e	Percent of Total
Area Source	<1.0	<0.1	0.0	<0.1	<1
Energy Source	1,643.2	0.1	0.1	1.656.1	33
Mobile Source	2,435.5	<0.1	0.2	2,495.5	50
Waste Source	172.0	10.1	0.0	426.1	9
Water Source	170.5	6.8	0.2	389.1	8
Total Operational				**4,967.0**	**100.0**

Source: Compiled by LSA (October 2022).
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 4.6.F, the proposed project would generate approximately 4,967.0 metric tons of CO_2e annually. 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.

Therefore, consistent with the *State CEQA Guidelines*, Section 15183.5, if a project is consistent with an adopted qualified Greenhouse Gas Reduction Strategy that meets the standards, it can be presumed that the project would not have significant GHG emission impacts.

The City of Fresno's GHG Reduction Plan was adopted in December 2014 to reduce local community GHG emissions to 1990 levels by the year 2020, consistent with the State objectives set forth in AB 32. The City's 2014 GHG Reduction Plan meets the requirements for a Qualified Greenhouse Gas Reduction Strategy and is designed to streamline environmental review of future development projects in the City, consistent with *State CEQA Guidelines* Section 15183.5.

The City of Fresno updated its 2014 GHG Reduction Plan in the year 2021 to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions

to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. As required by CEQA Guidelines Section 15183.5, the Program Environmental Impact Report (PEIR)[27] for the General Plan and GHG Reduction Plan Update and City Council Hearings provide the environmental review and adoption in a public process. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. This analysis evaluates the proposed project's consistency with the City's GHG Reduction Plan Update.

The GHG Reduction Plan Update requires an analysis of GHG emissions to ensure that the change in land use designation would not result in a significant increase in GHG emissions compared to the existing land use designation. The proposed project would not require a change the General Plan land use designation or the current zoning and would be consistent with the City's General Plan and Zoning Ordinance. Therefore, an analysis of the proposed project's estimated GHG emissions compared to maximum buildout of the existing designation would not be required.

As stated above, the GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. The project's Consistency Checklist is included in Appendix H. As shown in the Consistency Checklist, the proposed project would be consistent with the applicable strategies from the GHG Reduction Plan Update. Therefore, the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment and impacts would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

Threshold 4.6.2 Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed above, 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 2019 California Green Building Code) and the 2030 GHG targets, established in SB 32. As discussed above, the proposed project is consistent with the City's GHG Reduction Plan Update.

In addition, the proposed project was analyzed for consistency with the goals of EO B-30-15, SB 32, AB 197, and the 2022 Scoping Plan.

EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. 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. CARB released the 2017 Scoping Plan to reflect the 2030 target set by EO B-30-15 and

[27] The PEIR can be found online: https://ceqanet.opr.ca.gov/2019050005/3

codified by SB 32. SB 32 keeps the State on the path toward achieving the 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.

The 2022 Scoping Plan[28] 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. The 2022 Scoping Plan states that in almost all sectors, electrification will play an important role. The 2022 Scoping Plan evaluates clean energy and technology options and the transition away from fossil fuels, including adding four times the solar and wind capacity by 2045 and about 1,700 times the amount of current hydrogen supply. As discussed in the 2022 Scoping Plan, EO N-79-20 requires that all new passenger vehicles sold in California will be zero-emission by 2035, and all other fleets will have transitioned to zero-emission as fully possible by 2045, which will reduce the percentage of fossil fuel combustion vehicles.

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. The proposed project would be required to comply with the latest Title 24 standards of the CCR, established by the CEC, regarding energy conservation and green building standards. Therefore, the proposed project would comply with applicable energy measures.

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 proposed project would be required to comply with the latest Title 24 standards of the CCR, which includes a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would be designed to include drought tolerant landscaping. 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. The second phase of Pavley standards will reduce GHG

[28] CARB. 2022. op. cit.

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. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

In addition, as discussed above, the proposed project is consistent with the City's GHG Reduction Plan Update. The City's GHG Reduction Plan Update was prepared to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32 and the 2017 Scoping Plan.

As such, the proposed project would comply with existing State regulations adopted to achieve the overall GHG emissions reduction goals identified in EO B-30-15, SB 32, AB 197, and would be consistent with applicable plans and programs designed to reduce GHG emissions. In addition, Mitigation Measure AIR-1, as identified in Section 4.2, Air Quality, requires the infrastructure for AC and/or DC chargers for electric heavy-duty trucks, which would be consistent with the State's advanced clean fleets rule, which has a goal of achieving a zero-emission truck and bus California fleet by 2045. Therefore, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and impacts would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.6.3.3 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.

AB 32 required the CARB to reduce Statewide GHG emissions to 1990 level by 2020. As part of this legislation, the CARB was required to prepare a "Scoping Plan" that demonstrates how the State will achieve this goal. The Scoping Plan was first adopted in 2011 and in it local governments were described as "essential partners" in meeting the Statewide goal, recommending a GHG reduction level of 15 percent below 2005 to 2008 levels by 2020. The second update to the Scoping Plan, the 2017 Scoping Plan, was released by CARB to reflect the 2030 GHG emissions reductions target of at least 40 percent below 1990 levels by 2030. The 2022 Scoping Plan will assess progress towards achieving the SB 32 2030 target and lay out a path to achieve carbon neutrality no later than 2045.

As discussed above, the City of Fresno's first GHG Reduction Plan was adopted in December 2014 to reduce local community GHG emissions to 1990 levels by the year 2020, consistent with the State objectives set forth in AB 32. In 2020, the City of Fresno updated its 2014 GHG Reduction Plan (GHG

Reduction Plan Update) to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32 and the 2017 Scoping Plan. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. As discussed above, the proposed project would be consistent with the applicable strategies from the GHG Reduction Plan Update; therefore, emissions associated with the project would not hinder the City's ability to meet the reduction targets outlined in SB 32. As such, cumulative impacts would be considered less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.7 HAZARDS AND HAZARDOUS MATERIALS

This section describes the environmental setting, including regulatory framework and existing conditions, and potentially significant environmental impacts of the proposed project on hazards and hazardous materials. The analysis in this section is based in part on the Phase I Environmental Site Assessment[1] (ESA) and Phase II ESA[2] prepared for the proposed project (Appendix I and Appendix J, respectively).

4.7.1 Environmental Setting

Hazardous materials refer to substances or waste products that exhibit potential harm to human health, safety, and/or the environment. Hazardous materials can be potentially corrosive, poisonous, flammable, and/or undergo a chemical reaction that may cause harm. These materials can be used in everyday products (e.g., household cleaners, industrial solvents, pesticides, electronics, plastic products, etc.) and can include toxic chemicals. These products are commonly used in agriculture, commercial, industry, hospitals, and households.

"Hazardous materials" described in this section includes all materials defined in the California Health and Safety Code (HSC) Section 25260 as a:

> "Substance or waste that, because of its physical, chemical, or other characteristics, may pose a risk of endangering human health or safety or of degrading the environment. 'Hazardous material' includes but is not limited to…A hazardous substance as defined in Section 25281 or 25316; a hazardous waste as defined in Section 25117; A waste as defined in Section 470 or Section 13050 of the Water Code."[3]

"Hazardous substances" are substances that can adversely affect a person's health, or quality of the environment (e.g., carcinogenic, airborne contaminant, contaminates water, etc.). "Hazardous waste" is any discarded hazardous material and includes hazardous materials purposefully disposed of, or inadvertently released, unless the material has been specifically excluded by regulation. Hazardous wastes are broadly characterized by their ignitability, toxicity, corrosivity, reactivity, radioactivity, or bioactivity. Waste as referenced in HSC Section 470 and Section 13050 of the Water Code is used oil or sewage (radioactive, of human or animal origin, etc.).

Hazardous materials, including certain chemicals are regulated under various State and federal agencies such as the: United States Department of Transportation (USDOT), the United States Environmental Protection Agency (USEPA), the Department of Toxic Substances Control (DTSC), the California Governor's Office of Emergency Services, and other agencies.

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1 SALEM Engineering Group, Inc. 2021 Phase I Environmental Site Assessment. Former California Compress Facility. 2740 West Nielsen Avenue Fresno, CA. January 29.

2 SALEM Engineering Group, Inc. 2021 Phase II Environmental Site Assessment. Former California Compress Facility. 2740 West Nielsen Avenue Fresno, CA. February 3.

3 Find Law. 2020. California Code, Health and Safety Code Section 25260. Website: codes.findlaw.com/ca/health-and-safety-code/hsc-sect-25260.html (accessed April 23, 2020).

The federal and State levels have defined hazardous waste similarly; however, certain distinctions have separated federal and State agencies. Hazardous waste is addressed at the federal level with the Resource Conservation and Recovery Act of 1976 (RCRA), non-RCRA hazardous wastes is addressed at the State level. Federal, State, and local programs have set various regulations in handling (treating, storing, and transportation) and disposing hazardous waste to prevent mishandling and potential impact to public health and environment. Some materials are designated "acutely" or "extremely" hazardous under relevant statues and regulations.

4.7.1.1 Hazardous Material Release Sites

The California Environmental Protection Agency (CalEPA) is required to compile, maintain, and update lists annually of hazardous material releases under California Government Code Section 65962.5. The DTSC is responsible for maintaining the Hazardous Waste and Substances Site List (Cortese List) along with other state and local government agencies to provide additional hazardous material release information for annual updates.[4] The DTSC online EnviroStor and the State Water Resources Control Board (SWRCB) online Geotracker databases include hazardous material release sites along with other categories of sites or facilities specific to each agency's jurisdiction.[5,6]

A review of the Envirostor and Geotracker databases identified 70 active or open hazardous material sites in the City of Fresno, with the nearest site approximately 0.7 miles southeast of the project site. The project site is not located on a hazardous material site. Table 4.7.A details active or open hazardous materials sites within a 2-mile radius of the proposed project.

Table 4.7.A: Hazardous Material Sites Near the Proposed Project

Site Facility Name	Site/Facility Type	Status	Address Description
Fresno Drum Eastern Parcel (T10000005925)	Cleanup Program Site	Open - Inactive	733 South Hughes Avenue, Fresno, CA 93706
PG&E - Fresno MGP (Shaw Ave Portion) (SLT5FT514526)	Cleanup Program Site	Open - Inactive	211 North Thorne Ave Fresno, CA 93706-1461
PG&E - Fresno MGP (Thorne Ave Portion) (SLT5FT524527)	Cleanup Program Site	Open - Site Assessment	211 North Thorne Ave Fresno, CA 93706-1461
Private Residence (T0601900579)	LUST Cleanup Site	Open - Site Assessment	Private Residence, Fresno, CA 93728
Former Melville E Willson Facility (T10000013929)	Cleanup Program Site	Open - Site Assessment	1805 Lafayette Avenue Fresno, CA 93705
Private Residence (T0601900275)	LUST Cleanup Site	Open - Site Assessment	Private Residence, Fresno, CA 93722

Source: Department of Toxic Substances Control & State Water Resource Control Board. *Envirostor and GeoTracker Databases* (2022).

4 California Environmental Protection Agency, 2022. Cortese List Data Resources. Website: calepa.ca.gov/sitecleanup/corteselist (accessed September 2, 2022).

5 California Department of Toxic Substances Control, 2022. EnviroStor. Website: www.envirostor.dtsc.ca.gov/public (accessed September 2, 2022).

6 California State Water Resources Control Board, 2022. GeoTracker. Website: geotracker.waterboards.ca.gov (accessed September 2, 2022).

4.7.2 Regulatory Setting

Federal, State, and local regulations are briefly summarized below.

4.7.2.1 Federal Regulations

Toxic Substances Control Act. Established in 1976 and amended on December 31, 2002, the Toxic Substances Control Act (TSCA) (15 United States Code [USC] Section 2601-2692) grants the EPA power to require proper reporting, record-keeping, and testing requirements related to chemical substances and/or mixtures. Specifically, the TSCA addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paints (LBP). The TSCA establishes the EPA's authority to require the notification of the use of chemicals, require testing, maintain a TSCA inventory, and require those importing chemicals under Sections 12(b) and 13 to comply with certification and/or other reporting requirements. This federal legislation also phased out the use of asbestos-containing materials in new building materials and sets requirements for the use, handling, and disposal of asbestos-containing materials. Disposal standards for lead-based paint wastes are also detailed in the TSCA.

The Emergency Planning and Community Right-To-Know Act. The Emergency Planning and Community Right to Know Act (also known as Title III of the Federal Superfund Amendments and Reauthorization Act, or "SARA III") (42 United States Code 11001 et seq.), was established by the EPA to allow for emergency planning at the State and local level regarding chemical emergencies, to provide notification of emergency release of chemicals, and to address community right to know regarding hazardous and toxic chemicals. SARA III was designed to increase community access and knowledge about chemical hazards as well as facilitate the creation and implementation of State/Native American tribe emergency response commissions, responsible for coordinating certain emergency response activities and for appointing local emergency planning committees (LEPCs). Section 1910.1200(c) Title 29 of the CFR defines "chemicals or hazardous materials" for the purposes of SARA III.

Federal Air Regulations, Part 77. The Federal Aviation Administration (FAA) is charged with the review of construction activities that occur in the vicinity of airports. Its role in reviewing these activities is to ensure that new structures do not result in a hazard to navigation. The regulations in the Federal Air Regulations (14 CFR, Part 77) are designed to ensure that no obstructions in navigable air space are allowed to exist that would endanger the public. Proposed structures are also evaluated against Terminal En Route Procedures, which ensure that a structure does not adversely impact flight procedures. Tall structures, including buildings, construction cranes, and cell towers in the vicinity of an airport can be hazardous to the navigation of airplanes. Federal Air Regulations Part 77 identifies the maximum height at which a structure would be considered an obstacle at any given point around an airport. The extent of the off-airport coverage that needs to be evaluated for tall structure impacts can extend miles from an airport facility. In addition, Federal Air Regulations Part 77 establishes standards for determining whether objects constructed near airports will be considered obstructions in navigable airspace, sets forth notice requirements of certain types of proposed construction or alterations, and provides for aeronautical studies to determine the potential impacts of a structure on the flight of aircraft through navigable airspace.

Federal Insecticide, Fungicide, and Rodenticide Act. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (seven United States Code 136 et seq.) was originally passed in 1947. It has been amended several times, most extensively in 1972 and in 1996 by the Food Quality Protection Act of 1996, and in 2012 by the Pesticide Registration Improvement Extension Act. The purpose of FIFRA is to establish federal jurisdiction over the distribution, sale, and use of pesticides. It also gives EPA the authority to study the effects of pesticide use. Other key provisions of FIFRA require pesticide applicators to pass a licensing examination for status as "qualified applicators," create a review and registration process for new pesticide products and ensure thorough and understandable labeling that includes instructions for use.

Hazardous Materials Transportation Act (HMTA) – Safe Transport of Hazardous Materials. The U.S. Department of Transportation regulates hazardous materials transportation between states under Title 49, Chapter 1, Part 100-185 of the Code of Federal Regulations. Within California, Caltrans and the California Highway Patrol enforce federal law. Together, these agencies determine driver training requirements, load labeling procedures, and specifications for container types to be used.

Federal Emergency Management Agency (FEMA). With respect to emergency planning, FEMA is responsible for ensuring the establishment and development of policies and programs for emergency management at the federal, state, and local levels. Enforcement of these laws and regulations is delegated to state and local environmental regulatory agencies.

Resource Conservation and Recovery Act. The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provide the framework for a regulatory program designed to prevent releases from Underground Storage Tanks (USTs). The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. Owners and operators of USTs had until December 1998 to meet the new tank standards.

Comprehensive Environmental Response, Compensation and Liability Act. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The act was intended to be comprehensive in encompassing both the prevention of, and response to uncontrolled hazardous substances releases. The act deals with environmental response, providing mechanisms for reacting to emergencies and chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for, and respond to, failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

4.7.2.2 State Regulations

California Health and Safety Code and Code of Regulations. Business emergency plans and chemical inventory reporting is mandated under California Health and Safety Code Chapter 6.95 and California Code of Regulations, Title 19, Section 2729. Businesses are required to provide emergency response plans and procedures, training program information, and a hazardous material chemical inventory disclosing hazardous materials stored, used, or handled on-site. If a business uses hazardous materials (standalone or in use with other product) in certain quantities, an emergency plan must be provided.

California Environmental Protection Agency. The California Environmental Protection Agency (CalEPA) is authorized by the USEPA to enforce and implement certain laws and regulations regarding hazardous materials. Under CalEPA, the California DTSC protects the State and people from hazardous waste exposure under RCRA and the California Health and Safety Code. The DTSC requirements include written programs and response plans such as preparation of a Hazardous Materials Business Plan (HMBP). Programs under the DTSC includes aftermath clean-up of improper hazardous waste management, evaluation of samples taken from sites, regulation enforcement regarding use, storage, and disposal of hazardous materials, and encouragement of pollution prevention.

California Division of Occupational Safety and Health. Cal-OSHA is the state-level agency responsible for ensuring workplace safety and is responsible for adoption and enforcement of workplace safety standards and safety practices. If a site is contaminated, a Site Safety Plan must be created and implemented for the safety of workers. A Site Safety Plan establishes policies, practices, and procedures for workers and the public to follow to prevent exposure from hazardous materials originating from a contaminated site or building.

California Building Code. The California Building Code (CBC), contained in Part 2 of Title 24 of the California Code of Regulations (CCR) identifies building design standards, and includes standards for fire safety. The CBC is updated every three years, with the most recent version of the code effective January 1, 2020. The CBC is effective statewide; however, local jurisdictions may adopt more restrictive standards based on locality's conditions. A local city and country building official must check plans for commercial and residential buildings to ensure compliance with the CBC. Fire safety compliance with the CBC include fire sprinkler installation in all new residential, high rise, and hazardous materials buildings; establishment of fire-resistant standards for fire doors, building materials, and certain types of construction; debris and vegetation clearance within a prescribed distance from occupied structures in wildfire hazard areas.

California Emergency Management Agency. The California Emergency Management Agency, established as part of the Governor's Office on January 1, 2009 [Assembly Bill (AB) 38 (Nava)], is responsible for overseeing and coordinating emergency preparedness, response, recovery, and homeland security activities within the State and is supported by local government.

California Department of Forestry and Fire Protection. Public Resources Code 4201-4204 and Government Code 51175-89 requires the California Department of Forestry and Fire Protection (CAL Fire) to evaluate fire threat potential and hazard severity according to areas of responsibility (i.e.,

state, and local). Evaluations are based on topography, fire history, and climate and include fire threat rankings. In 2012, CAL Fire produced the Strategic Plan for California that contains goals, objectives, and policies to prepare and mitigate for the effects of fire on California's natural and built environments. The Strategic Plan was updated in 2019 to reaffirm, with minor adjustments, the Mission, Vision, and Values of the 2012 Strategic Plan.

California Fire Code. The California Fire Code (CFC) is updated every three years with the most current update effective January 1, 2020. The CFC contained in Part 9 of CCR Title 24 incorporates by adoption the International Fire Code of the International Code Council with California amendments. Local jurisdictions can also adopt more restrictive standards based on local conditions, as previously mentioned with the CBC. The CFC regulates building standards, fire department access, fire protection systems and devices, fire and explosion hazard safety, hazardous material storage and use, and building inspection standards.

California Department of Transportation and California Highway Patrol. Caltrans and the CHP are responsible for enforcing federal and State regulations, as well as responding to hazardous material transportation emergencies. Caltrans is the first responder for hazardous material spills and releases on highway and freeway lanes, as well as intercity rail services. The CHP enforces proper labeling and packing regulations of hazardous materials in transit by performing regular vehicle and equipment inspections.

The following are descriptions of provisions included in the California Vehicle Code (CVC) and pertain to the transportation of hazardous-related materials.

- The CHP designates routes in California which are to be used for the transportation of explosives. (CVC Section 31616)

- The CVC applies when explosives are transported as a delivery service for hire or in quantities in excess of 1,000 pounds. The transportation of explosives in quantities of 1,000 pounds or less, or other than on a public highway, is subject to the California Health and Safety Code. (CVC Section 31601(a))

- It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery of, or the loading of, such materials. (CVC Section 31602(b) and Section 32104(a))

- When transporting explosives through or into a city for which a route has not been designated by the Highway Patrol, drivers must follow routes as may be prescribed or established by local authorities. (CVC Section 31614(a))

- Inhalation hazards and poison gases are subject to additional safeguards. These materials are highly toxic, spread rapidly, and require rapid and widespread evacuation if there is loss of containment or a fire. The CHP designates through routes to be used for the transportation of inhalation hazards. It may also designate separate through routes for the transportation of inhalation hazards composed of any chemical rocket propellant. (CVC Section 32100 and Section 32102(b))

4.7.2.3 Local Regulations

County of Fresno Multi-Jurisdictional Local Hazard Mitigation Plan. The purpose of a Local Hazard Mitigation Plan is to reduce or eliminate long-term risk to human life and property resulting from hazards. A local hazard mitigation plan recognizes risks before they occur, as well as identifies resources, information, and strategies for emergency response. Fresno County, with participation from 17 jurisdictions, is the lead agency on the Multi-Jurisdictional Local Hazard Mitigation Plan (MHMP). In 2018, the Fresno County Board of Supervisors adopted the MHMP, which includes a Fresno Annex listing information that pertains to the City in the areas of health, infrastructure, housing, government, environment, and land use.

Fresno County Environmental Health Department - Hazardous Materials Business Plans. Facilities that store, use or handle hazardous materials above reportable amounts are required to prepare and file a Hazardous Materials Business Plan for the safe storage and use of chemicals. In the event of an emergency, firefighters, health officials, planners, public safety officers, health care providers and others rely on the Business Plan. Implementation of the Business Plan should prevent or reduce damage to the health and safety of people and the environment when a hazardous material is released.[7]

A Business Plan must be submitted by businesses that handle a hazardous material, or a mixture containing a hazardous material, in quantities equal to or greater than:

1. 55 gallons of a liquid.
2. 500 pounds of a solid.
3. 200 cubic feet (at standard temperature and pressure) of a compressed gas.
4. The federal Threshold Planning Quantity (TPQ) for Extremely Hazardous Substances.
5. Radioactive materials in quantities for which an Emergency Plan is required as per Parts 30, 40, or 70, Chapter 1 of Title 10 of Code of Federal Regulations.

The Business Plan must include: 1) the type and quantity of hazardous materials; 2) site map; 3) risks of using these materials; 4) spill prevention; 5) emergency response; 6) employee training; and 7) emergency contacts.

Fresno County Airport Land Use Compatibility Plan. The Fresno County Airport Land Use Compatibility Plan (ALUCP) was prepared by the Fresno County Airport Land Use Commission (ALUC) and adopted in December 2018. The ALUCP provides an update of the State-mandated airport land use compatibility plan for the environs of the nine public use airports in Fresno County, including three public use airports within the City of Fresno: Fresno Chandler Executive Airport; Fresno Yosemite International Airport; and Sierra Sky Park Airport. The Fresno County ALUCP implements

[7] Fresno County Department of Environmental Health. Hazardous Materials Business Plans. Website: www.co.fresno.ca.us/departments/public-health/environmental-health/hazardous-materials-certified-unified-program-agency-cupa/hazardous-materials-business-plans (accessed September 2022).

land use compatibility policies and criteria related to proposed development in the vicinity of public use airports in the City (and throughout Fresno County). The Fresno County ALUCP also establishes the planning boundaries around each of these airport facilities that define safety areas, noise contours, and height/airspace protection for policy implementation and areas within which notification is required as part of real estate transactions.This Airport Land Use Compatibility Plan replaced the following compatibility plans for the Fresno County ALUC:

- Coalinga Airport Land Use Policy Plan, November 1994
- Fresno County Airports Land Use Policy Plan (Firebaugh, William Robert Johnston Municipal, Reedley Municipal, and Selma), January 1983
- Fresno Chandler Downtown Airport Land Use Policy Plan, Revised October 2014
- Fresno Yosemite International Airport Compatibility Land Use Plan, Revised June 2012
- Harris Ranch Airport Land Use Policy Plan, October 1995
- Reedley Municipal Airport Land Use Compatibility Plan, November 2007
- Sierra Sky Park Land Use Policy Plan, Revised October 1995

Similar to the previously listed airport compatibility plans, this ALUCP is intended to protect and promote the safety and welfare of residents, businesses, and airport users near the public use airports and Naval Air Station Lemoore in Fresno County, while supporting the continued operation of these facilities. Specifically, the plan seeks to: ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents; protect the public from the adverse effects of airport noise; and ensure that no structures or activities encroach upon, or adversely affect, the use of navigable airspace. The City of Fresno Development Code Priority of Plans section mentioned above (Section 15-104-B.4) clearly establishes the adopted Fresno County Airport Land Use Compatibility Plan as the plan that takes precedence over all of the City's other land use plans within the Airport Influence Areas defined in the Plan.

City of Fresno Emergency Operation Plan. The California Emergency Services Act requires cities to prepare and maintain an emergency plan for emergencies that are natural or caused by man. The City's adopted Emergency Operations Plan (EOP) plans for emergencies including natural hazards. The EOP does not designate any evacuation routes within the City of Fresno.

City of Fresno General Plan. The City of Fresno's General Plan Noise and Safety Element includes objectives and policies that work to minimize the risk of loss of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes. The following policies related to hazards and hazardous materials are applicable to the proposed project:

- **Policy NS-4-a: Processing and Storage.** Require safe processing and storage of hazardous materials, consistent with the California Building Code and the Uniform Fire Code, as adopted by the City.

- **Policy NS-4-c: Soil and Groundwater Contamination Reports.** Require an investigation of potential soil or groundwater contamination whenever justified by past site uses. Require appropriate mitigation as a condition of project approval in the event soil or groundwater contamination is identified or could be encountered during site development.

- **Policy NS-4-e: Compliance with County Program.** Require that the production, use, storage, disposal, and transport of hazardous materials conform to the standards and procedures established by the County Division of Environmental Health. Require compliance with the County's Hazardous Waste Generator Program, including the submittal and implementation of a Hazardous Materials Business Plan, when applicable.

- **Policy NS-4-f: Hazardous Materials Facilities.** Require facilities that handle hazardous materials or hazardous wastes to be designed, constructed, and operated in accordance with applicable hazardous materials and waste management laws and regulations.

- **Policy NS-4-g: Hazmat Response.** Include policies and procedures appropriate to hazardous materials in the City's disaster and emergency response preparedness and planning, coordinating with implementation of Fresno County's Hazardous Materials Incident Response Plan.

- **Policy NS-4-h: Household Collection.** Continue to support and assist with Fresno County's special household hazardous waste collection activities, to reduce the amount of this material being improperly discarded.

- **Policy NS-5-a: Land Use and Height.** Incorporate and enforce all applicable Airport Land Use Compatibility Plans (ALUCPs) through land use designations, zoning, and development standards to support the continued viability and flight operations of Fresno's airports and to protect public safety, health, and general welfare.

    - Limit land uses in airport safety zones to those uses listed in the applicable ALUCPs as compatible uses, and regulate compatibility in terms of location, height, and noise.

    - Ensure that development, including public infrastructure projects, within the airport approach and departure zones complies with Part 77 of the Federal Aviation Administration Regulations (Objects Affecting Navigable Airspace), particularly in terms of height.

- **Policy NS-5-b: Airport Safety Hazards.** Ensure that new development, including public infrastructure projects, does not create safety hazards such as glare from direct or reflective sources, smoke, electrical interference, hazardous chemicals, fuel storage, or from wildlife, in violation of adopted safety standards.

- **Policy NS-6-a: County Multi-Jurisdiction Hazard Mitigation Plan.** Adopt and implement the Fresno County Multi-Jurisdiction Hazard Mitigation Plan and City of Fresno Local Hazard Mitigation Plan Annex.

- **Policy NS-6-f: Emergency Vehicle Access.** Require adequate access for emergency vehicles in all new development, including adequate widths, turning radii, hard standing areas, and vertical clearance.

City of Fresno Municipal Code. Chapter 10, Article 14 of the City of Fresno Municipal Code pertains to the recovery of expenses associated with hazardous spills. Specifically, this section states that "Any person causing a release or threatened release which results in an emergency action shall be liable to the City of Fresno for the recoverable costs resulting from the emergency action."

4.7.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to hazards and hazardous materials 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.

4.7.3.1 Significance Criteria

The thresholds for impacts related to hazards and hazardous materials used in this analysis are consistent with Appendix G of the State CEQA Guidelines. Development of the proposed project would result in a significant impact related to hazards and hazardous materials if it would:

Threshold 4.7.1 **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;**

Threshold 4.7.2 **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;**

Threshold 4.7.3 **Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;**

Threshold 4.7.4 **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;**

Threshold 4.7.5 **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, would the project result in a safety hazard for people residing or working in the project area;

Threshold 4.7.6 **Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or**

Threshold 4.7.7 **Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.**

4.7.3.2 Project Impacts

The following describes the potential impacts related to hazards and hazardous materials that could result from implementation of the proposed project.

Threshold 4.7.1 **Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Applicable laws and regulations ensure that transport, use, and disposal of hazardous materials do not create a significant hazard to the public or the environment. Therefore, a proposed project's routine transport, use, or disposal of hazardous materials is potentially significant if unusual circumstances are present, such as an unusually high frequency of use, use of an unusually large amount of hazardous substances, or use of particularly hazardous materials. Potential hazards during construction and operation of the proposed project are discussed below.

Construction Impacts. Construction activities associated with the proposed project would involve the use of limited amounts of potentially hazardous materials, including but not limited to, solvents, paints, fuels, oils, and transmission fluids. However, only limited quantities of these materials are expected to be used during construction, so they are not considered hazardous to the public at large. In addition, all materials used during construction would be contained, stored, and handled in compliance with applicable standards and regulations established by the DTSC, the USEPA, and Cal-OSHA. Therefore, impacts to the public or the environment through the routine transport, use, or disposal of hazardous materials during project construction would be less than significant.

Operational Impacts. No uses utilizing large amounts of hazardous materials are anticipated to occur within the project site. The proposed project would include the construction of four office/warehouse buildings that would be configured for industrial uses by future tenants that have yet to be identified. Project operation would involve the use of small quantities of commercially-available hazardous materials (e.g., paint, cleaning supplies) that could be potentially hazardous if handled improperly or ingested. However, these products are not considered acutely hazardous and are not generally considered unsafe. All storage, handling, and disposal of hazardous materials during project construction and operation would comply with applicable standards and regulations. In the event that future tenants of the project site introduce uses that require large quantities of hazardous materials or generate large quantities of hazardous waste, those tenants would be required to obtain a conditional use permit and undergo further environmental review, as required by the City. The proposed project would comply with all applicable laws and regulations related to

the transport, use, or disposal of hazardous materials and no unusual circumstances are present. Therefore, the proposed project would have a less-than-significant impact to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Level of Significance Without Mitigation: Less than Significant.

Threshold 4.7.2 Would the project 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?

A project-specific Phase I ESA and Phase II ESA were prepared in accordance with the American Society for Testing and Materials (ASTM) International Standard E1527-13 for the purposes of identifying recognized environmental conditions (REC), controlled recognized environmental conditions (CREC), and historical recognized environmental conditions (HREC) on the project site.

An REC means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not RECs. A CREC is defined as a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls. An HREC means an environmental condition that in the past would have been considered an REC, but which may or may not be considered an REC currently. If a past release of any hazardous substances or petroleum products has occurred in connection with the property, with such remediation accepted by the responsible regulatory agency (for example, as evidenced by the issuance of a case closed letter or equivalent), this condition shall be considered an HREC.

The Phase I ESA included the following tasks: reviewing land-use history and property development by reviewing historical aerial photographs, pertinent building permit records, historic city directories, as well as reviewing recent and historic topographic land-use maps of the project site and surrounding area; reviewing readily available local, state and federal regulatory agency databases; performing a reconnaissance of the project site and surrounding areas; and identifying aboveground storage tanks and/or indications of underground storage tanks on-site. The Phase I ESA identified the following evidence of RECs, HREC, and site development issue as described in Table 4.7.B.

Table 4.7.B: Environmental Issues Related to Hazardous Materials

Environmental Condition	Action
Recognized Environmental Conditions (RECs)	
At least three known septic systems were associated with the former structures on the project site, two of which were visually identified during the site reconnaissance as remaining at the project site. The former septic systems may have acted as a conduit for contaminants to enter on-site soil from potential past unauthorized disposal of hazardous substances and/or petroleum products utilized for vehicle maintenance into drains, sinks and toilets.	The Phase I ESA determined that a limited soil assessment should be conducted in the vicinity of the septic systems to determine if on-site soils have been impacted by unauthorized releases of the constituents of concern into the septic systems.
Historic operations at the project site included the handling and storage of cotton which required an extensive fire suppression system. Two water basins were historically located in the southern portion of the project site. Upwards of 25 features were located across the project site indicative of a fire suppression system including stand pipes, traffic bollards, and fire hydrants. The system reportedly included diesel-powered water pumps supplied from an aboveground storage tank (AST) historically located in the south-central portion of the project site. The former diesel AST location was identifiable by concrete footings and a fire extinguisher. Additional concrete footings indicative of propane ASTs were observed in the north-central portion of the project site. No staining or signs of leakage were observed in the vicinity of the former ASTs.	The Phase I ESA recommended conducting a limited site assessment to assess on-site shallow soils for potential petroleum hydrocarbon impacts in the vicinity of the former diesel AST.
A soil mound was observed in the southern portion of the project site and was reported to have been excavation dirt and asphalt produced when the floor of a warehouse was switched from asphalt to concrete to accommodate heavy machinery. No obvious visual evidence of hazardous substances and/or petroleum products or staining was observed on the surface of the stockpile.	The Phase I ESA recommended collecting samples of the stockpiled soil in order to determine if the soil has been impacted by constituents of concern prior to either transporting the soil off-site for disposal or utilizing the soil on-site as clean-fill if needed during the redevelopment of the project site.
Historical Recognized Environmental Condition (HREC)	
The former California Compress facility operated four USTs consisting of a 10,000-gallon fuel oil UST historically located on what is now the north adjacent property; a 4,000-gallon double-walled steel diesel UST; a 4,000-gallon single-walled steel diesel UST; and a 1,000-gallon single-walled steel regular unleaded gasoline UST historically located in the southwest portion of the project site. Records indicate all UST were properly permitted and removed under the regulatory agency oversight of Fresno County Environmental Health Division (FCEHD). A record of a "Hazardous Material Release" was recorded on June 5, 1995 indicating soil contamination from petroleum products discovered during removal of a UST. RWQCB records indicate that FCEHD issued a "case closed" designation for the California Compress LUST site on July 3, 1996.	No action required as the RWQCB records indicate that FCEHD issued a "case closed" designation for the California Compress LUST site on July 3, 1996.
Site Development Issue	
Two water wells were observed on the project site. No information regarding analytical testing or construction specifications of the on-site wells was found during the course of the assessment.	The Phase I ESA, recommended properly destroying the wells in accordance with all applicable State and local guidelines.

Source: SALEM Engineering Group, Inc. *Phase I Environmental Site Assessment* (2021).

A Phase II ESA was performed to address the RECs and HREC identified in the Phase I ESA, to gather data regarding current site conditions, to establish baseline soil and soil vapor concentrations, and to evaluate if soil vapor conditions pose a potential vapor intrusion risk to future occupants at the project site. The following summary is based on a review of field and laboratory data obtained during the Phase II investigation:

- According to RWQCB records for the Fresno Drum, Eastern Parcel facility, located at 733 South Hughes Avenue, approximately 0.65-mile south of the project site, groundwater in the vicinity of the project site was reported at a depth of approximately 65 to 80 feet below ground surface (bgs) with a general direction of flow toward the northeast. However, local groundwater level and flow direction may vary due to seasonal fluctuations in precipitation, usage demands, geology, and/or surface topography. Groundwater was not encountered during the course of the investigation.

- A geophysical survey was conducted which identified the suspected former UST pit. The pit displayed a different soil density compared to the surrounding areas and the surface area of this location displayed patched/cut concrete and asphalt. Additionally, two of the three suspected septic systems were positively identified. No other anomalies indicative of potential buried fuel USTs and associated appurtenances, additional backfilled UST cavities, or other subgrade structures of environmental concern (hoists, clarifiers, and sumps) were identified during the performance of the geophysical survey.

- Eight soil borings (SV-1 through SV-6, SB-7, and SB-8) to depths ranging from 10 to 15 feet bgs. Borings SV-1 through SV-6 were converted to dual-completion soil vapor sample points with probes at 5 and 10 feet bgs. Borings SV-1, SV-3, and SV-6 were located near the former and suspect septic tank locations; SV-2 and SB-7 were located near the former UST pit in the southwest portion of the project site; SV-4 and SV-5 were located near the former diesel and propane AST locations, respectively; and SB-8 was located adjacent to a ring of traffic bollards historically associated with the fire suppression system in the south portion of the project site.

- Generally, soil types consisted of light brown, well sorted, medium- to fine-grained sand (SP) sand to approximately 10 feet bgs, underlain by brown silt with sparse very fine-grained sand (ML) to the maximum depth drilled of 15 feet bgs. Drilling refusal was met at a depth of 7 feet bgs at location SB-8 near the fire suppression equipment in the south portion of the project site. A subsurface manmade feature is the suspected cause; however, due to the absence of apparent contamination the area was not investigated further.

- Total petroleum hydrocarbons (TPH) were identified above laboratory method detection limits in 16 of the 18 soil samples analyzed. TPH as diesel (TPHd, carbon range C10-C24) was identified at concentrations ranging from 6.6 milligrams per kilogram (mg/kg) to 24 mg/kg. Additional TPH detected was consistent with mostly oil range hydrocarbons (TPHo) at concentrations ranging from 5.8 mg/kg to 360 mg/kg. TPH concentrations were below their respective established San Francisco Regional Water Quality Control Board (RWQCB-SF) Commercial/Industrial Environmental Screening Levels (ESLs) set at 260 mg/kg for TPHd and 1,600 mg/kg for TPHo.

- Volatile organic compounds (VOCs) and polychlorinated biphenyls (PCBs) were not identified above laboratory method detection limits in any of the soil samples analyzed. Data suggests that VOCs and PCBs are not constituents of potential concern (COPCs) in soil at the project site.

- Semi-volatile organic compounds (SVOCs) detected in the composite soil samples collected from the soil stockpile located in the south portion of the project site consisted of benzo(a)anthracene (0.41 to 0.49 mg/kg), chrysene (0.38 mg/kg), fluoranthene (0.49 mg/kg), phenanthrene (0.57 mg/kg), and pyrene (1.3 mg/kg). All detected concentrations of SVOCs were below their respective RWQCB-SF Commercial/Industrial ESLs.

- Arsenic was detected in soil samples collected at 5 feet bgs in SV-4 (11 mg/kg), SB-7 (14 mg/kg), and SB-8 (45 mg/kg). These values exceed the RWQCB-SF Commercial/Industrial ESL set at 0.31 mg/kg for cancer risk and appear to be slightly elevated in comparison to arsenic concentrations in Fresno County (1.8 to 6.0 mg/kg) and to regional arsenic concentrations in the San Joaquin Valley that range from 0.8 to 20 mg/kg.

- Additional Title 22 metals detected included barium, cobalt, chromium, copper, nickel, lead, vanadium, and zinc at concentrations below their respective established RWQCB-SF Commercial/Industrial ESLs. No other Title 22/CAM 17 metals were detected above laboratory detection limits.

- VOCs were not identified above laboratory method detection limits in any of the soil vapor samples.

Based on the results of the Phase II ESA, it was determined that no additional assessment activities are required. The Phase II ESA determined that the project site is suitable for unrestricted use and no engineering controls (i.e. VOC vapor barrier) are required. However, the Phase II ESA determined that a Soil Management Plan (SMP) shall be prepared prior to construction to address soil management procedures that may arise based on historical use of the project site and TPH and arsenic. Therefore, implementation of Mitigation Measures HAZ-1, which would require preparation of an SMP would effectively mitigate any impacts related to a significant hazard to the public or the environment to less than significant levels.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure HAZ-1: Prior to soil disturbance, a consultant qualified under American Society for Testing and Materials (ASTM) International Standard E1527-13 for the purposes of identifying hazardous materials shall be retained to prepare a Soil Management Plan (SMP) that addresses soil management procedures that may arise based on historical use of the project site and the known total petroleum hydrocarbons (TPH) and arsenic impacts. Construction may not proceed until the extent and nature of the TPH and arsenic impacts are determined by qualified personnel and in consultation with appropriate City staff.

The removal and/or disposal of any contaminants shall be in accordance with all applicable local, State, and federal standards to the degree that adequate public health and safety standards are maintained, to the satisfaction of the City.

Level of Significance Without Mitigation: Less than Significant with implementation of Mitigation Measure HAZ-1.

Threshold 4.7.3 Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The closest existing school to the project site is Addams Elementary School, located approximately 1.2 miles from the project site. The proposed project would not result in the use or emission of substantial quantities of hazardous materials that would pose a human or environmental health risk. In addition, all materials would be handled, stored, and disposed of in accordance with applicable standards and regulations. Therefore, since no schools are located within 0.25 mile of the project site and because the proposed project does not involve activities that would result in the emission of hazardous materials or acutely hazardous substances, implementation of the proposed project would result in a less than significant impact related to the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Level of Significance Without Mitigation: Less than Significant Impact.

Threshold 4.7.4 Would the project 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?

According to the DTSC EnviroStor and the SWRCB GeoTracker databases, the project site is not located on a federal superfund site, State response site, voluntary cleanup site, school cleanup site, evaluation site, school investigation site, military evaluation site, tiered permit site, or corrective action site. The project site is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.[8] As a result, no impacts related to hazardous materials sites pursuant to Government Code Section 65962.5 would occur.

Level of Significance Without Mitigation: No Impact.

Threshold 4.7.5 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

[8] California Environmental Protection Agency (CalEPA). 2018. Government Code Section 65962.5(a) Hazardous Waste and Substances Site List. Website: https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/ (accessed June 2021).

airport, would the project result in a safety hazard for people residing or working in the project area?

Airport-related hazards are generally associated with aircraft accidents, particularly during takeoffs and landings. Operation hazards include incompatible land uses, power transmission lines, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the imaginary surfaces surrounding an airport.

The nearest airports include the Fresno Chandler Executive Airport, located approximately 0.8 mile from the project site, the Sierra Sky Airport, located approximately 6.7 miles from the project site, and the Fresno International Airport, located approximately 7.1 miles from the project site.

Portions of the project site are in the Traffic Pattern Zone (TPZ) and Outer Approach/Departure Zone (OADZ) for the Fresno Chandler Executive Airport. OADZs have a moderate risk level because approximately 5 percent of crashes occur in this area, while TPZs have a low risk level. Based on this risk level, the Fresno County Airport Land Use Compatibility Plan[9] (ALUCP) proposes certain criteria for projects within TPZs and OADZs.

For TPZs, the ALUCP proposes a maximum non-residential intensity of 300 persons per acre, with 10 percent required open land. Hazards to flight, outdoor stadiums, and similar high intensity uses are prohibited. Airport disclosures are required, as well as project review for objects taller than 100 feet. In addition, new structures cannot penetrate 14 C.F.R. Part 77 surfaces.

OADZs, in turn, have a maximum density of 150 persons per acre and an open land requirement of 20 percent. Certain uses, including hazardous uses (e.g., aboveground bulk fuel storage or gas stations) and hazards to flight are prohibited. Airport disclosure notices are required, as is airspace review for objects over 70 feet in height.

Although the project site is within 2 miles of the Chandler Executive Airport, operations at the local airports are not expected to pose a safety hazard for people working at or visiting the project site nor does any aspect of the project conflict with the requirements in the ALUCP for TPZs and OADZs. The project contemplates densities below those required in TPZs and OADZs and the project would include over 20 percent open land. In addition, the proposed project would not include any structures higher than 70 feet, hazardous uses, hazards to flight, or other land uses prohibited in TPZs or OADZs. In addition, the proposed project would not include any structures that would penetrate 14 C.F.R. Part 77 surfaces.

Therefore, the proposed project would result in a less than significant impact related to a safety hazard for people residing or working in the project area.

<u>Level of Significance Without Mitigation:</u> Less than Significant Impact.

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[9] Fresno County Airport Land Use Commission, Fresno County Airport Land Use Compatibility Plan. 2018. Website: https://www.fresnocog.org/wp-content/uploads/2019/01/fresno-draft-ALUCP-12-04-17c.pdf, and https://2ave3l244ex63mgdyc1u2mfp-wpengine.netdna-ssl.com/wp-content/uploads/2019/01/fresno-final-alucp-113018-r_part2.pdf.

Threshold 4.7.6 Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The California Emergency Services Act requires cities to prepare and maintain an Emergency Plan for natural, manmade, or war-caused emergencies that result in conditions of disaster or in extreme peril to life. The City's full-time Emergency Preparedness Officer (EPO) is responsible for ensuring that Fresno's emergency response plans are up-to-date and implemented properly. The EPO also facilitates cooperation between City departments and other local, State and federal agencies that would be involved in emergency response operations. The City of Fresno Emergency Operations Center (EOC) serves as the coordination and communication between the City of Fresno and Fresno County Operational Area EOC. The proposed project would not result in any alterations of existing roadways. Therefore, the proposed project would not interfere with the implementation of or physically interfere with any adopted emergency response plans or emergency evacuation plan, and this impact would be less than significant.

Level of Significance Without Mitigation: Less than Significant Impact.

Threshold 4.7.7 Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Wildland fires occur in geographic areas that contain the types and conditions of vegetation, topography, weather, and structure density susceptible to risks associated with uncontrolled fires that can be started by lightning, improperly managed campfires, cigarettes, sparks from automobiles, and other ignition sources. According to the California Department of Forestry and Fire Protection (CAL FIRE) Very High Fire Hazard Severity Zone (VHFHSZ) Map for Fresno County, the project site is not located within a High or Very High Fire Hazard Severity Zone.[10] Therefore, the proposed project would not expose people or structures to a significant loss, injury, or death involving wildland fires, and impacts would be less than significant.

Level of Significance Without Mitigation: Less than Significant Impact.

4.7.3.3 Cumulative Impacts

The 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 hazards and hazardous materials.

Implementation of the proposed project in combination with other projects in the project area and larger region could increase hazard-related impacts (i.e., hazardous waste/material potential release, interference with emergency plan, wildland fires, etc.) in the project area; however, compliance with applicable federal, State, and local policies and implementation of Mitigation Measure HAZ-1 identified above would reduce potential impacts to a less-than-significant level. In

[10] California Department of Forestry and Fire Protection (CAL FIRE). 2007. *Fresno County Very High Fire Hazard Severity Zones in LRA.* October 2. Website: https://osfm.fire.ca.gov/media/6673/fhszl06_1_map10.pdf (accessed September 2, 2022).

addition, development of the proposed project would involve the transportation and use of hazardous materials, such as chemicals and solvents used for construction activities and routine cleaning and maintenance; however, as demonstrated in the analysis above, this impact is considered less than significant, and would likely not affect public or environmental health.

Although other projects would have potential impacts associated with hazardous materials, the environmental concerns associated with hazardous materials are site specific. Each project is required to address any issues related to hazardous material or wastes. Federal, state, and local regulations require mitigation to protect against site contamination by hazardous materials. Therefore, there would be no cumulative hazardous materials impacts.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure HAZ-1 above.

Level of Significance With Mitigation: Less than Significant with implementation of Mitigation Measure HAZ-1.

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4.8 HYDROLOGY AND WATER QUALITY

This section evaluates the potential environmental effects related to hydrology and water quality associated with the proposed project. This section also addresses local, State, and federal regulations as they pertain to project impacts on hydrology and water quality. A Water Supply Assessment (WSA)[1] was prepared for the proposed project (Appendix K). The WSA contains information from the City of Fresno 2020 Urban Water Management Plan (UWMP).[2]

4.8.1 Environmental Setting

The following discussion outlines the hydrological conditions of the City of Fresno.

4.8.1.1 Precipitation

Precipitation in the City of Fresno occurs mostly as rain during the months of November through April. Climate data collected from 1948 to 2016 shows that annual rainfall averaged 10.89 inches but is variable. Recorded annual rainfall has ranged from a low of 3.01 inches in 2013 to a high of 21.61 inches in 1983.[3]

4.8.1.2 Hydrologic Setting

The City of Fresno is located in the Kings Subbasin and lies within the larger San Joaquin Valley Groundwater Basin in the Central Valley of California. The Kings Subbasin covers approximately 1,530 square miles. The San Joaquin Valley Groundwater Basin is bounded to the north by the Sacramento-San Joaquin Delta and Sacramento Valley, to the east by the Sierra Nevada, to the south by the San Emigdio and Tehachapi mountains, and to the west by the Coast Ranges. The Kings Subbasin, located within the southern half of the San Joaquin Valley Groundwater Basin, is bounded to the north by the San Joaquin River, to the east by the alluvium-granite rock interface of the Sierra Nevada foothills, to the south by the southern fork of the Kings River, and to the west by the Delta-Mendota and Westside subbasins. The Kings Subbasin is split into seven Groundwater Sustainability Agency (GSA) management areas, with Fresno located in the North Kings GSA.

4.8.1.3 Groundwater

The City of Fresno is underlain by the Kings River Subbasin, which, along with six other subbasins, comprises the San Joaquin Valley Groundwater Basin. In turn, the San Joaquin Basin is located within the Tulare Lake Hydrologic Region. The Tulare Lake Hydrologic Region spans approximately 10.9 million acres (17,000 square miles) and includes most of Fresno County. The Region encompasses the southern one-third of the Central Valley Regional Water Quality Control Board (RWQCB) jurisdiction.

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1 LSA. 2022. *SB 610 Water Supply Assessment, 2740 West Nielsen Avenue Office/Warehouse Project, Fresno, California*. July.

2 Fresno, City of. 2021. *City of Fresno 2020 Urban Water Management Plan*. June.

3 Western Regional Climate Center. Period of Record Monthly Climate Summary, Fresno Yosemite Intl AP, California (043257). Average Total Precipitation (inches). Website: wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3257 (accessed October 2022).

Groundwater Management. The seven GSAs operate cooperatively across the basin via a coordination agreement that ensures common approaches to sustainability items such as similarity of data usage and methodologies, consistent interpretations of the basin setting, and common assumptions and development of water budgets, monitoring networks, sustainable management criteria, and data management systems.

As required by the Sustainable Groundwater Management Act (SGMA), the North Kings GSA considers six sustainability indicators:

- Chronic lowering of groundwater levels, indicating significant and unreasonable depletion of supply;
- Significant and unreasonable reduction of groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degraded water quality;
- Significant and unreasonable land subsidence; and
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

Each indicator has an identified undesirable result, measurable objective, and minimum threshold. The measurable objective and minimum threshold allow the North Kings GSA to evaluate their progress for the subject indicator and determine if conditions are improving, remaining stable or degrading. The sustainability indicators of primary concern within the City are groundwater levels, groundwater storage, and groundwater quality. The methodology for the water quality indicators has been developed and the methodology is still being developed for the groundwater levels and groundwater storage indicators.

Groundwater Quality. Groundwater within the North Kings Subbasin generally meets primary and secondary drinking water standards for municipal water use and is described as being bicarbonate-type water, including calcium, magnesium, and sodium as the dominant ions. Total dissolved solids (TDS) concentrations rarely exceed 600 milligrams per liter (mg/L) and range from 200 to 700 mg/L. However, the groundwater basin has been impacted by multiple chemical contaminants that affect the City's ability to fully utilize the groundwater basin resources without some type of wellhead treatment in certain areas.

The primary contaminants are nitrate, 1,2-dibromo-3-chloropropane (DBCP), 1,2,3-trichloropropane (1,2,3-TCP), and other volatile organic compounds like trichloroethylene (TCE) and perchloroethylene (PCE). The City has received settlements in a number of lawsuits related to these contaminants and has constructed wellhead treatment systems and implemented blending plans for a number of wells. Approximately 40 City wells are being treated for contaminants such as PCE, DBCP, TCE, 1,2,3-TCP, perfluorooctanoic acid, perfluorooctanesulfonic acid, ethylene dibromide, and

nitrate, and an additional 20 wells include treatment for iron, manganese, and hydrogen sulfide removal or corrosion control.

Extensive groundwater contamination nearly covers the City's entire water service area; only areas located in the northwest appear to be relatively unaffected by regional groundwater contamination. Also, many of the City's wells are impacted by one or more of the contaminant plumes.

4.8.1.4 Surface Water

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which can produce significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminates in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge under the Federal Water Pollution Control Amendments of 1972 until the mid-1980's. However, since then, the United States Environmental Protection Agency has continued to develop implementing rules which categorize urban runoff as a point source (an identifiable source) subject to National Pollution Discharge Elimination System (NPDES) permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

4.8.1.5 Stormwater Drainage

The Fresno-Clovis Metropolitan Area and surrounding rural vicinities are within the service area boundaries of the Fresno Metropolitan Flood Control District (FMFCD), which has primary responsibility for managing the local stormwater flows. Most stormwater in Fresno drains to urban stormwater basins, where the water is retained to attenuate peak-flow runoff and recharge stormwater, or is pumped to local irrigation canals for conveyance away from the municipal areas.

The storm drainage facilities are documented in the Storm Drainage and Flood Control Master Plan (SDFCMP), which is developed and updated by FMFCD. The master plan drainage system for the City consists of over 170 individual drainage areas or urban watersheds. Drainage area boundaries are determined by geographic and topographic features and the economics of providing storm drainage service to the watershed. The storm drainage facilities within a drainage area consist of storm drain inlets, pipeline, retention basins, urban detention (water quality) basins, and stormwater pump stations. Surface grading improvements such as streets, curbs, gutters, and valley gutters are part of the City of Fresno infrastructure, but the general grading of these features is governed by the SDFCMP to provide a coherent implementation of drainage within the City.

Storm drain inlets are located at low points in the topography as determined by the SDFCMP. Pipeline alignments and sizes are also shown on the SDFCMP. Pipeline alignments are subject to change as development proposals are put forward by development projects. Retention basins and urban detention basins locations and geometry are part of the SDFCMP as well. Basins are sited in the topographic low point of the drainage area. All of the storm drainage pipelines are directed to the retention and urban detention basins. Retention basins store and percolate stormwater from the drainage area if time between storms permits, or is otherwise pumped to designated irrigation canals. Urban detention basins provide quiescent (still) conditions for the removal or settling out of suspended solids prior to discharge of the stormwater to the San Joaquin River.

The Fresno-Clovis Metropolitan area consists of drainage areas that are completed, e.g., all of the master planned facilities are constructed and functional; or in the process of being completed, e.g. portions of the retention basins, pipelines, and inlets are constructed and portions are not. For the drainage areas that are in the planning stage, e.g., the drainage area is planned and documented, the retention basin land may have been purchased, but no construction has occurred. Implementation of the SDFCMP occurs in response to development activity in newly developing areas and through Capital Improvement Project (CIP) planning in previously developed areas. Funding for storm drainage facilities occurs through the collection of drainage fees assessed on parcels as they develop through grant funding from the State of California and the Federal Government, through low interest infrastructure improvement bonds, and in the past, through assessment districts. Drainage fees fund most of the construction of master plan facilities in newly developing areas. Grants, infrastructure loans, and assessment districts fund most of the construction in previously developed drainage areas.

4.8.1.6 Inundation Hazards

Floods. The City of Fresno is in the alluvial fans of numerous foothill streams and creeks that drain the western slope of the Sierra Nevada foothills. These streams include Big Dry Creek, Alluvial Drain, Pup Creek, Dog Creek, Redbank Creek, Mud Creek, and Fancher Creek. Numerous smaller, unnamed drainage courses also drain into the Planning Area from the rural areas east of the Planning Area.

Based on a review of the Federal Emergency Management Agency's Flood Insurance Rate Maps (FIRM) for the Planning Area,[4] there are areas that are subject to the 100-year frequency flood zone.

[4] Federal Emergency Management Agency. FEMA Flood Map Service Center. Website: msc.fema.gov/portal/home (accessed September 6, 2022).

The primary area that is subject to the 100-year flood zone is along the San Joaquin River below the bluffs. There are additional areas in the vicinity of the Fresno International Airport, the Southeast Development Area in the vicinity of the Redbank Creek Dam, adjacent to Highway 180 east of Clovis Avenue, and within an industrial area east of SR-99, south of California Avenue and north of Jensen Avenue. In addition, various detention basins are subject to the 100-year flood zone. The project site is not located within a 100-year flood zone.

Seiches. Seiches are surface waves with longer period of water-level oscillations within a lake, bay, or estuary typically caused by earthquakes, wind, or changes in atmospheric pressure. Once the forces stop, water rebounds to the other side of the enclosed area and oscillates back and forth for a given amount of time (typically hours) based on the size and volume of the water body. The project site is not in the vicinity of a body of water substantial enough to experience seiches.

Tsunamis. A tsunami is an ocean wave caused by sudden large-scale displacement on the ocean floor and is associated with large earthquakes. The project site is located approximately 106 miles inland from the Pacific Ocean. Therefore, the chances of a tsunami impacting the project site are negligible.

Mudflows. A mudflow is type of landslide composed of saturated fine-grained earth materials with a wet cement consistency. The project site is relatively flat, and there are no slopes on or immediately near the project site capable of generating a mudflow.

4.8.2 Regulatory Setting

This section summarizes key federal, State, and local regulations and programs related to hydrology and water quality.

4.8.2.1 Federal Regulations

Clean Water Act. The Clean Water Act (CWA) established a basic structure for regulating discharges of pollutants into Waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. The “Clean Water Act” became the Act’s common name with amendments in 1977.

Under the CWA, the USEPA has implemented pollution control programs and established water quality standards for all contaminants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a NPDES permit was obtained. Point sources are discrete conveyances such as pipes or manmade ditches. While residential structures that are either connected to a municipal system or otherwise do not discharge into surface waters are not required to obtain a NPDES permit, industrial, municipal, and similar facilities must obtain permits to discharge directly into surface waters. In California, the NPDES program is administered through the nine RWQCBs.

Non-point sources are similarly regulated through a General Construction Activity Stormwater NPDES permit. Construction activities subject to this permit include clearing, grading, excavating, and general disturbances to the ground. Stormwater Pollution Prevention Plans (SWPPPs) are

required for the issuance of a General Construction Activity Stormwater NPDES permit and typically include the implementation of structural and non-structural Best Management Practices (BMPs) to reduce impacts related to surface water quality.

National Pollutant Discharge Elimination System (NPDES) Permit. Section 402 of the CWA established the NPDES to control water pollution by regulating point sources that discharge pollutants into Waters of the United States. In the State of California, the USEPA has authorized the State Water Resources Control Board (SWRCB) as the permitting authority to implement the NPDES program. The SWRCB issues two-baseline general permits; one for industrial operations, the other for construction activities (General Construction Permit). Additionally, the NPDES program includes the regulation of stormwater discharges from cities, counties, and other municipalities under Order No. R8-2009-0030 (waste discharge requirements for stormwater) and updated under Order No. 5-01-048 for the Central Valley Region.

Under the General Construction Permit, stormwater discharges from construction sites with a disturbed area of one or more acres are required to obtain either individual NPDES permits for stormwater discharges or be covered by the Construction General Permit. Coverage under the Construction General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB. Each applicant under the Construction General Permit is required to both prepare a SWPPP prior to the commencement of grading activities and to ensure implementation of the SWPPP during construction activities. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction activities. BMPs may include programs, technologies, processes, practices, and devices that control, prevent, remove, or reduce pollution. The SWPPP would also address BMPs developed specifically to reduce pollutants in stormwater discharges following the completion of construction activities.

The NPDES program also includes regulations for discharging limited threat wastewater to waters of the United States under Order No. R5-2022-0006. “Limited threat” wastewater refers to clean or relatively pollutant-free wastewaters that pose little or no threat to water quality. Limited threat wastewater includes water from the following sources:

- Well Development Water
- Construction Dewatering
- Pump/Well Testing
- Pipeline/Tank Pressure Testing
- Pipeline/Tank Flushing or Dewatering
- Condensate
- Water Supply System
- Aggregate Mine
- Filter Backwash Water

Safe Drinking Water Act (Federal). The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the United States. This SDWA focuses on all waters either designed or potentially designed for drinking water use, whether from surface water or groundwater sources. The SDWA and subsequent amendments authorized the USEPA to establish health-based standards,

or maximum contaminant levels (MCLs), for drinking water to protect public health against both natural and anthropogenic contaminants. All owners or operators of public water systems are required to comply with these primary (health-related) standards. State governments, which can be approved to implement these primary standards for the USEPA, also encourage attainment of secondary (nuisance-related) standards. At the federal level, the USEPA administers the SDWA and establishes MCLs for bacteriological, organic, inorganic, and radiological constituents (United States Code Title 42, and Code of Federal Regulations Title 40). At the state level, California has adopted its own SDWA, which incorporates the federal SDWA standards with some other requirements specific only to California (California Health and Safety Code, Section 116350 et seq.).

The 1996 SDWA amendments established source water assessment programs pertaining to untreated water from rivers, lakes, streams, and groundwater aquifers used for drinking water supply. According to these amendments, the USEPA must consider a detailed risk and cost assessment, as well as best available peer-reviewed science, when developing standards for drinking water. These programs are the foundation of protecting drinking water resources from contamination and avoiding costly treatment to remove pollutants. In California, the Drinking Water Source Assessment and Protection (DWSAP) program fulfills these federal mandates. The Division of Drinking Water of the State Water Resources Control Board is the primary agency for developing and implementing the DWSAP program, and is responsible for performing the assessments of existing groundwater sources.

4.8.2.2 State Regulations

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act of 1969, which became Division 7 of the California Water Code, authorized the SWRCB to provide comprehensive protection for California's waters through water allocation and water quality protection. The SWRCB implements the requirement of the CWA Section 303, which states that water quality standards must be established for certain waters through the adoption of water quality control plans under the Porter-Cologne Act. The Porter-Cologne Act established the responsibilities and authorities of the nine RWQCBs, which include preparing water quality plans within the regions, identifying water quality objectives, and instituting waste discharge requirements. Water quality objectives are defined as limits or levels of water quality constituents and characteristics established for reasonable protection of beneficial uses or prevention of nuisance. Beneficial uses consist of all the various ways that water can be used for the benefit of people and wildlife. The Porter-Cologne Act was later amended to provide the authority delegated from the USEPA to issue NPDES permits regulating discharges to Waters of the United States.

Sustainable Groundwater Management Act of 2014. On September 16, 2014, a three-bill legislative package was signed into law, composed of AB 1739, SB 1168, and SB 1319, collectively known as the SGMA. The Governor's signing message states "a central feature of these bills is the recognition that groundwater management in California is best accomplished locally".

The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with the potential for state intervention if necessary to protect the resource.

The act requires the formation of local GSAs that must assess conditions in their local water basins and adopt locally-based management plans. The groundwater basin that serves Fresno has been

designated by the Department of Water Resources as high-priority and subject to a condition of critical overdraft.

Urban Water Management Planning Act. The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires publicly or privately owned water suppliers that provide more than 3,000 acre-feet (AF) of water annually or supply more than 3,000 customers to prepare a plan that:

- Plans for water supply and assesses reliability of each source of water over a 20-year period in 5-year increments.
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years.
- Implements conservation and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (Senate Bill 7 of Special Extended Session 7 [SBX7-7]), which amends the act and adds new water conservation provisions to the Water Code

Senate Bills 610 and 221, Water Supply Planning. To assist water suppliers, cities, and counties in integrated water and land use planning, the state passed Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001), effective January 1, 2002. SB 610 and SB 221 improve the link between information of water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that promote more collaborative planning between local water suppliers and cities and counties. Both statutes require detailed information regarding water availability to be provided to city and county decision makers prior to approval of specified large development projects. This detailed information must be included in the administrative record as the evidentiary basis for an approval action by the city or county on such projects. The statutes recognize local control and decision making regarding the availability of water for projects and the approval of projects. Under SB 610, water supply assessments (WSA) must be furnished to local governments for inclusion in any environmental documentation for certain projects subject to CEQA, as defined in Water Code Section 10912[a].Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative verification of sufficient water supply. SB 221 is intended as a fail-safe mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs before construction begins.

The Urban Water Management Planning Act states that every urban water supplier that provides water to 3,000 or more customers or provides over 3,000 af of water annually should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple dry years. Both SB 610 and SB 221 identify the Urban Water Management Plan (UWMP) as a planning document that can be used by a water supplier to meet the standards in both statutes. Thorough and complete UWMPs are foundations for water suppliers to fulfill the specific requirements of these two statutes, and they are important source documents for cities and counties as they update their general plans.

Conversely, general plans are source documents as water suppliers update the UWMPs. These planning documents are linked, and their accuracy and usefulness are interdependent.

Additionally, pursuant to the California Water Code Section 10632, urban water suppliers that serve more than 3,000 acre-feet per year or have more than 3,000 connections are required to prepare and adopt a standalone Water Shortage Contingency Plan (WSCP) as part of its Urban Water Management Plan. A WSCP is a detailed plan on how an urban water supplier intends to respond to foreseeable and unforeseeable water shortages. A water shortage occurs when the water supply is reduced to a level that cannot support typical demand at any given time. The WSCP is used to provide guidance by identifying response actions to allow for responsible management of any water shortage with predictability and accountability. Preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought and catastrophic supply interruptions.

AB 3030, California Groundwater Management Act. The Groundwater Management Act of the California Water Code (AB 3030) provides guidance for applicable local agencies to develop a voluntary Groundwater Management Plan in state-designated groundwater basins.Local Regulations

City of Fresno General Plan. The City of Fresno's General Plan Public Utilities and Services Element and Resource Conservation and Resilience Element include objectives and policies that work to manage and develop the City's water facilities and ensure that Fresno has a reliable, long-range source of drinkable water. The following policies related to hydrology and water quality are applicable to the proposed project:

- **Policy PU-5-c: Satellite Facilities.** Work with the Regional Water Quality Control Board to ensure that approval of any satellite treatment and reclamation facility proposal is consistent with governing statutes and regulations.

- **Policy PU-7-b: Reduce Stormwater Leakage.** Reduce storm water infiltration into the sewer collection system, where feasible, through a program of replacing old and deteriorated sewer collection pipeline; eliminating existing stormwater sewer cut-ins to the sanitary sewer system; and avoiding any new sewer cut-ins except when required to protect health and safety.

- **Policy PU-7-e: Infiltration Basins.** Continue to rehabilitate existing infiltration basins, and if determined appropriate, pursue acquiring additional sites for infiltration basins, as needed.

- **Policy PU-8-b: Potable Water Supply and Cost Recovery.** Prepare for provision of increased potable water capacity (including surface water treatment capacity) in a timely manner to facilitate planned urban development consistent with the General Plan. Accommodate increase in water demand from the existing community with the capital costs and benefits allocated equitably and fairly between existing users and new users, as authorized by law, and recognizing the differences in terms of quantity, quality and reliability of the various types of water in the City's portfolio.

- **Policy PU-8-c: Conditions of Approval.** Set appropriate conditions of approval for each new development proposal to ensure that the necessary potable water production and supply facilities and water resources are in place prior to occupancy.

- **Policy PU-8-f: Water Quality.** Continue to evaluate and implement measures determined to be appropriate and consistent with water system policies, including prioritizing the use of groundwater, installing wellhead treatment facilities, constructing above-ground storage and surface water treatment facilities, and enhancing transmission grid mains to promote adequate water quality and quantity.

- **Policy PU-8-g: Review Project Impact on Supply.** Mitigate the effects of development and capital improvement projects on the long-range water budget to ensure an adequate water supply for current and future uses.

- **Policy RC-6-b: Water Plans.** Adopt and implement ordinances, standards, and policies to achieve the intent of the City of Fresno Urban Water Management Plan, Fresno-Area Regional Groundwater Management Plan, and City of Fresno Metropolitan Water Resources Management Plan to ensure a dependable supply of water.

- **Policy RC-6-c: Land Use and Development Compliance.** Ensure that land use and development projects adhere to the objective of the Fresno Metropolitan Water Resources Management Plan to provide sustainable and reliable water supplies to meet the demand of existing and future customers through 2025.

- **Policy RC-6-g: Protect Recharge Areas.** Continue to protect areas of beneficial natural groundwater recharge by preventing uses that can contaminate soil or groundwater.

- **Policy RC-6-h: Conditions of Approval.** Include in the Development Code standards for imposing conditions of approval for development projects to ensure long-term maintenance of adequate clean water resources. Require findings that adequate water supply must exist prior to any discretionary project approval for residential and commercial development requiring annexation, as required by law.

- **Policy RC-7-a: Water Conservation Program Target.** Maintain a comprehensive conservation program to help reduce per capita water usage in the city's water service area to 243 gallons per capita per day (gpcd) by 2020 and 190 gpcd by 2035, by adopting conservation standards and implementing a program of incentives, design and operation standards, and user fees.

    - Support programs that result in decreased water demand, such as landscaping standards that require drought-tolerant plants, rebates for water conserving devices and systems, turf replacement, xeriscape landscape for new homes, irrigation controllers, commercial/industrial/institutional water conserving programs, prioritized leak detection program, complete water system audit, landscape water audit and budget program, and retrofit upon resale ordinance.

    - Implement the U.S. Bureau of Reclamation Best Management Practices for water conservation as necessary to maintain the City's surface water entitlements.

    - Adopt and implement policies in the event that an artificial lake is proposed for development.

- Work cooperatively toward effective uniform water conservation measures that would apply throughout the Planning Area.
- Expand efforts to educate the public about water supply issues and water conservation techniques.

- **Policy RC-7-b: Water Pricing and Metering.** Develop a tiered water cost structure for both residential and commercial users that will properly price water based on its true cost; require all new development to be metered for water use; and charge all customers the true, full cost of their water supply, including costs of acquisition, initial treatment, conveyance, wastewater treatment, operations, maintenance, and remediation.
- **Policy RC-7-c: Best Practices for Conservation.** Require all City facilities and all new private development to follow U.S. Bureau of Reclamation Best Management Practices for water conservation, as warranted and appropriate.
- **Policy RC-7-d: Update Standards for New Development.** Continue to refine water saving and conservation standards for new development.
- **Policy RC-7-h: Landscape Water Conservation Standards.** Refine landscape water conservation standards that will apply to new development installed landscapes, building on the State Model Water Efficient Landscape Ordinance and other State regulations.
  - Evaluate and apply, as appropriate, augmented xeriscape, "water-wise," and "green gardening" practices to be implemented in public and private landscaping design and maintenance.
  - Facilitate implementation of the State's Water Efficient Landscape Ordinance by developing alternative compliance measures that are easy to understand and observe.

City of Fresno Municipal Code. Chapter 6, Municipal Services and Utilities, Article 7, Urban Storm Water Quality Management and Discharge Control, of the Fresno Municipal Code (FMC) establishes provisions regarding stormwater discharges. The purpose of the City's Urban Storm Water Quality Management and Discharge Control Ordinance is to ensure the health, safety, and general welfare of citizens and protect the water quality of watercourses and water bodies in a manner pursuant to and consistent with the CWA (33 U.S.C. Section 1251, et seq.) by reducing pollutants in urban stormwater discharges to the maximum extent practicable and by effectively prohibiting non-stormwater discharges to the storm drain system.

Chapter 11, Building Permits and Regulations, Article 6 Fresno Flood Plain Ordinance establish methods of reducing flood losses by: restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards or flood heights or velocities; requiring that uses vulnerable to floods be protected against flood damage at the time of initial construction; controlling filling, grading, dredging, and other development which may increase flood damage; preventing or regulating the construction of flood barriers which will unnaturally divert flood water or which may increase flood hazards in other areas; and controlling the alteration of natural flood

plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters.

4.8.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to hydrology and water 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, 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.

4.8.3.1 Significance Criteria

The thresholds for impacts related to hydrology and water quality used in this analysis are consistent with Appendix G of the State CEQA Guidelines. Development of the proposed project would result in a significant impact related to hydrology and water quality if it would:

Threshold 4.8.1 **Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;**

Threshold 4.8.2 **Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;**

Threshold 4.8.3 **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;**
- **Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;**
- **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; or**
- **Impede or redirect flood flows;**

Threshold 4.8.4 **In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or**

Threshold 4.8.5 **Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.**

4.8.3.2 Project Impacts

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

Threshold 4.8.1 Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The State Water Resources Control Board and nine RWQCBs regulate the water quality of surface water and groundwater bodies throughout California. The proposed project is within the jurisdiction of the Central Valley RWQCB.

Construction. Pollutants of concern during construction of the proposed project include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, excavated soil would be exposed to wind and water erosion, which could result in temporary increases in sediment load in nearby water bodies, including the Houghton Canal, located approximately 140 feet to the west of the project site.

Because the project would disturb greater than 1 acre of soil, it is required to comply with the State Water Resources Control Board's NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ, NPDES No. CAS000002) (Construction General Permit). The project is also subject to Article 7, Urban Storm Water Quality Management and Discharge Control, Section 6-714, *Requirement to Prevent, Control, and Reduce Storm Water Pollutants* of the City's Municipal Code.

The Construction General Permit requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of Construction Best Management Practices (BMPs). Construction BMPs would include, but not be limited to, erosion and sediment control, designed to minimize erosion and retain sediment on-site, and good housekeeping practices to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. Section 6-714 of the City's Municipal Code also requires the implementation of BMPs to the maximum extent technologically and economically feasible to prevent and reduce pollutants from entering stormwater during construction. Therefore, adherence to the required SWPPP and the City's Municipal Code and implementation of construction BMPs, would reduce the potential for the discharge of pollutants into Houghton Canal during construction and impacts associated with the violation of water quality standards or waste discharge requirements would be less than significant.

During construction, it is likely that dewatering would be required. If groundwater is encountered during construction, the project would be required to obtain coverage under the California Regional Water Quality Control Board Central Valley Region's NPDES Waste Discharge Requirements for Limited Threat Discharges to Surface Water (Order R5-2022-0006, NPDES No. CAG995002). With adherence to the Waste Discharge Requirements pertaining to Limited Threat Discharges to Surface Water, project construction would not violate groundwater quality standards or waste discharge requirements and impacts would be less than significant.

Operation. Operation of the proposed project could result in surface water pollution associated with chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and waste that may be spilled or leaked and have the potential to be transported via runoff during periods of heavy precipitation into nearby water bodies.

The City of Fresno operates under the California Regional Water Quality Control Board, Central Valley Regional NPDES Permit and Waste Discharge Requirements General Permit for Discharges from Municipal Separate Storm Sewer Systems (MS4) (Order No. R5-2016-0040-014, NPDES No. CAS0085324). Consistent with the City of Fresno's MS4 Permit, the project would implement storm water quality controls recommended in the Fresno-Clovis Storm Water Quality Management Construction and Post-Construction Guidelines. If applicable, the project would also be subject to the Statewide General Permit for Stormwater Discharges Associated with Industrial Activities (Order 2014-0057-DWQ as amended in 2015 and 2018) (Industrial General Permit) and would be required to develop and implement a storm water pollution prevention plan, eliminate non-stormwater discharges, conduct routine site inspections, train employees in permit compliance, sample storm water runoff and test for pollutant indicators, and submit an annual report to the State Water Resources Control Board.

Adherence to the City of Fresno's MS4 Permit, including implementation of the Stormwater Management Post-Construction Guidelines, as specified in the Industrial General Permit, would reduce the potential for the discharge of pollutants during project operations and impacts associated with the violation of water quality standards or waste discharge requirements would be less than significant.

Infiltration of stormwater could have the potential to affect groundwater quality. The majority of the project site would be impervious surface; and therefore, it is not expected that stormwater would infiltrate during project operations. Because stormwater would be collected and diverted to the storm drain system, there is not a direct path for pollutants to reach groundwater. Therefore, project operations would not violate groundwater quality standards or waste discharge requirements and impacts would be less than significant.

As described above, the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Therefore, the project's impacts would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

Threshold 4.8.2 Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The City of Fresno overlies the Kings Subbasin, which is part of the greater San Joaquin Valley Groundwater Basin. The City is one of many water purveyors that use groundwater from the Kings Subbasin. The City has a network of over 270 municipal wells and currently operates approximately 202 municipal supply wells within the Kings Subbasin. Until late 2004, the City relied solely on groundwater to meet the water demands. The City's desire is to continue to use groundwater within

a larger conjunctive use program that maximizes Its existing water rights and surface water supply sources.

Temporary dewatering from excavations could be necessary during construction of the proposed project. Construction-related dewatering would be temporary and limited to the area of excavations on the project site and would not substantially contribute to depletion of groundwater supplies. Operation of the project would not require groundwater extraction. Following project implementation, there would be a minor increase in impervious surface area. An increase in impervious surface area decreases infiltration, which can decrease the amount of water that is able to recharge the aquifer/groundwater. However, the small increase in impervious area would not substantially decrease any infiltration that currently may occur on the site. Therefore, the project would not impede the Central Valley RWQCB's ability to manage groundwater. Thus, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project would impede sustainable management of the Kings Subbasin. Impacts would be less than significant.

Additionally, as discussed above, the City receives its water supply from groundwater and surface water. The City's 2020 UWMP addresses the City's water service reliability, future challenges, and strategies for managing risks to water reliability through 2045. The City has indicated that groundwater wells, pump stations, recharge facilities, water treatment and distribution systems shall be expanded incrementally to mitigate increased water demands. One of the primary objectives of Fresno's future water supply plans detailed in the City's current UWMP is to balance groundwater operations through a host of strategies. Through careful planning, Fresno has designed a comprehensive plan to accomplish this objective by increasing surface water supplies and surface water treatment facilities, intentional recharge, and conservation, thereby reducing groundwater pumping. The City continually monitors impacts of land use changes and development project proposals on water supply facilities by assigning fixed demand allocations to each parcel by land use as currently zoned or proposed to be rezoned.

General Plan policies require the City to maintain a comprehensive conservation program to help reduce per capita water usage, and includes conservation programs such as landscaping standards for drought tolerance, irrigation control devices, leak detection and retrofits, water audits, public education and implementing U.S. Bureau of Reclamation Best Management Practices for water conservation to maintain surface water entitlements.

As described in the WSA prepared for the proposed project[5], the City has concluded that the City of Fresno's water system has sufficient capacity to supply the proposed project and other projected demands within the City's service area through the year 2045. Additionally, implementation of the Fresno General Plan policies, the Kings Basin Integrated Regional Water Management Plan (IRWMP)[6], the City of Fresno UWMP, the Fresno-Area Regional Groundwater Management Plan[7],

[5] LSA. 2022. SB 610 Water Supply Assessment, 2740 West Nielsen Avenue Office/Warehouse Project, Fresno, California. July.

[6] Kings Basin Water Authority. 2018. Kings Basin Integrated Regional Water Management Plan. Website: https://www.kingsbasinauthority.org/governance/governing-documents/irwmp/ (accessed September 6, 2022).

and the City of Fresno Metropolitan Water Resource Management Plan would address the continued provision of an adequate, reliable, and sustainable water supply for the proposed project. As such, the impact would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

Threshold 4.8.3 Would the project 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? Erosion is a natural process in which soil is moved from place to place by wind or from flowing water. The effects of erosion within the project area can be accelerated by ground-disturbing activities associated with development. Siltation is the settling of sediment to the bed of a stream or lake which increases the turbidity of water. Turbid water can have harmful effects to aquatic life by clogging fish gills, reducing spawning habitat, and suppress aquatic vegetation growth.

During construction of the proposed project, excavated soil would be exposed and disturbed, drainage patterns would be temporarily altered, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. Additionally, during a storm event, soil erosion and siltation could occur at an accelerated rate. As discussed previously, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented as part of the project to reduce impacts to water quality during construction, including those impacts associated with soil erosion and siltation. With compliance with the requirements in the Construction General Permit and implementation of the construction BMPs, and with compliance with the City's Municipal Code, construction impacts related to on- or off-site erosion or siltation would be less than significant.

The project would increase the amount of impervious surface, which would increase the volume of runoff during a storm, and which can more effectively transport sediments to receiving waters. At project completion, much of the project site would be impervious surface area and not prone to on-site erosion or siltation because no exposed soil would be present in these areas. The remaining portion of the site would consist of pervious surface area, which would contain landscaping that would minimize on-site erosion and siltation by stabilizing the soil. Additionally, the project applicant would be required to establish and maintain existing drainage patterns of the site. Therefore, the proposed project would not alter the existing drainage pattern of the site or increase the rate or amount of surface runoff in a manner that would result in an impact related to substantial erosion or siltation on- or off-site. Compliance with existing regulatory requirements would reduce or eliminate the proposed project's potential to substantially alter the existing drainage pattern of the site. As such, the impact would be less than significant.

[7] Fresno Area Regional Groundwater Management Plan. 2006. December. Website: http://www.fresnofloodcontrol.org/wp-content/uploads/2019/10/Fresno-Area-Regional-GWMP-Final.pdf (accessed September 6, 2022).

Substantially Increase the Rate or Amount of Surface Runoff in a Manner, Which Would Result in Flooding On- or Off-Site? During construction of the proposed project, soil would be disturbed and compacted, and drainage patterns would be temporarily altered, which can increase the volume and velocity of stormwater runoff and increase the potential for localized flooding compared to existing conditions. As discussed above, the Construction General Permit requires the preparation of a SWPPP and implementation of construction BMPs to control and direct surface runoff on-site. With adherence to the Construction General Permit, construction impacts related to altering the existing drainage pattern of the site or area or increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site would be less than significant.

While the proposed project would permanently increase the impervious surface area in the project site, the project would maintain the overall on-site drainage patterns and continue to direct surface water to catch basins that flow into the existing storm drains. Prior to the issuance of building permits, the applicant would be required to provide a stormwater improvement plan to the City to ensure that the stormwater system would be capable of handling a 25-year storm and that the drainage facilities conform to City requirements. Additionally, the applicant would be required to pay for all necessary improvement costs if the City determines that the City's storm drain system or storm drain pumping capacity requires expansion or modification as a result of the project. Therefore, the project would not alter the existing drainage pattern of the site or area or increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site and impacts would be less than significant.

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?

Construction. The proposed project would result in an increase in impervious surfaces given that the project site would be mostly built out aside from planting areas located in the parking lot and the perimeter of the project site. However, compliance with pre-existing regulatory requirements, including compliance with the Construction General Permit and implementation of a SWPPP, would reduce or eliminate the potential for project construction to cause substantial additional polluted runoff or runoff in excess of existing or planned stormwater drainage systems. Therefore, construction would not result in additional sources of polluted runoff to be discharged to the storm drain system and impacts would be less than significant.

Operation. As discussed above, the proposed project would result in a minimal increase in impervious surfaces and therefore would not substantially increase runoff from the site. However, compliance with existing regulatory requirements, including compliance with the WPCP and compliance with the MS4, as specified in the Industrial General Permit, would reduce or eliminate the potential for project operations to cause substantial additional polluted runoff or runoff in excess of existing or planned stormwater drainage systems. Therefore, project operations would not result in additional sources of polluted runoff to be discharged to the storm drain system and impacts would be less than significant.

Impede or Redirect Flood Flows? Although implementation of the proposed project would result in impervious surface, because there are no drainages that cross the project site that would be altered, drainage patterns would not be altered. Runoff within the project site would be conveyed to storm

drain inlets and then carried to retention basins to infiltrate into soil. In addition, the proposed project is not located within the 100-year flood hazard area as mapped by the Federal Emergency Management Agency (FEMA). Therefore, the proposed project would not impede or redirect potential flood flows, and impacts would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

Threshold 4.8.4 In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The project site is not located in flood hazard, tsunami, or seiche zones. Additionally, as discussed in Section 4.7, Hazards and Hazardous Materials, the proposed project would comply with applicable federal, State, and local laws and regulations regarding the use of hazardous materials within the project site. As a result, a less than significant impact would occur related to the release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones.

Level of Significance Without Mitigation: Less Than Significant Impact.

Threshold 4.8.5 Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The City is located within the Kings Subbasin, which is part of the larger San Joaquin Valley Groundwater Basin. The planning documents regarding water resources for the City include Kings IRWMP, the City of Fresno UWMP, the Fresno-Area Regional Groundwater Management Plan, and the City of Fresno Metropolitan Water Resource Management Plan. As noted above, the proposed project would be required to adhere to NPDES drainage control requirements during construction and operation as well as to FMFCD drainage control requirements. As a result, the proposed project would not include any other waste discharges that could conflict with the IRWMP.

In addition, as discussed in the WSA prepared for the proposed project, the potable demand projections in the 2020 UWMP for normal water use utilize land use-based projections. Under this methodology, existing land use and demand was accounted separately from future land use and demand. This allows different demand factors to be applied to current land use areas and future land use areas. Future land use areas represent future customers and developments that are expected to be more water-efficient than existing land uses and buildings due to the California Plumbing Code (CPC) and use of higher-efficiency appliances and landscapes.

The existing and future land use acreage was sourced from the City's Geographic Information System (GIS) database and the City's General Plan. The existing land use shapefile and associated acreage for each land use classification were used to represent 2020 land use data. Areas not served by the City were excluded from the existing land use shapefile. The future land use shapefile corresponds with the planned land use at buildout as described in the City's General Plan representing the year 2056. Although the City does not have any plans to serve areas currently served by others within the City limits, all areas within the City's SOI were assumed to be served by the City by buildout for conservative planning purposes.

The land use acreage between 2020 and 2056 was estimated in 5-year increments based on areas planned to be developed by 2030 from the City's Planning Department, and by linearly interpolating the remainder of the change in acreage for each land use category between 2030 and 2056. Project-specific water demand was calculated using the methodology from the 2020 UWMP, as described above, based on the following assumptions:

- The 2020 UWMP indicates there will be 5,201 acres of industrial uses in Fresno in 2025; and
- The 2020 UWMP indicates the projected water demand for industrial land uses in 2025 will be 7,410 AFY.

Therefore, it is assumed that industrial land uses, such as the proposed project, will demand approximately 1.42 AFY per acre in 2025. The total project site is 48.03 acres. Therefore, based on the assumptions identified above, the proposed project is estimated to demand approximately 68.2 AFY.

The project site is included in the land use area covered by the City's 2020 UWMP and is designated as Heavy Industrial in the City's General Plan. Land use acreages and water demand in the 2020 UWMP were based on the City's General Plan land use designations for 2020 and buildout in 2056. As such, the acreage associated with the proposed project was assumed Industrial in the 2020 UWMP; therefore, it is assumed that demand for water was accounted for in the 2020 UWMP. There is no evidence, in consideration of the calculated project water demand, that such demand exceeds that estimated in the 2020 UWMP. 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 UWMP.

The City has concluded that the City of Fresno's water system has sufficient capacity to supply the proposed project and other projected demands within the City's service area through the year 2045. Therefore, the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan and impacts would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.8.3.3 Cumulative Impacts

Buildout of the proposed project, along with construction and operation of other projects in the vicinity of the project site, would increase the amount of paved impervious surfaces within the City. This increase in impervious surfaces would increase stormwater runoff rates and volumes over those that occur from undeveloped land. This increase in runoff would have the potential to increase the amount of polluted runoff; however, all development projects within the Fresno-Clovis area would be required to comply with the MS4 Permit that requires the implementation of water quality and watershed protection measures. Compliance with the MS4 Permit would reduce potential impacts from cumulative projects to less than cumulatively significant. Since the development under the proposed project would also need to comply with the MS4 Permit, the Construction General Permit, a SWPPP, and specific policies of the General Plan identified above, the project's contribution to potential cumulative impacts would not be cumulatively considerable, and the project would result in a less than significant cumulative impact to stormwater.

The Kings Subbasin is in overdraft condition due to pumping for agricultural and urban uses. Growth in the subbasin will increase demands for groundwater pumping, potentially resulting in continued drawdown of water levels leading to localized cones of depression, changes in groundwater flow direction, concentration of contaminants, and land subsidence. This is a regional problem that is being addressed through several means including the formation of GSA's and the development of GSPs. The proposed project would implement applicable Fresno General Plan policies, the IRWMP, the City of Fresno 2020 UWMP, the Fresno-Area Regional Groundwater Management Plan, and the City of Fresno Metropolitan Water Resource Management Plan, which contain strategies to ensure adequate, reliable, and sustainable water supply for the City of Fresno. Additionally, as described above and in the WSA prepared for the proposed project, the City's water system has sufficient capacity to service the proposed project, as well as meet other projected demands in the City's service area. Therefore, the project's contribution to potential cumulative impacts to the Kings Subbasin would not be cumulatively considerable and the project would result in a less than significant cumulative impact to groundwater management in the Kings Subbasin.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.9 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. The analysis in this section is based on the Noise Impact Analysis Memorandum[1] prepared for the proposed project (Appendix L).

4.9.1 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.

4.9.1.1 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.

4.9.1.2 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).

[1] LSA. 2023. *Noise Impact Analysis Memorandum for the 2740 West Nielsen Avenue Office/Warehouse Project*. February 3.

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 4.9.A lists definitions of acoustical terms, and Table 4.9.B shows common sound levels and their sources.

Table 4.9.A: Definitions of Acoustical Terms

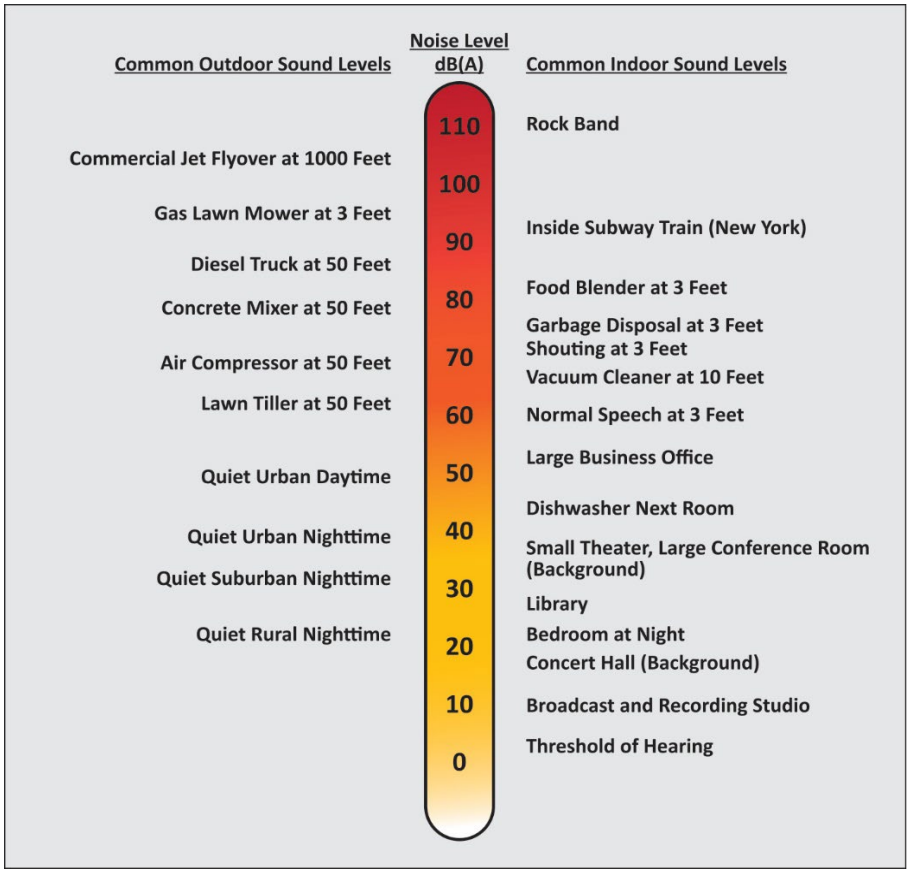
Term	Definitions
Decibel, dB	A unit of sound level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in 1 second (i.e., the 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 that are equaled or exceeded by a fluctuating sound level 1%, 10%, 50%, and 90% of a stated time period, respectively.
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 5 dBA to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 dBA 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 dBA 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. It is usually a composite of sound from many sources from 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 1991).

4.9.1.3 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.

Table 4.9.B: Typical A-Weighted Sound Levels



Source: Compiled by LSA (2016).

4.9.1.4 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 4.9.C illustrates human response to various vibration levels, as described in the *Federal Transit Administration (FTA) Noise and Vibration Impact Assessment Manual* (FTA Manual).[2]

Table 4.9.C: 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* (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

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

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.

4.9.1.5 Overview of the Existing Noise Environment

Existing Noise Level Measurements. To assess existing noise levels, LSA conducted two long-term and four short-term noise measurements at the proposed project site. The long-term noise measurements were recorded on September 28, 2022 and on September 29, 2022. The long-term noise measurements captured data to calculate the hourly L_{eq} and CNEL at each location, which incorporate the nighttime hours. Sources that dominate the existing noise environment include traffic on West Nielsen Avenue and Hughes Avenue, as well as railway activities and nearby aircraft operations. Noise measurement data collected during long-term noise monitoring are summarized in Table 4.9.D.

Existing Traffic Noise. The guidelines included in the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) were used to evaluate traffic-related noise conditions along roadway segments in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, 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 CNEL values.

Traffic volumes were obtained from the Traffic Impact Study provided in Appendix M. Table 4.9.E provides the existing traffic noise levels in the project vicinity. These traffic noise levels are based on the specific breakdown of the vehicle percentages based on type and time of day and are representative of a worst-case scenario that assumes a flat terrain and no shielding between the traffic and the noise contours.

Table 4.9.D: Long-Term Noise Level Measurements

Location	Daytime Hours Noise Levels[1] (dBA L_{eq})	Evening Hours Noise Levels[2] (dBA L_{eq})	Nighttime Hours Noise Levels[3] (dBA L_{eq})	Average Daily Noise Level (dBA CNEL)	Average Noise Level 7 a.m. to 10 p.m. (dBA L_{eq})	Average Noise Level 10 p.m. to 7 a.m. (dBA L_{eq})
LT-1: West of 2625 W Nielsen Avenue. On a tree, approximately 40 feet away from W Neilson centerline	61.0-68.3	56.2-61.4	52.0-66.2	67.6	62.3	59.1
LT-2: North of site, near rail tracks, approximately 30 feet from track closest to site.	46.6-66.6	55.8-65.3	50.2-56.4	62.0	56.7	53.3
ST-14: Between second and third tree north of cemetery entrance. Approximately 35 feet from N Hughes Avenue centerline	58.8-66.1	54.0-59.2	49.8-64.0	65.4	60.1	56.9
ST-24: North of Belmont Avenue. Approximately 40 feet away from centerline. By 2560 Belmont Avenue entrance (AAA Welding).	61.6-68.9	56.8-62.0	52.6-66.8	68.2	62.9	59.7
ST-34: West of N Marks Avenue, south of overpass entrance, by power pole. Approximately 50 feet away from Marks Ave. centerline	62.8-70.1	58.0-63.2	53.8-68.0	69.4	64.1	60.9
ST-44: South of Nielsen Avenue, approximately 40 feet away from centerline. East of 2307 W Nielsen Ave entrance.	61.5-68.8	56.7-61.9	52.5-66.7	68.1	62.8	59.6

Source: Compiled by LSA. (October 2022).

[1] Daytime Noise Levels = noise levels during the hours of 7:00 a.m. to 7:00 p.m.

[2] Evening Noise Levels = noise levels during the hours of 7:00 p.m. to 10:00 p.m.

[3] Nighttime Noise Levels = noise levels during the hours of 10:00 p.m. to 7:00 a.m.

[4] Hourly and daily noise levels at short-term noise monitoring locations were estimated by the noise profile of nearby long-term measurements

dBA = A-weighted decibels

CNEL = Community Noise Equivalent Level

L_{eq} = equivalent continuous sound level

Table 4.9.E: Existing Traffic Noise Levels Without Project

Roadway Segment	ADT	Centerline to 70 dBA CNEL (feet)	Centerline to 65 dBA CNEL (feet)	Centerline to 60 dBA CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Marks Avenue between Belmont Avenue and Nielsen Avenue	10,190	158	486	1,532	72.8
Marks Avenue between Nielsen Avenue and Ray Johnson Drive	11,554	178	551	1,737	73.3
Marks Avenue between Ray Johnson Drive and SR-180 Westbound Ramps	12,019	185	573	1,807	73.5
Belmont Avenue between Marks Avenue and Hughes Avenue	7,240	92	280	881	71.0
Nielsen Avenue between Marks Avenue and Hughes Avenue	1,614	< 50	71	199	64.0
Hughes Avenue between Nielsen Avenue and Belmont Avenue	2,604	< 50	105	318	66.3

Source: Compiled by LSA (October 2022).
Notes: 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
SR- = State Route

Airport Operations. There are currently three airports 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 nearest airports to the project site include Fresno Chandler Executive Airport, located 0.8 mile from the project site, the Sierra Sky Airport, 6.7 miles from the project site, and Fresno International Airport, 7.1 miles from 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 Fresno 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.

Railroad Operations. The two major rail lines that traverse the city are 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 (behind City Hall) to the northwest. The Union Pacific line is generally within a heavy commercial and industrial corridor, although residential uses occur in the vicinity of the line north of Shaw Avenue. The Union Pacific line limits its use to only freight traffic. South of downtown, BNSF Railway is bounded by industrial uses, while north of downtown, the line is generally within a residential area. The BNSF Railway carries both freight and passenger traffic (Amtrak).

The closest rail line to the project site is 315 feet north 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. These stationary noise sources involve a wide spectrum of 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.

Even with incorporation of the best available noise control technology, noise emanating from industrial uses can be substantial and exceed local noise standards. These noise sources can be continuous and may contain tonal components that may be annoying to nearby receptors. Although industrial uses in Fresno are typically in industrial districts near freeways and commercial uses and away from residences and other sensitive noise receptors, noise sources associated with commercial uses such as automotive repair facilities, recycling centers, and loading docks may occur in the vicinity of residential uses.

4.9.2 Regulatory Setting

Noise and vibration regulations are addressed through the efforts of various federal, State, and local government agencies. The agencies responsible for regulating noise are discussed below.

4.9.2.1 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 4.9.F. The criteria presented in Table 4.9.F 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 4.9.G 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 4.9.F: 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 4.9.G: 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* (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).

4.9.2.2 State Regulations

The State of California has established regulations that help prevent adverse impacts to occupants of buildings 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 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.

4.9.2.3 Local Regulations

City of Fresno General Plan. The City of Fresno's General Plan Noise Element includes objectives and policies that work to protect the citizens of the City from the harmful and annoying effects of exposure to excessive noise. The following policies related to noise are applicable to the proposed project. In addition, the Noise Element sets noise standards for transportation and stationary noise sources as shown in Table 4.9.H and Table 4.9.I, below.

Table 4.9.H: Transportation (Non-Aircraft) Noise Sources

Noise-Sensitive Land Use[1]	Outdoor Activity Areas[2]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq} dB[2]
Residential	65	45	-
Transient Lodging	65	45	-
Hospitals, Nursing Homes	65	45	-
Theaters, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	65	-	45
Office Buildings	-	-	45
Schools, Libraries, Museums	-	-	45

Source: General Plan (City of Fresno, 2014).
[1] Where the location of outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.
[2] As determined for a typical worst-case hour during periods of use.
CNEL = Community Noise Equivalent Level
dB = decibels
L_{dn} = day-night average noise level

Table 4.9.I: Stationary Noise Sources

	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Equivalent Sound Level (L_{eq}), dBA	50	45
Maximum Sound Level (L_{max}), dBA	70	60

Source: General Plan (City of Fresno, 2014).
[1] The Planning and Development Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise-sensitive, and may require appropriate noise mitigation measures.
[2] As determined at outdoor activity areas. Where the location of outdoor activity areas is unknown or not applicable, the noise exposure standard shall be applied at the property line of the receiving land use. When ambient noise levels exceed or equal the levels in this table, mitigation shall only be required to limit noise to the ambient plus five dB.
dB = decibels
dBA = A-weighted decibels

- **Policy NS-1-b: Conditionally Acceptable Exterior Noise Exposure Range.** Establish the conditionally acceptable noise exposure level range for residential and other noise sensitive uses to be 65 dB L_{dn} or require appropriate noise reducing mitigation measures as determined by a site-specific acoustical analysis to comply with the desirable and conditionally acceptable exterior noise level and the required interior noise level standards set in Table 4.9.H.

- **Policy NS-1-c: Generally Unacceptable Exterior Noise Exposure Range.** Establish the exterior noise exposure of greater than 65 dB L_{dn} or CNEL to be generally unacceptable for residential and other noise sensitive uses for noise generated by sources in Policy NS-1-a, and study alternative less noise-sensitive uses for these areas if otherwise appropriate. Require appropriate noise reducing mitigation measures as determined by a site-specific acoustical analysis to comply with the generally desirable or generally acceptable exterior noise level and the required 45 dB interior noise level standards set in Table 4.9.H as conditions of permit approval.

- **Policy NS-1-g:** Noise mitigation measures which help achieve the noise level targets of this plan include, but are not limited to, the following:

  - Façades with substantial weight and insulation;
  - Installation of sound-rated windows for primary sleeping and activity areas;
  - Installation of sound-rated doors for all exterior entries at primary sleeping and activity areas;
  - Greater building setbacks and exterior barriers;
  - Acoustic baffling of vents for chimneys, attic and gable ends;
  - Installation of mechanical ventilation systems that provide fresh air under closed window conditions.

  The aforementioned measures are not exhaustive and alternative designs may be approved by the City, provided that a qualified Acoustical Consultant submits information demonstrating that the alternative design(s) will achieve and maintain the specific targets for outdoor activity areas and interior spaces.

- **Policy NS-1-i: Mitigation by New Development.** Require an acoustical analysis where new development of industrial, commercial, or other noise generating land uses (including transportation facilities such as roadways, railroads, and airports) may result in noise levels that exceed the noise level exposure criteria established by Tables 4.9.H and 4.9.I to determine impacts and require developers to mitigate these impacts in conformance with Tables 4.9.H and 4.9.I as a condition of permit approval through appropriate means. Noise mitigation measures may include:

- The screening of noise sources such as parking and loading facilities, outdoor activities, and mechanical equipment;
- Providing increased setbacks for noise sources from adjacent dwellings;
- Installation of walls and landscaping that serve as noise buffers;
- Installation of soundproofing materials and double-glazed windows; and
- Regulating operations, such as hours of operation, including deliveries and trash pickup.

Alternative acoustical designs that achieve the prescribed noise level reduction may be approved by the City, provided a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along roadways when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility, with no City funding.

- **Policy NS-1-j: Significance Threshold.** Establish, as a threshold of significance for the City's environmental review process, that a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB L_{dn} or CNEL or more above the ambient noise limits established in this General Plan Update.

- **Policy NS-1-m: Transportation Related Noise Impacts.** For projects subject to City approval, require that the project sponsor mitigate noise created by new transportation and transportation-related stationary noise sources, including roadway improvement projects, so that resulting noise levels do not exceed the City's adopted standards for noise-sensitive land uses.

- **Policy NS-1-o: Sound Wall Guidelines.** Acoustical studies and noise mitigation measures for projects shall specify the heights, materials, and design for sound walls and other noise barriers. Aesthetic considerations shall also be addressed in these studies and mitigation measures such as variable noise barrier heights, a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences between noise source and noise receptor, with a maximum allowable height of 15 feet. The City will develop guidelines for aesthetic design measures of sound walls, and may commission area wide noise mitigation studies that can serve as templates for acoustical treatment that can be applied to similar situations in the urban area.

City of Fresno Municipal Code. Chapter 10, Article 1 (Noise Regulations), of the Fresno Municipal Code establishes excessive noise guidelines and exemptions. The following portions of the Municipal Code are applicable to the proposed project.

SEC. 10-102. Definitions. (b) Ambient Noise. "Ambient noise" is the all-encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far. For the purpose of this ordinance, ambient noise level is the level obtained when

the noise level is averaged over a period of 15 minutes, without inclusion of the offending noise, at the location and time of day at which a comparison with the offending noise is to be made. Where the ambient noise level is less than that designated in this section, the noise level specified in Table 4.9.J shall be deemed to be the ambient noise level for that location.

Table 4.9.J: Ambient Noise Levels

District	Time	Sound Level Decibels
Residential	10:00 p.m. to 7:00 a.m.	50
Residential	7:00 p.m. to 10:00 p.m.	55
Residential	7:00 a.m. to 7:00 p.m.	60
Commercial	10:00 p.m. to 7:00 a.m.	60
Commercial	7:00 a.m. to 10:00 p.m.	65
Industrial	anytime	70

Source: Chapter 10, Article 1 (Noise Regulations) (City of Fresno, 2022).

SEC. 10-105. Excessive Noise Prohibited. No person shall make, cause, or suffer or permit to be made or caused upon any premises or upon any public street, alley, or place within the city, any sound or noise which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing or working in the area, unless such noise or sound is specifically authorized by or in accordance with this article. The provisions of this section shall apply to, but shall be limited to, the control, use, and operation of the following noise sources:

a. Radios, musical instruments, phonographs, television sets, or other machines or devices used for the amplification, production, or reproduction of sound or the human voice.

b. Animals or fowl creating, generating, or emitting any cry or behavioral sound.

c. Machinery or equipment, such as fans, pumps, air conditioning units, engines, turbines, compressors, generators, motors or similar devices, equipment, or apparatus.

d. Construction equipment or work, including the operation, use or employment of pile drivers, hammers, saws, drills, derricks, hoists, or similar construction equipment or tools.

SEC. 10-109. Exceptions. The provisions of this article shall not apply to:

a. Construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the city or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

b. Emergency work.

c. Any act or acts which are prohibited by any law of the State of California or the United States.

4.9.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to noise and vibration 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.

4.9.3.1 Significance Criteria

The thresholds for impacts related to noise used in this analysis are consistent with Appendix G of the State CEQA Guidelines. Development of the proposed project would result in a significant impact related to noise if it would:

Threshold 4.9.1 **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;**

Threshold 4.9.2 **Generate excessive groundborne vibration or groundborne noise levels; or**

Threshold 4.9.3 **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, expose people residing or working in the project area to excessive noise levels.**

4.9.3.2 Project Impacts

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

Threshold 4.9.1 **Would the project result in generation of 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 in other applicable local, state, or federal standards?**

The following sections describe the short-term construction and long-term operational noise impacts associated with 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 is completed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site 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 4.9.K lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor, taken from the FHWA *Roadway Construction Noise Model User's Guide*.[4]

Table 4.9.K: 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 (Federal Highway Administration 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

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 the site, which would incrementally increase noise levels on roads leading to the site. As shown in Table 4.9.K, there would be a relatively high single-event noise exposure potential at a maximum level of 84 dBA L_{max} with trucks passing at 50 feet.

[4] Federal Highway Administration (FHWA). 2006. Roadway Construction Noise Model User's Guide. January. Washington, D.C.

In addition to the reference maximum noise level, the usage factor provided in Table 4.9.K is used to calculate the hourly noise level impact for each piece of equipment based on the following equation:

$$L_{eq}(equip) = E.L. + 10\log(U.F.) - 20\log\left(\frac{D}{50}\right)$$

where: $L_{eq}(equip)$ = L_{eq} at a receiver resulting from the operation of a single piece of equipment over a specified time period

E.L. = noise emission level of the particular piece of equipment at a reference distance of 50 feet

U.F. = usage factor that accounts for the fraction of time that the equipment is in use over the specified period of time

D = distance from the receiver to the piece of equipment

Each piece of construction equipment operates as an individual point source. Using the following equation, a composite noise level can be calculated when multiple sources of noise operate simultaneously:

$$Leq\ (composite) = 10 * \log_{10}\left(\sum_{1}^{n} 10^{\frac{Ln}{10}}\right)$$

Using the equations from the methodology above, the reference information in Table 4.9.K, and the construction equipment list provided, the composite noise level of the two loudest pieces of equipment for each construction phase was calculated. The project construction composite noise levels at a distance of 50 feet for would range from 74 dBA L_{eq} to 84 dBA L_{eq}, with the highest noise levels occurring during the grading phase.

Once composite noise levels are calculated, reference noise levels can then be adjusted for distance using the following equation:

$$Leq\ (at\ distance\ X) = Leq\ (at\ 50\ feet) - 20 * \log_{10}\left(\frac{X}{50}\right)$$

In general, this equation shows that doubling the distance would decrease noise levels by 6 dBA, while halving the distance would increase noise levels by 6 dBA.

To determine the applicable distance, the acoustical average distance is utilized. The acoustical average distance is used to represent noise sources that are mobile or distributed over an area. The average acoustical distance is calculated by multiplying the shortest distance between the receiver and the noise source area by the farthest distance, and then taking the square root of the product.

While construction noise will vary, it is expected that composite noise levels during construction at the nearest off-site sensitive residential use to the south would reach an average noise level of 64 dBA L_{eq} during daytime hours. While construction-related, short-term noise levels have the

potential to be higher than quieter daytime ambient noise levels in the project area under existing conditions, the construction noise impacts would be approximately 1.7 dBA greater than the existing average daytime noise level of 64.7 dBA L_{eq} during the allowable hour of construction. When logarithmically combined with the existing average ambient noise level, the total noise level would be 66.2 dBA L_{eq} resulting in an increase of 3.9 dBA L_{eq}. Because the increase would be less than 5 dBA, construction noise would be considered less than significant.

Consistent with the applicable noise provisions of the Fresno Municipal Code, construction work would only take place between the hours of 7:00 a.m. and 10:00 p.m. Monday through Saturday. No construction work would take place on Sundays.

Although the project's potential construction-related noise level increase would be less than 5 dBA, project construction noise would result in a potentially significant impact at the nearest off-site sensitive residential use. As such, Mitigation Measure NOI-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 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, 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. The following sections address possible noise level increases in the project vicinity resulting from implementation of the proposed project, including mobile and stationary noise sources. Mobile noise sources include traffic noise. Stationary noise sources include heating, ventilation, and air conditioning (HVAC) equipment, parking lot activities, and truck delivery and truck unloading activities.

Traffic Noise Impacts to Off-Site Receivers. The guidelines included in the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) were used to evaluate highway traffic-related noise conditions along roadway segments in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, 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 CNEL values. Table 4.9.L provides the traffic noise levels for the existing with and without project, and opening year with and without project scenarios. These noise levels represent the worst-case scenario, which assumes no shielding is provided between the traffic and the location where the noise contours are drawn.

The without and with project scenario traffic volumes were obtained from the Traffic Impact Study (Appendix M).

Table 4.9.L: Traffic Noise Levels Without and With Proposed Project

Roadway Segment	Existing		Existing With Project			Opening Year		Opening Year with Project			Year 2035		Year 2035 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 Near-Term Conditions
Marks Avenue between Belmont Avenue and Nielsen Avenue	10,190	72.8	11,228	73.9	1.1	10,938	73.1	11,976	74.1	1.0	11,651	73.4	12,689	74.4	1.0
Marks Avenue between Nielsen Avenue and Ray Johnson Drive	11,554	73.3	12,146	74.2	0.9	12,408	73.6	13,000	74.5	0.9	13,244	73.9	13,836	74.8	0.9
Marks Avenue between Ray Johnson Drive and SR-180 Westbound Ramps	12,019	73.5	12,611	74.4	0.9	12,933	73.8	13,525	74.7	0.9	13,706	74.1	14,298	74.9	0.8
Belmont Avenue between Marks Avenue and Hughes Avenue	7,240	71.0	7,550	71.8	0.8	7,905	71.3	8,215	72.1	0.8	8,846	71.8	9,156	72.6	0.8
Nielsen Avenue between Marks Avenue and Hughes Avenue	1,614	64.0	2,230	66.1	2.1	1,767	64.4	2,383	66.4	2.0	1,772	64.4	2,388	66.4	2.0
Hughes Avenue between Nielsen Avenue and Belmont Avenue	2,604	66.3	3,060	67.6	1.3	2,796	66.6	3,252	67.9	1.3	3,531	67.6	3,987	68.8	1.2

Source: Compiled by LSA (October 2022).
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.
Shaded cells indicate roadway segments adjacent to the project site.
ADT = average daily traffic
CNEL= Community Noise Equivalent Level
dBA = A-weighted decibels
SR = State Route

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Table 4.9.L shows that the increase in project-related traffic noise would be no greater than 2.1 dBA. Noise level increases less than 3.0 dBA are not considered perceptible to most people in an outdoor environment. In addition, as shown in Table 4.9.D above, existing daily noise levels along West Nielsen Avenue near the existing sensitive receptors range from 67.6 dBA CNEL to 68.1 dBA CNEL. Because noise levels would increase less than 3.0 dBA, this is consistent with General Plan Policy NS-1-j: Significance Threshold which states that an increase of 3 dBA CNEL or more is considered significant. As such, traffic noise impacts from project-related traffic on off-site sensitive receptors would be less than significant.

Stationary Operational Noise Impacts to Off-Site Receivers. Noise impacts associated with the long-term operation of the project must comply with the noise standards specified in the City's General Plan and the Municipal Code, as described above. Adjacent off-site land uses would be potentially exposed to stationary-source noise impacts from the proposed HVAC equipment, truck deliveries, and loading and unloading activities. The potential noise impacts to off-site sensitive land uses from the proposed operations are discussed below. To provide a conservative analysis, it is assumed that operations would occur equally during all hours of the day and that half the 192 loading docks would be active at all times. Additionally, the analysis assumed that within any given hour, 48 heavy trucks would maneuver to park near or back into one of the proposed trailer parking stalls. HVAC equipment is expected to run continuously for the duration of a 24-hour period. To determine the future noise impacts from project operations to the noise sensitive uses, the 3D noise model, SoundPLAN, was used for the evaluation. The model incorporates the site topography as well as the shielding from the proposed building on-site. The model output, which includes a graphic representation of the operational noise impacts is presented in the attachment of the Noise Impact Analysis. Results from the model analysis for each of the anticipated stationary sources are summarized below.

Heating, Ventilation, and Air Conditioning Equipment. it is estimated that the project would have four rooftop HVAC units on each of the proposed buildings to provide ventilation to the proposed office and warehouse spaces. The analysis assumes that the HVAC equipment would operate 24 hours per day and would generate sound power levels (SPL) of up to 87 dBA SPL or 72 dBA L_{eq} at 5 feet, based on manufacturer data.[5]

Truck Deliveries and Truck Loading and Unloading Activities. Noise levels generated by delivery trucks would be similar to noise readings from truck loading and unloading activities, which generate a noise level of 75 dBA L_{eq} at 20 feet based on measurements taken by LSA.[6] Delivery trucks would arrive on site and maneuver their trailers so that trailers would be parked within the loading docks. During this process, noise would be associated with the truck engine, air brakes, and back-up alarms while the truck is backing into the dock. These noise sources would occur for a short period of time (less than 5 minutes). After a truck enters the loading dock, the doors would be closed, and the remainder of the truck loading activities would be enclosed and therefore much less perceptible. To present a conservative assessment, the model analysis assumes that

5 Trane. Fan Performance - Product Specifications RT-PRC023AU-EN.

6 LSA Associates, Inc. (LSA). 2016. *Operational Noise Impact Analysis for Richmond Wholesale Meat Distribution Center*.

unloading activities would occur at half of the 192 docks simultaneously for a period of more than 30 minutes in a given hour. Maximum noise levels that occur during the docking process were measured to be 86 dBA L_{max} at a distance of 20 feet.[7]

Table 4.9.M shows the modeled combined hourly noise levels generated by the proposed project at the closest off-site land uses. The project-related hourly noise level impacts would be 58.2 dBA L_{eq} at the outdoor activity area of the residence south of Building 1. When propagated to the outdoor activity area of the residential property south of Building 1, the average daytime noise level is 56.8 dBA L_{eq} and the average nighttime noise level is 53.6 dBA L_{eq}. As specified in the City's Noise Element, if existing ambient noise level exceed the City's noise standards, a project impact would occur when project related noise levels cause a 5 dBA or more increase. When compared to existing noise levels, project operations would not create an impact during daytime hours, but would generate an increase of greater than 5 dBA during nighttime hours, resulting in a significant impact.

Table 4.9.M: Hourly Exterior Noise Level Impacts

Receptor	Direction	Existing Daytime Noise Level (dBA L_{eq})	Existing Nighttime Noise Level (dBA L_{eq})	Project Noise Level (dBA L_{eq})	Daytime Noise Level Increase (dBA L_{eq})	Nighttime Noise Level Increase (dBA L_{eq})	Potential Operational Noise Impact? (Daytime / Nighttime)[1]
Residential	South	56.8	53.6	58.2	3.8	5.9	No / Yes

Source: Compiled by LSA (2022).

[1] Because ambient noise levels exceed the City of Fresno's stationary noise criteria, a potential operational noise impact would occur if operational noise would increase ambient noise by 5 dBA or more.

dBA = A-weighted decibels

L_{eq} = equivalent noise level

Table 4.9.N shows the modeled maximum exterior noise levels. The maximum noise levels generated would approach 66.5 dBA L_{max} at the surrounding sensitive receptors. This noise level would be below the City's exterior maximum daytime noise standard of 70 dBA L_{max} but would exceed the 60 dBA L_{max} for nighttime hours. Similar to the hourly noise impacts, project operations would not generate a significant impact related to maximum noise levels during daytime hours but would generate a significant impact during nighttime hours.

Implementation of Mitigation Measure NOI-2 would reduce potential impacts related to loading dock and delivery noise by prohibiting loading dock activities at the loading dock doors and trailer parking activities south of Building 1 during nighttime hours. Loading dock and parking activities at all other locations would be shielded by the proposed buildings and would not exceed the City's nighttime noise standards.

[7] LSA Associates, Inc. (LSA). 2016. *Operational Noise Impact Analysis for Richmond Wholesale Meat Distribution Center*.

Table 4.9.N: Maximum Exterior Noise Level Impacts

Receptor	Direction	Project Maximum Noise Level (dBA L_{max})	Daytime Maximum Noise Level Standard (dBA L_{max})	Nighttime Maximum Noise Level Standard (dBA L_{max})	Potential Operational Noise Impact? (Daytime / Nighttime)[1]
Residential	South	66.5	70	60	No / Yes

Source: Compiled by LSA (2022).
dBA = A-weighted decibels
L_{max} = maximum noise level

With implementation of Mitigation Measure NOI-2, the proposed project would result in a less than significant impact associated with the generation of a substantial permanent increase in ambient stationary source noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, State, or federal standards.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure NOI-1 The project contractor shall implement the following measures during construction of the project:

- Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- 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-2 All loading dock activities shall be prohibited at the loading dock doors on the south end of Building 1 during the nighttime hours (10:00 p.m. to 7:00 a.m.) or once operational, the project proponent shall provide documentation to the City of Fresno Planning and Development Department that demonstrates that nighttime loading dock activities would comply with the noise level specifications of the City's Municipal Code.

Level of Significance With Mitigation: Less than Significant with Mitigation Measures NOI-1 and NOI-2.

Threshold 4.9.2 Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Ground vibration generated by construction equipment and transportation sources spreads through the ground and diminishes in strength with distance. The effects of ground vibration can vary from no perceptible effects at the lowest levels, low rumbling sounds and detectable vibrations at moderate levels, and slight damage to nearby structures at the highest levels. At the highest levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in structural damage.

The following sections describe the potential short-term construction and long-term operational groundborne vibration impacts associated with the proposed project.

Short-Term Vibration Impacts. This construction vibration impact analysis assesses the potential for building damages using vibration levels in PPV (in/sec). This is because vibration levels calculated in RMS are best for characterizing human response to building vibration, while vibration level in PPV is best for characterizing potential for damage.

Table 4.9.O shows the PPV and VdB values at 25 feet from the construction vibration source. As shown in Table 4.9.O, bulldozers and other heavy-tracked construction equipment (expected to be used for this project) generate 0.089 PPV in/sec or 87 VdB of ground-borne vibration when measured at 25 feet, based on the FTA Manual. The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project construction boundary (assuming the construction equipment would be used at or near the project setback line).

The formulae for vibration transmission are provided below, and Table 4.9.P, provides a summary of off-site construction vibration levels.

$$L_v dB\ (D) = L_v dB\ (25\ \text{feet}) - 30\ \text{Log}\ (D/25)$$

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

Based on the information provided in Table 4.9.O, vibration levels are expected to approach 0.068 PPV in/sec at the surrounding structures and would be below the 0.2 PPV in/sec damage threshold.

Based on the information provided in Table 4.9.Q, vibration levels are expected to approach 85 VdB at the closest industrial uses north of the project site and 68 VdB at the closest residential use to the south, which are below the 90 VdB and 78 VdB annoyance threshold for workshop or industrial types uses and for daytime residential uses, respectively.

Because construction activities are regulated by the City's Code of Ordinance that states temporary construction, maintenance, or demolition activities are not allowed between the 7:00 p.m. on one day and 7:00 a.m. of the following day, vibration impacts would not occur during the more sensitive nighttime hours.

Table 4.9.O: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 ft	
	PPV (in/sec)	L_V (VdB)[1]
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer[2]	**0.089**	**87**
Caisson Drilling	0.089	87
Loaded Trucks[2]	**0.076**	**86**
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: Transit Noise and Vibration Impact Assessment Manual (FTA 2018).
[1] RMS vibration velocity in decibels (VdB) is 1 µin/sec.
[2] Equipment shown in **bold** is expected to be used on site.
µin/sec = microinches per second
ft = foot/feet
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

Table 4.9.P: Potential Construction Vibration Damage Impacts at Nearest Receptor

Receptor (Location)	Reference Vibration Level (PPV) at 25 feet[1]	Distance (feet)[2]	Vibration Level (PPV)
Residential Uses (South)	0.089	110	0.010
Industrial Uses (North)		30	0.068
Industrial Uses / Cemetery (East)		120	0.009
Industrial Uses (West)		300	0.002

Source: Compiled by LSA (2022).
[1] The reference vibration level is associated with a large bulldozer, which is expected to be representative of the heavy equipment used during construction.
[2] The reference distance is associated with the peak condition, identified by the distance from the perimeter of construction activities to surrounding structures
ft = foot/feet
in/sec = inch/inches per second
PPV = peak particle velocity

Table 4.9.Q: Potential Construction Vibration Annoyance Impacts at Nearest Receptor

Receptor (Location)	Reference Vibration Level (VdB) at 25 feet[1]	Distance (feet)[2]	Vibration Level (VdB)
Residential Uses (South)	87	110	68
Industrial Uses (North)		30	85
Industrial Uses / Cemetery (East)		120	67
Industrial Uses (West)		300	55

Source: Compiled by LSA (2022).

[1] The reference vibration level is associated with a large bulldozer, which is expected to be representative of the heavy equipment used during construction.

[2] The reference distance is associated with the average condition, identified by the distance from the center of construction activities to surrounding uses

ft = foot/feet

VdB = vibration velocity decibels

Other building structures surrounding the project site are farther away and would experience further reduced vibration. Therefore, no construction vibration impacts would occur.

Long-Term Vibration Impacts. Once operational, the proposed project would not generate vibration levels related to on-site operations. In addition, vibration levels generated from project-related traffic on the adjacent roadways are unusual for on-road vehicles because the rubber tires and suspension systems of on-road vehicles provide vibration isolation. Vibration levels generated from project-related traffic on the adjacent roadways would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

Threshold 4.9.3 **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, would the project expose people residing or working in the project area to excessive noise levels?**

The nearest airports include the Fresno Chandler Executive Airport, located approximately 0.8 mile from the project site, the Sierra Sky Airport, located approximately 6.7 miles from the project site, and the Fresno International Airport, located approximately 7.1 miles from the project site. Each of these airports is included in the Fresno County ALUCP, which guides approximate compatible land uses. The City of Fresno 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 located in the ALUCP; 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.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.9.3.3 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 4.9.L above, in future year 2035, cumulative project trips would represent a small increase in noise levels, up to approximately 2.0 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.

A significant cumulative impact would 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, including noise associated with HVAC equipment and truck deliveries and truck loading and unloading activities with implementation of Mitigation Measure NOI-2. Because cumulative development projects are not located immediately adjacent to the project site, permanent increases in noise generated by these projects would not combine with the noise levels generated by the proposed project to create a cumulatively considerable increase in ambient noise levels, and this impact would be less than significant with mitigation.

With implementation of Mitigation Measure NOI-1, 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 in order 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.

<u>Level of Significance Without Mitigation:</u> Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures NOI-1 and NOI-2.

<u>Level of Significance With Mitigation</u>: Less than Significant with Mitigation Measures NOI-1 and NOI-2.

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4.10 TRANSPORTATION

This section describes the existing transportation network of the project 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 on the Traffic Impact Study (TIS)[1] prepared by LSA, which is included in Appendix M.

4.10.1 Environmental Setting

4.10.1.1 Roadway Network

Within the City of Fresno, all major roadways are classified based on the Major Street Circulation Diagram provided in the Mobility and Transportation Element of the City of Fresno General Plan. Following is a brief description of major roadways within the study area for the proposed project:

- **Marks Avenue:** Marks Avenue is designated as an arterial in the City's General Plan. Within the study area, Marks Avenue is a 4-lane divided roadway. The City's General Plan requires bike lanes and sidewalks for arterials. Class II bike lanes are present on both sides of Marks Avenue within the study area, and paved sidewalks are present intermittently on both sides of Marks Avenue. There is no provision for on-street parking within the study area.

- **Belmont Avenue:** Belmont Avenue is designated as a collector street in the City's General Plan. Between Marks Avenue and Hughes Avenue, Belmont Avenue is a 4-lane undivided roadway. The City's General Plan requires bike lanes and sidewalks for collector streets. There are no bike facilities along either direction of this segment, and paved sidewalks are present intermittently on both sides of Belmont Avenue. There is no provision for on-street parking within the study area.

- **Nielsen Avenue:** Nielsen Avenue is designated as a collector street in the City's General Plan. Between Marks Avenue and Hughes Avenue, Nielsen Avenue is a 2-lane undivided roadway with a two-way left-turn lane (TWLTL). The City's General Plan requires bike lanes and sidewalks for collector streets. Class II bike lanes are present on both sides of Nielsen Avenue within the study area, and no sidewalks are currently present on either side of Nielsen Avenue. There is no provision for on-street parking within the study area.

- **Hughes Avenue:** Hughes Avenue is designated as a collector street in the City's General Plan. Between Belmont Avenue and Nielsen Avenue, Hughes Avenue is a 2-lane undivided roadway. The City's General Plan requires bike lanes and sidewalks for collector streets. There are no bike facilities along either direction of this segment, and paved sidewalks are present intermittently on the west side of Hughes Avenue. There is no provision for on-street parking within the study area.

[1] LSA, 2021. *Traffic Impact Study 2740 West Nielsen Avenue Warehouse Project, City of Fresno, Fresno County, California*. November.

4.10.1.2 Bicycle Facilities

According to the City of Fresno Active Transportation Plan, the bikeway network within the City is classified into four categories:

- **Class I – Bike Paths:** Class I bikeways provide bicycle travel on a paved right-of-way completely separated from any street or highway.
- **Class II – Bike Lanes:** Class II bikeways provide a striped and stenciled lane for one-way travel on a street or highway.
- **Class III – Bike Routes:** Class III bikeways provide for shared use with motor vehicle traffic and are identified only by signing.
- **Class IV – Separated Bikeways:** Class IV bikeways are physically separated bikeway facilities distinct from the sidewalks and designated for exclusive use of the bikers.

Currently, Class II bike lanes exists along Marks Avenue and Nielsen Avenue within the study area. Proposed future Class II bike lanes will be added along the Belmont Avenue and Hughes Avenue within the study area.

4.10.1.3 Pedestrian Facilities

The implementation of enhanced pedestrian linkage with a comprehensive trails system links residential areas, schools, parks, and commercial centers so that residents can travel within the community without driving. Safe and attractive sidewalks and walkways improve the walkability of the City. Sidewalks are generally provided on both sides of the streets throughout the City. Additionally, standard paved trails and non-standard unpaved trails are frequently used by cyclists and pedestrians in the City. The existence of trails and sidewalks provides accessible facilities, provides safety features and improves walkability in the City.

Paved sidewalks are present intermittently on both sides of Belmont Avenue and Marks Avenue. Sidewalks are proposed on Marks Avenue, Nielsen Avenue, Belmont Avenue, and Hughes Avenue within the study area. Additionally, as previously mentioned, the project will be constructing sidewalks along the project frontage on Marks Avenue, Nielsen Avenue, and Hughes Avenue.

4.10.1.4 Transit Facilities

Fresno Area Express (FAX) is the Transportation Service Agency within the City and is responsible for coordinating transit services within its service area. FAX provides services via Route 1/Q (Bus Rapid Transit) as well as 17 other routes throughout the City and four routes for Clovis Transit. There are currently no transit routes present within the study area.

4.10.2 Regulatory Setting

The following federal, State, regional, and local transportation plans, policies, and regulations guide transportation planning in Fresno.

4.10.2.1 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.

4.10.2.2 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 come up with 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 California Environmental Quality Act (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 level of service (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."

4.10.2.3 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 comprising 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

[2] California Department of Transportation. 2002. Guide for the Preparation of Traffic Impact Studies. December.

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.

4.10.2.4 Local Regulations

City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds (VMT Guidelines). In June 2020, the City adopted VMT thresholds and guidelines to address VMT to be effective on July 1, 2021, as required by SB 743. The City's document serves as a detailed guideline for preparing VMT analyses consistent with SB 743 requirements for development projects, transportation projects, and plans. Project applicants are required to follow the guidance provided in the City's document for preparation of CEQA VMT analysis. The document includes the following:

- Definition of region for VMT analysis;
- Standardized screening methods for VMT threshold compliance data;
- Recommendations for appropriate VMT significance thresholds for development projects, transportation projects, and plans; and
- Feasible mitigation strategies applicable for development projects, transportation projects, and plans.

City of Fresno Traffic Impact Study Report Guidelines. The City of Fresno adopted Traffic Impact Study Report Guidelines in October 2006, which were updated in February 2009. The Traffic Impact Study Report Guidelines establish general procedures and requirements for the preparation of traffic impact studies associated with development within the City of Fresno. The guidelines are intended as a checklist for study preparers to be sure they have not missed any regular study items.

City of Fresno Active Transportation Plan. The City's Active Transportation Plan (ATP), adopted in March 2017, provides a comprehensive guide outlining the vision for active transportation in Fresno. The ATP supersedes the Bicycle, Pedestrian, and Trails Master Plan that was adopted in 2010. The ATP envisions a complete, safe, and comfortable network of trails, sidewalks, and bikeways that

serves all residents of Fresno. This plan lays out specific goals to improve bicycle and pedestrian access and connectivity in Fresno. These goals include the following:

- Equitably improve the safety and perceived safety of walking and bicycling in Fresno;
- Increase walking and bicycling trips in Fresno by creating user-friendly facilities;
- Improve the geographical equity of access to walking and bicycling facilities in Fresno; and
- Fill key gaps in Fresno's walking and bicycling networks.

City of Fresno General Plan. The City of Fresno's General Plan Mobility and Transportation Element includes objectives and policies that work to create and maintain a transportation system that is safe, efficient, provides access in an equitable manner, and optimizes travel by all modes. The following policies related to transportation are applicable to the proposed project:

- **Policy MT-1-d: Integrate Land Use and Transportation Planning.** Plan for and maintain a coordinated and well integrated land use pattern, local circulation network and transportation system that accommodates planned growth, reduces impacts on adjacent land uses, and preserves the integrity of established neighborhoods.

- **Policy MT-2-b: Reduce Vehicle Miles Traveled and Trips.** Partner with major employers and other responsible agencies, such the San Joaquin Valley Air Pollution Control District and the Fresno Council of Governments, to implement trip reduction strategies, such as eTRIP, to reduce total vehicle miles traveled and the total number of daily and peak hour vehicle trips, thereby making better use of the existing transportation system.

- **Policy MT-2-g: Transportation Demand Management and Transportation System Management.** Pursue implementation of Transportation Demand Management and Transportation System Management strategies to reduce peak hour vehicle traffic and supplement the capacity of the transportation system.

- **Policy MT-2-i: Transportation Impact Studies.** Require a Transportation Impact Study (currently named Traffic Impact Study) to assess the impacts of new development projects on existing and planned streets for projects meeting one or more of the following criteria, unless it is determined by the City Traffic Engineer that the project site and surrounding area already has appropriate multi-modal infrastructure improvements.

- **Policy MT-2-m: Use VMT analysis for CEQA.** Use Vehicle Miles Traveled (VMT) as the criteria for evaluating transportation impacts under the California Environmental Quality Act (CEQA), pursuant to Senate Bill 743. Level of Service (LOS) may still be used for planning purposes and implementation of Capital Improvement Projects; however, VMT shall be used for determining mitigation under CEQA beginning in July of 2020.

- **Policy MT-5-d Pedestrian Safety:** Minimize vehicular and pedestrian conflicts on both major and non-roadways through implementation of traffic access design and control standards addressing street intersections, median island openings and access driveways to facilitate accessibility while reducing congestion and increasing safety. Increase safety and accessibility for pedestrians with

vision disabilities through the installation of Accessible Pedestrian Signals at signalized intersections.

- **Policy MT-8-d: Coordination of Transportation Modes.** Plan, design, and implement transportation system improvements promoting coordination and continuity of transportation modes and facilities, such as shared parking or park and ride facilities at Activity Centers.

4.10.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to transportation 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.

4.10.3.1 Significance Criteria

The thresholds for impacts related to transportation used in this analysis are consistent with Appendix G of the State CEQA Guidelines. Development of the proposed project would result in a significant impact related to transportation if it would:

Threshold 4.10.1 **Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;**

Threshold 4.10.2 **Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);**

Threshold 4.10.3 **Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or**

Threshold 4.10.4 **Result in inadequate emergency access**.

4.10.3.2 Project Impacts

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

Threshold 4.10.1 **Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?**

While LOS analysis is no longer a criterion of significance for traffic impacts under CEQA, the City of Fresno General Plan includes policies that utilize LOS to determine project conditions of approval. As such, this analysis includes LOS impacts while VMT impacts are discussed in Response b) below.

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. The majority of the study area is within TIZ III, or along the border of TIZ II and TIZ III. TIZ II has a LOS standard of E, while TIZ III has an LOS standard of D. Therefore, as a conservative estimate, LOS D was considered as the minimum LOS 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. The project needs to identify improvements to improve the intersection LOS to an acceptable level.

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 LOS E or F) for intersections or when the project contributes to an existing or forecasted deficiency. The project needs to identify improvements to improve the intersection LOS to an acceptable level.

The TIS examined traffic operations in the vicinity of the proposed project under the following five scenarios:

- Existing Conditions;
- Existing plus Project Conditions;
- Existing plus Project and Near-term Approved and Pending Projects Conditions;
- Cumulative Year (2035) No Project Conditions; and
- Cumulative Year (2035) Plus Project Conditions.

Traffic conditions were examined for the weekday daily, AM, and PM peak-hour conditions. The AM peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 a.m. and 9:00 a.m. The PM peak hour is the one hour of highest traffic volumes occurring between 4:00 p.m. and 6:00 p.m. Roadway segments were analyzed using daily volume counts, and comparisons were made to the daily service volume standards provided in the City Guidelines. The study area for the TIS included the following study intersections and roadway segments.

Intersections.

1. Marks Avenue/Belmont Avenue (City of Fresno, County of Fresno);
2. Marks Avenue/Nielsen Avenue (City of Fresno);
3. Marks Avenue/Ray Johnson Drive (City of Fresno);
4. Marks Avenue/SR-180 Westbound Ramps (Caltrans);
5. Marks Avenue/SR-180 Eastbound Ramps (Caltrans);
6. Hughes Avenue/Belmont Avenue (City of Fresno, County of Fresno); and
7. Hughes Avenue/Nielsen Avenue (City of Fresno).

Roadway Segments.

1. Marks Avenue, between Belmont Avenue and Nielsen Avenue;
2. Marks Avenue, between Nielsen Avenue and Ray Johnson Drive;
3. Marks Avenue, between Ray Johnson Drive and SR-180 Westbound Ramps;
4. Marks Avenue, between SR-180 Westbound Ramps and SR-180 Eastbound Ramps;
5. Belmont Avenue, between Marks Avenue and Hughes Avenue;
6. Nielsen Avenue, between Marks Avenue and Hughes Avenue; and
7. Hughes Avenue, between Belmont Avenue and Nielsen Avenue.

In addition, Caltrans recommended evaluating the project under a worst-case scenario with 60 percent of project traffic using Caltrans' facilities (ramps and freeway segments). This evaluation included intersections 3, 4, and 5 as listed above, as well as the following freeway basic and merge/diverge areas for the SR-180 and Marks Avenue interchange:

SR-180 Eastbound.

1. West of Marks Avenue Off-Ramp (Basic);
2. Marks Avenue Off-Ramp (Diverge);
3. Between Marks Avenue Off-Ramp and Marks Avenue Loop-On Ramp (Basic);
4. Marks Avenue Loop-On Ramp (Merge);
5. Between Marks Avenue Loop-On Ramp and Marks Avenue Slip-On Ramp (Basic);
6. Marks Avenue Slip-On Ramp (Merge); and
7. East of Marks Avenue (Basic).

SR-180 Westbound.

1. East of Marks Avenue (Basic);
2. Marks Avenue Off-Ramp (Diverge);
3. Between Marks Avenue Off-Ramp and Marks Avenue Loop-On Ramp (Basic);
4. Marks Avenue Loop-On Ramp (Merge);
5. Between Marks Avenue Loop-On Ramp and Marks Avenue Slip-On Ramp (Basic);
6. Marks Avenue Slip-On Ramp (Merge); and
7. West of Marks Avenue (Basic).

Project Trip Generation. To assess potential impacts that the project may have on the surrounding roadway network, the first step was to determine project trip generation. Project trip generation is identified in Table 4.10.A based on the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) High-Cube Warehouse Trip Generation Study. The study provides separate trip generation rates for passenger vehicles, 2–4 axle trucks, and 5+ axle trucks. The truck trips were converted to Passenger Car Equivalent (PCE) trips using a PCE factor of 2.0 for 2–4 axle trucks. To be conservative, a PCE factor of 3.0 was used for 5+ axle trucks.

Table 4.10.A: Project Trip Generation

Trip Generation[1]	Average Daily Trips	Weekday AM Peak Hour[2]			Weekday PM Peak Hour[2]		
		In	Out	Total	In	Out	Total
Trip Generation							
Trip Generation (Cars)	1,578	75	18	93	105	24	129
Trip Generation (2–4 Axle Trucks)	146	5	2	7	8	2	10
Trip Generation (5+ Axle Trucks)	196	8	2	10	7	2	9
Trip Generation (Total Trucks)	342	13	4	17	15	4	19
Trip Generation (Total)	**1,920**	**88**	**22**	**110**	**120**	**28**	**148**
PCE Trip Generation							
Trip Generation (Cars)	1,578	75	18	93	105	24	129
PCE Trip Generation (2–4 Axle Trucks)[3]	292	10	4	14	16	4	20
PCE Trip Generation (5+ Axle Trucks)[3]	588	24	6	30	21	6	27
PCE Trip Generation (Total Trucks)	880	34	10	44	37	10	47
PCE Trip Generation (Total)	**2,458**	**109**	**28**	**137**	**142**	**34**	**176**

Source: LSA (2021).

[1] Rates from the Western Riverside Council of Governments (WRCOG) *TUMF High-Cube Warehouse Trip Generation Study*, January 2019, prepared by WSP.

[2] The WRCOG study does not provide in/out splits for the peak hour trip generation. Therefore, in/out splits from Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition) supplement Land Use 155 - "High-Cube Fulfilment Center Warehouse" have been used for obtaining in/out traffic.

[3] A Passenger Car Equivalent (PCE) factor 2.0 has been taken for 2-4 axle trucks based on Highway Capacity Manual (HCM) recommendations. Further, as a conservative approach, a PCE factor of 3.0 is taken, for 5+ axle trucks, consistent with latest practices in numerous California jurisdictions.

Intersection Capacity Analysis. For all study area intersections, the Highway Capacity Manual, 6th Edition (HCM 6) analysis methodologies were used to determine intersection LOS. Intersection LOS was calculated using the Synchro 10 software, which uses the HCM 6 methodologies. LOS can be determined for both signalized and unsignalized intersections.

Based on the results of the LOS analysis, an operational deficiency currently exists at the intersection of Marks Avenue/Belmont Avenue. This intersection meets several signal warrants under the Existing, Existing with Project, Near-Term Approved and Pending with Project, Cumulative Year (2035) without Project, and Cumulative Year (2035) with Project scenarios. The City of Fresno Traffic Signal Mitigation Impact (TSMI) fees are charged to all new developments throughout the City to mitigate the traffic operational deficiencies through the funding of traffic signal improvements to serve new developments. Based on the City of Fresno *Draft City-Wide Traffic Signal Mitigation Impact Fee Nexus Analysis for Proposed Fee Update,* dated June 2022, signalization of the intersection of Marks Avenue/Belmont Avenue is included in the Traffic Signal Capital Improvements, where the entire funding is expected to be generated from the TSMI fees. Therefore, since the improvement is covered under the TSMI fee program, the project would be paying into the fee program for this improvement. Therefore, the intersection is forecast to operate at a satisfactory LOS with the implementation of the proposed improvement, and impacts to intersection LOS would be less than significant.

Roadway Segment Analysis. According to the HCM, LOS is categorized by two parameters of traffic: uninterrupted and interrupted flow. Uninterrupted-flow facilities do not have fixed elements such as

traffic signals that cause interruptions in traffic flow. Interrupted-flow facilities do have fixed elements that cause an interruption in the flow of traffic, such as stop signs and signalized intersections along arterial roads. A roadway segment is defined as a stretch of roadway generally located between signalized or controlled intersections.

Roadway segment LOS was calculated based on the Florida LOS tables, consistent with the City Guidelines. As shown in the appendix of the TIS, the seven existing roadway segments analyzed have an LOS of C without the proposed project and an LOS of C with the proposed project. Thus, the proposed project would not cause any deterioration of LOS at the roadway segments analyzed. Therefore, impacts to roadway segment LOS would be less than significant.

Transit. There are no existing dedicated transit facilities within the study area for the proposed project. The proposed project is not located in an important transit corridor in the City, and therefore it is not anticipated that the construction of additional transit facilities would be required in the study area as a result of the proposed project. Therefore, the proposed project would not substantially conflict with plans or policies supporting public transit or transit facilities, and a less than significant impact would occur.

Bicycles. Currently, there are existing Class II bike lanes along Marks Avenue and Nielsen Avenue within the study area for the proposed project, in the vicinity of the project site. Pursuant to the City's Active Transportation Plan, future Class II bike lanes will be added along Belmont Avenue and Hughes Avenue within the project study area to improve bicycle and pedestrian accessibility and connectivity in the vicinity of the project site. The proposed project would not conflict with the planning and construction of bicycle facilities pursuant to the City's Active Transportation Plan or other plans or policies supporting bicycles or bicycle facilities in Fresno. Therefore, a less than significant impact would occur.

Pedestrian Facilities. Currently, paved sidewalks are present intermittently on both sides of Belmont Avenue and Marks Avenue. Pursuant to the City's Active Transportation Plan, the City recommends pedestrian sidewalks to be constructed on Marks Avenue, Nielsen Avenue, Belmont Avenue, and Hughes Avenue within the study area. The proposed project would construct sidewalks along the project frontage on Marks Avenue, Nielsen Avenue, and Hughes Avenue. Sidewalks would be constructed pursuant to City standards and would increase pedestrian access and safety in the study area. As such, the proposed project would not conflict with plans and policies for pedestrian facilities in the City, and a less than significant impact would occur.

Conclusion. As described above, the addition of project traffic is not anticipated to exceed the City's level of significance threshold of LOS (LOS D or better). In addition, the project-related traffic would not result in a deficiency to existing transit, roadway, bicycle, and pedestrian facilities. Therefore, the proposed project would not conflict with any plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system or congestion management program. Impacts would be less than significant.

<u>Level of Significance Without Mitigation</u>**:** Less Than Significant Impact.

Threshold 4.10.2 Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

As discussed above, SB 743 requires that relevant CEQA analysis of transportation impacts be conducted using a metric known as VMT instead of LOS. VMT measures how much actual auto travel (additional miles driven) a proposed project would create on California roads. If the project adds excessive car travel onto our roads, the project may cause a significant transportation impact. Heavy-duty trucks are addressed in other CEQA sections (e.g., air quality, GHGs, noise, and health risk assessment analysis) and are subject to regulation in a separate collection of rules under CARB jurisdiction.

The State CEQA Guidelines were amended to implement SB 743, by adding Section 15064.3. Among its provisions, Section 15064.3 confirms that, except with respect to transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS measures of impacts on traffic facilities is no longer a relevant CEQA criterion for transportation impacts.

CEQA Guidelines Section 15064.3(b)(4) states that "[a] lead agency has discretion to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revision to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

On June 25, 2020, the City of Fresno adopted CEQA Guidelines for Vehicle Miles Traveled Thresholds, pursuant to SB 743, to be effective as of July 1, 2020. The thresholds described therein are referred to herein as the City of Fresno VMT Thresholds. The City of Fresno VMT Thresholds document was prepared and adopted consistent with the requirements of CEQA Guidelines Sections 15064.3 and 15064.7. The December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory), published by the Governor's Office of Planning and Research (OPR), was utilized as a reference and guidance document in the preparation of the Fresno VMT Thresholds.

The VMT Guidelines provides multiple screening criteria for land use projects. The project was compared with the screening criteria established in the "Project Screening" section of the VMT Guidelines to check if the project can be screened out. Following is a brief description about the project in relation with the project screening criteria:

- **Transit Priority Area (TPA) Screening:** In accordance with SB 743, "Transit priority areas" are defined as "an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program." A Major Transit Stop is defined as "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service of 15 minutes or less

during the morning and afternoon peak commute periods." A High-Quality Transit Area or Corridor is a corridor with fixed-route bus service with service intervals no longer than 15 minutes during peak commute hours. The project is not located within a TPA. Therefore, this screening criteria does not apply to the project.

- **Low Trip Generator:** The VMT Guidelines identifies that projects generating less than 500 daily trips could also be screened out. As discussed in the project trip generation section, the project is estimated to generate 2,458 daily trips. Therefore, the project does not satisfy this screening criterion.

- **Other Screening Criteria:** The project is not a residential or office project; therefore, it could not be screened out using low-VMT-area maps. Additionally, it is neither an affordable housing project nor it could be classified as retail, institutional/government uses, or public service uses. Therefore, these criteria do not apply for 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. The Fresno VMT Thresholds document includes thresholds of significance for development projects, transportation projects, and land use plans. These thresholds of significance were developed using the County of Fresno as the applicable region, and the required reduction of VMT (as adopted in the Fresno VMT Thresholds) corresponds to Fresno County's contribution to the statewide GHG emission reduction target. In order to reach the statewide GHG reduction target of 15 percent, Fresno County must reduce its GHG emissions by 13 percent. The method of reducing GHG by 13 percent is to reduce VMT by 13 percent as well. As such, pursuant to the VMT Guidelines, a detailed VMT analysis was conducted to assess the project's VMT impact.

Thresholds of Significance. The City's adopted thresholds for development projects correspond to the regional thresholds set by the Fresno COG. For residential and office development projects, the adopted threshold of significance is 13 percent less than the regional average. Therefore, the project would have a less than significant environmental impact if the project-generated VMT per capita or per employee is less than 13 percent of the regional average VMT per capita or per employee. For retail projects, the adopted threshold is any net increase in total VMT compared to existing total VMT for the region. For all other non-residential projects that are consistent with City's General Plan, the adopted threshold is that a project would not have a significant environmental impact if the project's VMT per employee is less than the existing regional average VMT per employee. If the project requires a General Plan Amendment, the project would have a less than significant environmental impact if the project-generated VMT per employee is less than 13 percent of the existing regional average VMT per employee.

VMT Analysis. A detailed VMT analysis discussion is included in Chapter 13 of the TIS (see Appendix M). As recommended in the City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds, projects that could not be screened out from a quantitative VMT assessment, the VMT analysis should be conducted using the Fresno COG Activity Based Model (ABM), which is a tour-based model. Therefore, the Fresno COG ABM was used for the project VMT analysis. The model database was updated with the project land uses to calculate project VMT.

The project is non-residential in nature but would not be classified as an office or retail project. Additionally, the project does not require a General Plan Amendment. Therefore, the project's VMT per employee was compared to the existing regional average VMT per employee. The existing regional average is 25.6 VMT per employee, as established in the City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds. Based on the Fresno COG ABM model output, the project's VMT was calculated to be 19.8 VMT per employee. As such, the project's VMT per employee rate is 22.66 percent lower than the existing regional average VMT per employee, or the City's threshold. In conclusion, the project would result in a less than significant VMT impact concerning consistency with CEQA Guidelines Section 15064.3(b). In addition, consistent with the City's General Plan policies, the project would be implementing multi-modal improvements along the project frontage, including the addition of sidewalks all along the project frontage.

Level of Significance Without Mitigation**:** Less Than Significant Impact.

Threshold 4.10.3 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 is located within the City's Heavy Industrial zoning district, and nearby parcels to the project site consist mostly of low residential, light and heavy industrial, cemetery, and vacant, undeveloped uses. The proposed project would develop four office/warehouse buildings that would be configured for heavy industrial uses into the project site. As such, the proposed use of the project site would not be incompatible with site zoning or with uses adjacent to the project site. Therefore, the proposed project would not introduce incompatible uses that would substantially increase hazards.

Based on recommendations from the ATP, the proposed project would construct sidewalks along the project frontage on Marks Avenue, Nielsen Avenue, and Hughes Avenue. The proposed sidewalks would be constructed pursuant to City standards and would increase pedestrian access and safety in the study area. The proposed project would also include the installation of a traffic signal in the intersection of Marks Avenue/Belmont Avenue to meet the City's LOS standards. This improvement would improve safety and reduce traffic conflicts in this intersection thus reducing hazards for pedestrians in the study area.

Vehicular access to the project site would be provided via seven driveways located on Marks Avenue, Nielsen Avenue, and Hughes Avenue. All project driveways would be stop controlled at the driveway approach. Therefore, vehicles exiting the project site from project driveways must stop before they continue to merge on the neighboring circulation network, which would reduce potential hazards associated with exiting the project site.

The majority of the observed traffic flow within the study area utilizes Marks Avenue. Of the three driveways on Marks Avenue, two are right-in-right-out only. For the other driveway, left-turn egress movement will be restricted. Additionally, a TWLTL is present at this location on Marks Avenue. Therefore, project trips using a left-turn ingress movement can also wait in the TWLTL for the clearance of northbound traffic on Marks Avenue. Since there is a traffic signal at the intersection of Marks Avenue/Nielsen Avenue, these project trips would have the opportunity to utilize gaps in

northbound traffic created by the signal to complete the turn into the project driveway. Additionally, there are no major obstructions to vision present along Marks Avenue. Therefore, sight distance is not expected to be an issue for these driveways.

For project driveways located along Nielsen Avenue and Hughes Avenue, there needs to be adequate corner sight distance for vehicles to make an egress movement. There is no provision for on-street parking along the project frontage on Nielsen Avenue or Hughes Avenue. Additionally, there are no trees or large stationary objects that might obstruct the sight triangle for drivers. As such, adequate sight distance will be provided at the project driveways along Nielsen Avenue or Hughes Avenue. Therefore, it can be concluded that a clear sight triangle would be available for drivers exiting the driveway to safely make turns onto Nielsen Avenue or Hughes Avenue.

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 Fresno Fire Department (FFD) 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.

Level of Significance Without Mitigation**:** Less Than Significant Impact.

Threshold 4.10.4 Would the project result in inadequate emergency access?

Emergency vehicles would have access to the project site via seven driveways located on Marks Avenue, Nielsen Avenue, and Hughes Avenue. Additionally, the proposed project's site plan would be subject to review and approval by the FFD to ensure the project includes adequate emergency access. Improvements identified in the TSMI fee program would provide for an enhanced roadway network that accommodates forecasted travel demand and would provide adequate emergency access in the project vicinity. As such, the proposed project would not physically interfere with emergency evacuation or FFD access to and from the project site, and a less than significant impact would occur.

Level of Significance Without Mitigation**:** Less Than Significant Impact.

4.10.3.3 Cumulative Impacts

A 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 transportation. The cumulative impact analysis for transportation considers the larger context of future development of the City of Fresno as envisioned by the General Plan and relied upon the projections of the General Plan and General Plan EIR, as well as development in Fresno County.

As described above under Threshold 4.10.1, the proposed project would be consistent with the plans and policies of the City as they relate to transit, bicycles, and pedestrian facilities. The TIS

identified that all but one study intersection (Marks Avenue/Belmont Avenue) and all roadway segments examined in the TIS are forecast to operate at a satisfactory LOS under the Existing, Near-Term Approved and Pending, and Cumulative Year (2035) scenarios. The implementation of the recommended improvement for the affected intersection would address existing traffic deficiencies. As such, the proposed project would not conflict with policies related to LOS standards and would not contribute to cumulative impacts related to LOS deficiencies in the roadway system, and a less than significant cumulative impact would occur.

VMT analysis for the proposed project identified that project VMT per employee is 22.66 percent lower than the existing regional VMT per employee. As described above, the proposed project would result in a less than significant project-level VMT impact. As such, the proposed project would also not contribute to cumulative VMT impacts in the City or County of Fresno, and a less than significant cumulative impact would occur. Although other projects would have potential to result in VMT impacts, other projects would be required to evaluate potential VMT impacts on a project-by-project basis. As the proposed project would result in a less than significant project-level VMT impact, a less than significant cumulative impact would occur.

The proposed project would not include design features or incompatible uses that would create hazardous conditions in the roadway system. Additionally, the project's design features, and emergency access would be reviewed and approved by the FFD prior to issuance of building permits. As such, the proposed project would not contribute to cumulative impacts related to inadequate emergency access or incompatible or hazardous design features in the City. Other projects would also be evaluated to determine whether design features or incompatible uses would create hazardous conditions in the roadway system on a project-by-project basis; therefore, a less than significant cumulative impact would occur.

Level of Significance Without Mitigation**:** Less Than Significant Impact.

4.11 UTILITIES AND SERVICE SYSTEMS

This section addresses potential impacts to utilities and service systems including water supply, wastewater, stormwater, and solid waste resulting from implementation of the proposed project. The analysis in this section related to water supply is based on findings of the Water Supply Assessment[1] prepared for the proposed project (Appendix K). The Water Supply Assessment (WSA) was prepared pursuant to the requirements of Senate Bill (SB) 610, which requires public water agencies, parties, or purveyors that may supply water to certain proposed development projects to prepare a WSA for use in environmental documentation for such projects, pursuant to CEQA. The WSA contains information from the City of Fresno 2020 Urban Water Management Plan (UWMP).[2]

4.11.1 Environmental Setting

The following outlines the utilities and service systems in the Fresno area and in the vicinity of the project site.

4.11.1.1 Water Purveyor and System

The City's water system consists of about 1,860 miles of distribution and transmission mains, 260 municipal groundwater wells, three surface water treatment facilities (SWTFs) with current rated capacities ranging from 4 to 54 million gallons per day (MGD), five water storage facilities with pump stations, including one at each of the SWTFs plus two in the distribution system, and three booster pump facilities. As of the close of the 2020 calendar year, the City has over 139,500 residential, commercial, industrial, and institutional water service connections and produced nearly 122,000 acre-feet (AF) of water.

In addition to the City's water system, there are four independent water systems located within the City limits, including Bakman Water Company, Pinedale County Water District, California State University Fresno, and Park Van Ness Mutual Water Company. These independent water systems have their own water supplies, and do not receive water from the City, with the exception of a portion of the Pinedale County Water District east of Highway 41 and south of Herndon Avenue.

The City has emergency agreements with the City of Clovis and California State University, Fresno, that provides additional water supply flexibility.

4.11.1.2 Water Demand

The City's 2020 UWMP estimated future water demands based on land use demand factors using 2018 metered consumption data. These demand factors were applied to the 2020 land use acreage by category to develop the demand projection beginning in 2020. Demand factors for land uses that grow over time and represent new developments were assigned a lower demand factor than the demand factors for existing development. Additionally, demand factors were assumed to slowly reduce over time due to passive conservation, which includes the replacement of older water fixtures and appliances with more efficient types. Table 4.11.A shows the projected annual water use by land use type for 2025, 2030, 2035, 2040, and 2045.

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1 LSA. 2022. *SB 610 Water Supply Assessment, 2740 West Nielsen Avenue Office/Warehouse Project, Fresno, California*. July.

2 Fresno, City of. 2021. *City of Fresno 2020 Urban Water Management Plan*. June.

Table 4.11.A: Citywide Demands for Potable and Non-Potable Water (acre-feet per year)

Use Type	2025	2030	2035	2040	2045
Single-Family	76,255	80,429	82,934	85,437	87,936
Multi-Family	19,000	20,654	21,737	22,831	23,935
Commercial[1]	19,052	21,135	22,587	24,041	25,496
Industrial	7,410	9,003	9,922	10,841	11,758
Landscape	4,490	5,035	5,422	5,809	6,196
Groundwater Recharge[2]	62,700	65,400	68,100	70,800	73,500
Other[3]	200	200	200	200	200
Losses	10,097	10,900	11,408	11,917	12,426
Total	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**

Source: 2020 Urban Water Management Plan, Tables 4-6 and 4-7 (City of Fresno 2021).
Notes:
[1] Includes industrial/governmental uses.
[2] Raw water.
[3] Travel meters.

As shown in Table 4.11.A, overall water demands are projected to increase from 199,204 acre-feet per year (AFY) in 2025 to 241,447 AFY in 2045, an increase of approximately 21 percent. The increase in water use for industrial uses is projected to increase at a faster rate of approximately 59 percent over the same period, from 7,410 AFY in 2025 to 11,758 AFY in 2045. Based on Table 4-3 of the 2020 UWMP, industrial acreage is expected to increase from 4,500 acres in 2020 to 9,300 acres in 2056, an increase of approximately 107 percent. Demand factors for land uses that grow over time and represent new developments were assigned a lower demand factor than the demand factors for existing development.

4.11.1.3 Water Supply

The City of Fresno Department of Public Utilities (DPU) provides potable water to the majority of the City, and some users within the portion of the Planning Area outside of the City limits. Fresno's primary source of potable water comes from groundwater. However, in 2004 the City's first surface water treatment facility (Northeast Surface Water Treatment Facility [NESWTF]) came online and began delivering approximately 4,060 acre-feet (AF) in 2004 to residents in northeast Fresno. By 2015, the NESWTF in combination with the T-3 Surface Water Treatment Facility (T-3 SWTF) delivered approximately 28,347 AF of treated surface water to the residents of Fresno. In 2018, the City completed construction of its new 54 millions of gallons per day (mgd) surface water treatment facility in southeast Fresno (SESWTF) and large diameter water mains that serve nearly one-half of the City. With the SESWTF operational, along with the NESWTF and T-3 SWTF, the City provided greater than 50 percent of its potable supply through using surface water.

The 2020 UWMP was adopted by the City Council in July 2021. It describes the current and planned water conservation programs, provides a water shortage contingency plan should it need to be implemented in the event of a severe water shortage or water supply emergency and a future water supply plan for a variety of water sources including treated surface water, groundwater and recycled water. Also included in the 2020 UWMP is an aggressive water conservation plan to reduce demand throughout the City's service area. The 2020 UWMP is in accordance with the Urban Water

Management Planning Act that stipulates that every urban water supplier in California supplying water directly or indirectly to 3,000 or more customers or supplying more than 3,000 AF of water annually shall adopt and submit an Urban Water Management Plan to the California Department of Water Resources every five years. Failure to submit a plan, as required, could result in ineligibility to receive certain grants or receive drought assistance from the State.

Groundwater Supply. The City lies within the Kings Subbasin, which is part of the larger San Joaquin Valley Groundwater Basin. Historically, water demand within the City has been met by extracting groundwater from the Kings Subbasin. Like much of the Kings Subbasin, groundwater levels beneath Fresno were relatively shallow at 25 feet below ground surface in 1940, prior to the start of World War II. After the war, the State, including the City, began growing at a rapid rate. For the period from 1959 to 1968, it was reported groundwater levels declined at a rate of 2.8 feet per year. Groundwater levels since 1990 have declined at a lower rate than previously, from less than 0.5 feet per year in the southwest portion of the downtown area, to a rate of 1.5 feet per year for northern and southern areas of town, to a maximum of 3 feet per year in the northeastern area.

Groundwater used by the City to meet its demands is replenished by three different methods:

- Natural recharge
- Subsurface inflow
- Intentional recharge

Based on the natural groundwater recharge (24,970 AF), subsurface inflow (47,510 AF), and intentional normal precipitation year recharge (60,000 AF), the total groundwater yield anticipated for 2020 for a normal year supply is approximately 132,480 AF. By 2045, the City anticipates that the natural groundwater recharge will increase to 26,760 AF/year, subsurface inflow will be 59,530 AF/year, and intentional groundwater recharge will increase to 73,500 AF/year due to an increase in the capacity of surface water treatment. The total groundwater yield in 2045 is expected to be approximately 159,820 AF/year.

The City currently has approximately 260 active pump stations, which pump an average of 74 mgd. Groundwater pumping data provided by the City indicates that approximately 55,000 AF was pumped in 2020. Groundwater pumping has significantly dropped since 2003, the City's peak year for groundwater production (i.e., 165,200 AF).

Groundwater will continue to be an important part of the City's supply but will not be relied upon as heavily as has historically been the case. With the recent investments in surface water infrastructure, the City has been able to drastically reduce its groundwater pumping. The City will continue expanding their delivery and treatment of surface water supplies and groundwater recharge activities to maximize water usage.

4.11.1.4 Wastewater

Wastewater Collection System. The City of Fresno owns and maintains the majority of the wastewater collection systems that convey wastewater to the Fresno/Clovis Regional Wastewater Reclamation Facility (RWRF), and all of the wastewater collection system that conveys wastewater to the North Fresno Water Reclamation Facility (NFWRF). The City's wastewater collection system

consists of about 1,630 miles of pipes ranging in size from 4 inches in diameter to 84 inches in diameter. This collection system also utilizes 15 lift stations throughout Fresno, ranging in pumping capacity from 0.25 mgd to 2.2 mgd.

The City of Fresno commissioned a team of engineering consultants to prepare the 2006 Wastewater Collection System Master Plan. The master plan effort included hydraulic modeling of the wastewater collection system to evaluate system capacity for both then-existing conditions and full build-out conditions under the City's General Plan. A number of capacity-deficient sewers were identified, and recommendations for capacity relief projects were developed.

The Wastewater Collection System Master Plan also incorporated the results of a number of prior sewer inspection and evaluation efforts, including recommendations for prioritized sewer rehabilitation projects, most or all of which were necessary as a result of microbiologically influenced corrosion (MIC) activity. The master plan also included a number of trunk sewer projects and infill projects identified by the City of Fresno. The master plan incorporated all of the various types of recommended sewer projects in a Capital Improvement Program for implementation during the period from 2006 through 2025. The City of Fresno has been regularly implementing various elements of the Capital Improvement Program since the adoption of the Wastewater Collection System Master Plan.

As required by the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, the City of Fresno prepared the 2009 Sewer System Management Plan (SSMP) for the Wastewater Collection System. The SSMP was revised and updated in 2014 and 2019 to reflect changes and revisions from former versions of the document.

The SSMP provides a framework for the proper management, operation, and maintenance of all elements of the wastewater collection system, with the objectives of reducing and preventing sanitary sewer overflows (SSOs) and mitigating any SSOs that may occur. An SSO is a release of untreated or partially treated wastewater resulting in public exposure, regardless of whether the wastewater reaches waters of the United States. SSOs also include wastewater backups into buildings and onto private property that are caused by blockages in the City’s portion of the sanitary sewer system.

All of the mandatory elements of the SSMP were already in place and in use by the City of Fresno through other programs and ordinances, such as the Fresno Municipal Code, the Wastewater Collection System Master Plan, the Fats, Oils and Grease (FOG) Control Program, the Sanitary System Overflow Prevention and Response Plan, Performance Measures and Public Information/Education opportunities. The City of Fresno operates the wastewater collection system under the SSMP and related programs and ordinances to accomplish the SSMP objectives.

Wastewater Treatment and Disposal. The City Fresno/Clovis Regional Wastewater Reclamation Facility (RWRF) is located southwest of the City in the area generally bounded by Jensen, Cornelia, Central and Chateau Fresno Avenues. It provides wastewater treatment for a service area that includes most of the Cities of Fresno and Clovis, and some unincorporated areas of Fresno County. Flows received at this facility peaked at 81,100 AFY in 2006 and have been steadily decreasing since, with the average influent flow about 63,000 AFY over the last 5 years. The RWRF includes

preliminary, primary, secondary, and tertiary treatment units with disinfection. Secondary treatment consists of three treatment trains with an annual average capacity of 87 mgd, consisting of 30 mgd for Train A and 57 mgd for Trains B and C combined. In 2017, a 5 mgd tertiary treatment system—the Tertiary Treatment and Disinfection Facility (TTDF)—was completed. The system can be expanded to 15 mgd and ultimately to 30 mgd.

The City's RWRF diverts a portion of the undisinfected secondary effluent to irrigate non-food crops grown adjacent to this facility. The practice of using the secondary effluent to irrigate non-food crops has been carried out for decades and is expected to continue for the foreseeable future. The City owns nearly 3,300 acres of land for and around the RWRF, consisting of percolation ponds (1,750 acres) and other land available to farm non-food crops.

Additionally, the RWRF produces Title 22 disinfected tertiary-treated effluent through the TTDF completed in 2017 and through tertiary-equivalent soil aquifer-treated recycled water recovered from the percolated secondary effluent. A series of 15 groundwater wells located at the RWRF are used to extract previously percolated effluent groundwater from beneath the facility. The tertiary-equivalent soil aquifer-treated recycled water (recovered groundwater) is used for on-site irrigation and transport to FID canals for delivery to customers during the irrigation season, as facilitated through an exchange agreement with FID.

Since the completion of the 2010 Recycled Water Master Plan (RWMP), the City has constructed most of the southwest recycled water system. The southwest recycled water system consists of a 3.2-million-gallon recycled water reservoir located at the RWRF, a 6,000 gallons per minute (gpm) (8.64 mgd) recycled water pump station located at the RWRF, a 640 gpm booster pump station (Roeding Park Booster), and 15.7 miles of 10-inch to 54-inch recycled water pipeline. Roughly 7.5 miles of pipeline remain to be constructed. The City also updated the demand and distribution system from the 2010 RWMP with the 2019 Citywide Recycled Water Demand and Southwest Recycled Water System Analysis to identify potential recycled water customers.

4.11.1.5 Stormwater

Stormwater collection and disposal, and flood control for the City of Fresno, City of Clovis, and the unincorporated areas within the City of Fresno's sphere of influence are provided by the Fresno Metropolitan Flood Control District (FMFCD). The FMFCD is a special district created by the State of California Legislature and ratified by the voters of the district in 1956. FMFCD has more than 170 urban watersheds that collect stormwater runoff and dispose of the runoff in retention basins, local canals, or the San Joaquin River. Each urban watershed, called a drainage area by FMFCD, consists of a collection system and, in most cases, a retention basin to store and dispose of the runoff. Pipeline collection systems have diameters that range from 15 inches to 18 inches. Retention basins range in size from 5 acres to 25 acres, with most being 8 to 10 acres in size. The FMFCD drainage area for stormwater from the project site is basin "AS", located southwest from the site.[3]

[3] Fresno Metropolitan Flood Control District. Storm Drainage and Flood Control Master Plan. Exhibit A. Website: http://www.fresnofloodcontrol.org/wp-content/uploads/2022/09/District-Wall-Map.png (accessed January 2023).

Stormwater Collection and Disposal. FMFCD provides drainage service to the Fresno metropolitan area. In order to provide this service, the FMFCD has organized the metropolitan area into over 170 urban drainage areas or watersheds. Watersheds are delineated along topographic boundaries and are limited in size to between 200 acres to 600 acres. The area limitation reduces the size of the required collection facilities and disposal facilities. Service is provided through the combination of surface drainage improvements, chiefly curbs and gutters, that direct runoff to storm drainage inlets which collect the runoff and convey the runoff to underground pipeline collection systems. The collection systems convey the stormwater to disposal facilities, which in the majority of cases are excavated, unlined basins. In three cases, the collection systems discharge to pump wet wells from which the stormwater is lifted into an adjacent canal, and in six cases, the stormwater is discharged into the San Joaquin River. Two of these systems discharge directly to the San Joaquin River and four discharge to a water quality basin before discharge to the river occurs.

The collection systems are designed to provide one foot of freeboard in the pipeline collection system designed to convey runoff rates generated by rainfall intensity up to and including a 50 percent probability of occurrence (a 2-year return frequency). There are exceptions to this design standard in areas of the City where older drainage systems were installed prior to the formation of the FMFCD, or constructed in the very early years of the FMFCD, and shifts in land use densities have eroded the level of service. FMFCD documents the deficiencies and develops master planned solutions to these deficiencies as they are identified. The proposed project would include construction of a new curb and gutter along North Marks Avenue, West Nielsen Avenue, and North Hughes Avenue to connect to the City's existing stormwater system.

Retention basins are designed to provide storage for up to 6 inches of rainfall on the drainage area watershed given typical runoff to rainfall ratios used for urban drainage design. There are exceptions to this design standard, notably in those retention basins constructed prior to 1969 when the design criteria were changed to increase the storage volume. The change resulted from the extreme rainfall events of the spring of 1969 and the resulting flooding at the then-existing basins. Water quality basins are designed in accordance with the US Environmental Protection Agency's design standards to remove sediments and trash prior to discharge of stormwater to the San Joaquin River. They provide quiescent conditions for settling of suspended solids within a holding basin prior to discharge from the basin via an overflow weir. The water quality basins alternate between wet and dry, depending on the season and amount of rainfall that has occurred within the drainage area.

FMFCD has utilized three means to implement drainage systems for the metropolitan area. One method has been to use Community Block Grants and low interest infrastructure loans from the State of California to construct drainage facilities in the older, previously developed areas of the City. A second method has been to form assessment districts under the provisions of the 1915 Bond Act. Assessment districts were formed based on drainage area boundaries, the parcels within the assessment districts were assessed a proportional share of the cost of the collection and disposal system, and the drainage system for the drainage area was constructed. The third and currently employed method is to collect drainage fees from parcels as they develop based on their prorated share of the cost of the drainage area collection and disposal systems. The implementing ordinance for the drainage fee structure is adopted by the City of Fresno, and the drainage fees are collected by the City when entitlements are granted or building permits are issued.

FMFCD is a primary participant in groundwater recharge for the City of Fresno. Unlined retention basins provide recharge of both stormwater runoff and imported water from the San Joaquin River and Kings River. It is estimated that 80-percent of the stormwater that falls within the metropolitan area is recharged via FMFCD's retention basins. FMFCD has identified retention basins within the metropolitan area that have significant recharge capability. The City of Fresno, through a cooperative agreement, utilizes the Fresno Irrigation District (FID) canal system to deliver allocated water from the San Joaquin River and the Kings River to these basins where the water infiltrates through the underlying soil strata and into the groundwater beneath the basins. FMFCD retention basins, largely in part through a cooperative agreement with the City, provide groundwater recharge for an estimated annual average of 30,000 AF of water.

Flood Control. The City of Fresno is located in the alluvial fans of numerous foothill streams and creeks that drain the western slope of the Sierra Nevada foothills. These streams include Big Dry Creek, Alluvial Drain, Pup Creek, Dog Creek, Redbank Creek, Mud Creek, and Fancher Creek. Numerous smaller, unnamed drainage courses also drain into the City from the rural areas east of the City. FMFCD provides flood control measures on the major creeks for the 0.5-percent exceedance interval (200-year return frequency) flood flow event with a series of dams and detention basins located east of the City. These dams include Big Dry Creek Dam, Fancher Creek Dam, and Redbank Dam. The detention basins include the Alluvial Drain Detention Basin, Pup Creek Detention Basin, Redbank Creek Detention Basin, Fancher Creek Detention Basin, and Big Dry Creek Detention Basin.

The Big Dry Creek Dam was originally constructed in 1948 by the U.S. Army Corps of Engineers. It was subsequently raised and enlarged by the U.S. Army Corps of Engineers as part of the Redbank and Fancher Creek Flood Control Project in 1993 to provide a flood pool with 30,200 AF of storage. Redbank Creek Dam was constructed by FMFCD in 1961. It provides a gross pool storage of 1,030 AF. The U.S. Army Corps of Engineers also constructed the Alluvial Drain Detention Basin in 1993, the Pup Creek Detention Basin in 1993, the Redbank Detention Basin in 1990 and the Fancher Creek Dam in 1991. The Redbank and Fancher Creek Flood Control Project was a jointly funded Federal, State, and local project. FMFCD constructed the Fancher Creek Detention Basin in 2003 and recently completed the Big Dry Creek Detention Basin.

FMFCD has master planned the Dog Creek, Pup Creek, and a portion of Redbank Creek channels to convey the 0.5-percent exceedance level flood flows within bank. The improvement of these channels will occur as funding and legal authority to proceed with the improvements are provided either through grants and purchase of right of way or through the entitlement process. Each of these channels are ephemeral streams that flow only during the latter parts of the wet season.

4.11.1.6 Solid Waste

Fresno diverts a majority of its solid waste away from landfills and into recycling and composting programs. Diversion conserves limited landfill space, keeps toxic chemicals and materials from contaminating landfills, and enhances the reuse of materials. A Council resolution commits the City to the goal of Zero Waste by the year 2025. Recycling of construction & demolition is required for

any City-issued building, relocation or demolition permitted project that generates at least 8 cubic yards of material by volume and all waste must be hauled to a City-approved facility.[4]

The Solid Waste Division of the City of Fresno provides curbside collection of residential bulky goods through operation cleanup. The solid waste division also collects through a three-cart system solid waste, recycling, green waste, as well as waste oil and waste oil filters weekly.

In 2011 the City of Fresno granted franchises for non-exclusive roll off services to 16 roll off companies for bins which were 10 cubic yards or greater. The City also granted exclusive franchise agreements for the collection of commercial solid waste, recyclables and green waste to two franchises. Allied Waste Services (formally Republic) is responsible for all commercial services north of Ashlan Avenue. Mid Valley Disposal has all commercial locations south of Ashlan. Both city and (non-exclusive) / exclusive franchise haulers provide and maintain containers; respond to customer complaints/concerns and provide roll-off and compactor services to residential, multi-family and commercial customers respective to their agreements. The proposed project would be serviced by Mid Valley Disposal.

Garbage disposed of in the City of Fresno is taken to Cedar Avenue Recycling and Transfer Station (CARTS). Once trash has been off-loaded at the transfer station, it is sorted and non-recyclable solid waste is loaded onto large trucks and taken to the American Avenue Landfill (i.e., American Avenue Disposal Site, Site Solid Waste Information System [SWIS] Number 10-AA-0009) located approximately six miles southwest of Kerman. American Avenue Landfill is owned and operated by Fresno County and began operations in 1992 for both public and commercial solid waste haulers. The American Avenue Landfill is a sanitary landfill, meaning that it is a disposal site for non-hazardous solid waste spread in layers, compacted to the smallest practical volume, and covered by material applied at the end of each operating day.[5]

The American Avenue Landfill has a maximum permitted capacity of 32,700,000 cubic yards and a remaining capacity of 29,358,535 cubic yards, with an estimated closure date of August 31, 2031. The maximum permitted throughput is 2,200 tons per day.[6]

One other active disposal site is located in Fresno County. The City of Clovis Landfill (SWIS Number 10-AA-0004) has a maximum permitted capacity of 7,800,000 cubic yards and a remaining capacity of 7,740,000 cubic yards, with an estimated closure date of April 30, 2047. The maximum permitted throughput is 2,000 tons per day.[7]

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4 Fresno, City of. Department of Public Utilities, Trash Disposal & Recycling, Multi-Family & Commercial Services, Construction & Demolition Waste. Website: www.fresno.gov/publicutilities/trash-disposal-recycling/multi-family-commercial-services/#tab-3 (accessed September 6, 2022).

5 Fresno, City of. Department of Public Utilities, Facilities & Infrastructure, American Avenue Landfill. Website: www.fresno.gov/publicutilities/facilities-infrastructure/american-avenue-landfill (accessed September 6, 2022).

6 CalRecycle. SWIS Facility/Site Summary. American Avenue Disposal Site (10-AA-0009). Website: https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/352, (accessed September 6, 2022).

7 CalRecycle. SWIS Facility/Site Summary. City Of Clovis Landfill (10-AA-0004). Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4529?siteID=347 (accessed September 6, 2022).

Commercial green waste and organics delivered to Elm Avenue Recycling by Mid Valley are then transferred to the Kerman facility and composted with organic compost, which is then used by organic farms in the region. Commercial green waste and organics being delivered by Allied Waste are taken to Rice Road Transfer Station, which are then trans-loaded into trucks, which are delivered to Kochergen Farms for composting and land application.

4.11.1.7 Electric Power, Natural Gas and Telecommunications

Electricity. The City of Fresno receives its electricity from Pacific Gas and Electric (PG&E). PG&E provides electrical service to business and residents throughout the City via underground and above-ground service lines. PG&E owns and maintains all service and transmission lines in the City and operates several electrical substations throughout the City. According to the California Energy Commission (CEC), total electricity consumption in the PG&E service area in 2020 was 78,518 gigawatt hours (GWh) (78,518,835,142 kilowatt-hours [kWh]).[8] Total electricity consumption in Fresno County in 2020 was 8,017.8 GWh (8,017,830,742 KWh).[9]

Natural Gas. PG&E is the natural gas service provider in the City of Fresno. PG&E owns and maintain several natural gas transmission lines in the City that feed local distribution lines that connect to individual service lines. PG&E is the natural gas service provider for the City of Fresno. According to the CEC, total natural gas consumption in the PG&E service area in 2020 was 4,508.5 million therms (4,508,542,540 therms).[10] Total natural gas consumption in Fresno County in 2020 was 325.9 million therms (325,915,257 therms).[11]

Telecommunications. Several providers provide telecommunication services to the City of Fresno. AT&T is the largest provider of cellular and fixed telephone services. Telephone lines are located throughout the City.

4.11.2 Regulatory Setting

4.11.2.1 Federal Regulations

Clean Water Act. The Federal Clean Water Act (CWA) establishes regulatory requirements for potable water supplies including raw and treated water quality criteria. The County would be required to monitor water quality and conform to the regulatory requirements of the CWA.

Safe Drinking Water Act. The Federal Safe Drinking Water Act (SDWA) is enforced by the EPA and sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. SDWA requires many actions to protect drinking water and its sources including rivers, lakes, and groundwater.

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8 CEC. 2019b. Electricity Consumption by Entity. Website: ecdms.energy.ca.gov/elecbyutil.aspx (accessed September 2022).

9 CEC. 2019c. Electricity Consumption by County. Website: ecdms.energy.ca.gov/elecbycounty.aspx (accessed September 2022).

10 CEC. 2019e. Gas Consumption by Entity. Website: ecdms.energy.ca.gov/gasbyutil.aspx (accessed September 2022).

11 CEC. 2019f Gas Consumption by County. Website: ecdms.energy.ca.gov/gasbycounty.aspx (accessed September 2022).

4.11.2.2 State Regulations

Urban Water Management Planning Act. The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires publicly or privately owned water suppliers that provide more than 3,000 acre-feet (AF) of water annually or supply more than 3,000 customers to prepare a plan that:

- Plans for water supply and assesses reliability of each source of water over a 20-year period in 5-year increments.
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years.
- Implements conservation and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (Senate Bill 7 of Special Extended Session 7 [SBX7-7]), which amends the act and adds new water conservation provisions to the Water Code

Senate Bills 610 and 221, Water Supply Planning. To assist water suppliers, cities, and counties in integrated water and land use planning, the state passed Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001), effective January 1, 2002. SB 610 and SB 221 improve the link between information of water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that promote more collaborative planning between local water suppliers and cities and counties. Both statutes require detailed information regarding water availability to be provided to city and county decision makers prior to approval of specified large development projects. This detailed information must be included in the administrative record as the evidentiary basis for an approval action by the city or county on such projects. The statutes recognize local control and decision making regarding the availability of water for projects and the approval of projects. Under SB 610, water supply assessments (WSA) must be furnished to local governments for inclusion in any environmental documentation for certain projects subject to CEQA, as defined in Water Code Section 10912[a].

Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative verification of sufficient water supply. SB 221 is intended as a fail-safe mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs before construction begins.

The Urban Water Management Planning Act states that every urban water supplier that provides water to 3,000 or more customers or provides over 3,000 af of water annually should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple dry years. Both SB 610 and SB 221 identify the Urban Water Management Plan (UWMP) as a planning document that can be used by a water supplier to meet the standards in both statutes. Thorough and complete UWMPs are foundations for water suppliers to fulfill the specific requirements of these two statutes, and they are important source documents for cities and counties as they update their general plans. Conversely, general plans are source documents as water suppliers update the UWMPs. These planning documents are linked, and their accuracy and usefulness are interdependent.

Additionally, pursuant to the California Water Code Section 10632, urban water suppliers that serve more than 3,000 acre-feet per year or have more than 3,000 connections are required to prepare and adopt a standalone Water Shortage Contingency Plan (WSCP) as part of its Urban Water Management Plan. A WSCP is a detailed plan on how an urban water supplier intends to respond to foreseeable and unforeseeable water shortages. A water shortage occurs when the water supply is reduced to a level that cannot support typical demand at any given time. The WSCP is used to provide guidance by identifying response actions to allow for responsible management of any water shortage with predictability and accountability. Preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought and catastrophic supply interruptions.

AB 3030, California Groundwater Management Act. The Groundwater Management Act of the California Water Code (AB 3030) provides guidance for applicable local agencies to develop a voluntary Groundwater Management Plan in state-designated groundwater basins.

Senate Bill 1383, Short-lived Climate Pollutants. In September 2016, Governor Edmund Brown Jr. set methane emissions reduction targets for California (SB 1383 Lara, Chapter 395, Statutes of 2016) in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP). The targets must:

- Reduce organic waste disposal 50% by 2020 and 75% by 2025.
- Rescue for people to eat at least 20% of currently disposed surplus food by 2025.

SB 1383 requires counties to take the lead collaborating with the jurisdictions located within the county in planning for the necessary organic waste recycling and food recovery capacity needed to divert organic waste from landfills into recycling activities and food recovery organizations.

California Green Building Standards Code—Part 11, Title 24 (CALGreen). CALGreen requires covered projects to recycle and/or salvage for reuse a minimum 65 percent of the nonhazardous construction and demolition waste or meet a local construction and demolition waste management ordinance, whichever is more stringent.

Assembly Bill (AB) 939, California Integrated Waste Management Act. California's Integrated Waste Management Act of 1989 requires cities and counties to reduce the amount of waste disposed of in landfills. The Local Government Construction and Demolition (C&D) Guide of 2002 (SB 1374) amended this act to include construction and demolition material. Fresno County created the County of Fresno's Construction and Demolition (C&D) Debris Recycling Program to fulfill requirements under these bills.

Beginning January 1, 2014, the County of Fresno required permit applicants to submit a Waste Management Plan for approval prior to issuance of permit for projects. The Waste Management Plan required as part of Fresno County's C&D Debris Recycling Program is designed to assist County compliance with State mandates, and to provide builders with a means of documenting the waste reduction requirements included in the California Green Building Standards Code (CALGreen).

Water Discharge Requirements. The Central Valley Regional Water Quality Control Board (RWQCB) typically requires a Waste Discharge Requirements (WDR) permit for any facility or person

discharging or proposing to discharge waste that could affect the quality of the waters of the state, other than into a community sewer system. Those discharging pollutants (or proposing to discharge pollutants) into surface waters must obtain an National Pollutant Discharge Elimination System (NPDES) permit from the Central Valley RWQCB.

The NPDES serves as the WDR. For other types of discharges, such as those affecting groundwater or in a diffused manner (e.g., erosion from soil disturbance or waste discharges to land), a Report of Waste Discharge must be filed with the Central Valley RWQCB in order to obtain a WDR. For specific situations, the Central Valley RWQCB may waive the requirement to obtain a WDR for discharges to land or may determine that a proposed discharge can be permitted more effectively through enrollment in a general NPDES permit or general WDR.

4.11.2.3 Local Regulations

City of Fresno General Plan. The City of Fresno's General Plan Public Utilities and Services Element includes objectives and policies that relate to public services. The following policies are applicable to the proposed project:

- **Policy PU-8-b: Potable Water Supply and Cost Recovery.** Prepare for provision of increased potable water capacity (including surface water treatment capacity) in a timely manner to facilitate planned urban development consistent with the General Plan. Accommodate increase in water demand from the existing community with the capital costs and benefits allocated equitably and fairly between existing users and new users, as authorized by law, and recognizing the differences in terms of quantity, quality and reliability of the various types of water in the City's portfolio.

- **Policy PU-8-c: Conditions of Approval.** Set appropriate conditions of approval for each new development proposal to ensure that the necessary potable water production and supply facilities and water resources are in place prior to occupancy.

- **Policy PU-8-g: Review Project Impact on Supply.** Mitigate the effects of development and capital improvement projects on the long-range water budget to ensure an adequate water supply for current and future uses.

- **Policy PU-7-a: Reduce Wastewater.** Identify and consider implementing water conservation standards and other programs and policies, as determined appropriate, to reduce wastewater flows.

- **Policy PU-7-b: Reduce Stormwater Leakage.** Reduce storm water infiltration into the sewer collection system, where feasible, through a program of replacing old and deteriorated sewer collection pipeline; eliminating existing stormwater sewer cut-ins to the sanitary sewer system; and avoiding any new sewer cut-ins except when required to protect health and safety.

- **Policy PU-9-a: New Techniques.** Continue to collaborate with affected stakeholders and partners to identify and support programs and new techniques of solid waste disposal, such as recycling, composting, waste to energy technology, and waste separation, to reduce the volume and toxicity of solid wastes that must be sent to landfill facilities.

- **Policy PU-9-b: Compliance with State Law.** Continue to pursue programs to maintain conformance with the Solid Waste Management Act of 1989 or as otherwise required by law and mandated diversion goals.

4.11.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to utilities and service systems 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.

4.11.3.1 Significance Criteria

The thresholds for impacts related to utilities and service systems used in this analysis are consistent with Appendix G of the State CEQA Guidelines. Development of the proposed project would result in a significant impact related to utilities and service systems if it would:

Threshold 4.11.1 **Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effect;**

Threshold 4.11.2 **Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;**

Threshold 4.11.3 **Result in a determination by the waste water 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;**

Threshold 4.11.4 **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; or**

Threshold 4.11.5 **Comply with federal, state, and local management and reduction statutes and regulations related to solid waste**.

4.11.3.2 Project Impacts

The following discussion describes the potential impacts related to utilities and service systems that could result from implementation of the proposed project.

Threshold 4.11.1 **Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the**

construction or relocation of which could cause significant environmental effects?

As identified in Section 3.0, Project Description, utilities required to serve the proposed project would include water, wastewater, stormwater drainage, electricity, natural gas, and telecommunications infrastructure.

Water. Short term demand for water may occur during excavation, grading, and construction activities on-site. Construction activities would require water primarily for dust mitigation purposes. Water from the existing potable water lines in the vicinity of the project site would be used. Overall, short-term construction activities would require minimal water use and are not expected to have any adverse impacts on the existing water system or available water supplies. The proposed project would not require the construction of new or expanded water conveyance, treatment, or collection facilities with respect to construction activities. Therefore, the impacts on water facilities during construction would be less than significant.

Once operational, water service to the project site would be provided by the City. New water within the project site would connect to the existing 14-inch main located on North Marks Avenue and the 16-inch main on North Hughes Avenue. The project would also include an on-site 12-inch main. Extension of the water infrastructure from the adjacent streets into the project site would be a routine part of the construction process analyzed in this EIR and would not have a material environmental impact. The water facility improvements would be limited to the project site and connection points to the adjacent, existing facilities. In addition, as described further in Threshold 4.11.2 below, the City has concluded that the City of Fresno's water system has sufficient capacity to supply the proposed project and other projected demands within the City's service area through the year 2045. Therefore, the proposed project would not require or result in the construction of new water facilities, or the expansion of existing facilities, which could cause a significant environmental impact, and the impact would be less than significant.

Wastewater. No significant increase in wastewater flows is anticipated as a result of construction activities on the project site. Sanitary services during construction would be provided by portable toilet facilities, which transport waste off-site for treatment and disposal. Therefore, during construction, potential impacts to wastewater treatment and wastewater conveyance infrastructure would be less than significant.

Once operational, the City would provide wastewater collection and treatment for the proposed project, and maintains an existing 12- to 18-inch line located in West Nielsen Avenue. The proposed project includes the installation of a new on-site 8-inch wastewater line that would connect to the City's existing line. Any sewer improvements associated with the proposed project would be designed and constructed to City standards. In addition,

the City of Fresno Department of Public Utilities has determined that adequate sanitary sewer and wastewater services would be available to serve the proposed project subject to the payment of any applicable connection charges and/or fees and extension of services in a manner that is compliant with the Department of Public Utilities standards, specifications, and policies. In addition, as described further in Threshold 4.11.2 below, the City has concluded that the City of Fresno's wastewater system has sufficient capacity to supply the proposed project and other projected

demands within the City's service area through the year 2045. As such, the proposed project would result in less than significant impacts related to the construction or expansion of wastewater treatment facilities. Therefore, the proposed project would not require or result in the construction of new wastewater treatment or collection facilities, or the expansion of existing facilities, which could cause a significant environmental impact. Therefore, the impact would be less than significant.

Stormwater and Drainage Facilities. During construction activities, soil would be exposed and disturbed, drainage patterns would be temporarily altered during grading and other construction activities, and there would be an increased potential for soil erosion and siltation compared to existing conditions. Additionally, during a storm event, soil erosion and siltation could occur at an accelerated rate. As discussed in Section 4.8, Hydrology and Water Quality, the proposed project would be required to comply with applicable permits and preparation of a Stormwater Pollution Prevention Plan (SWPPP) to identify construction Best Management Practices (BMPs) to be implemented as part of the proposed project to reduce impacts to water quality during construction, including those impacts associated with soil erosion and siltation. Compliance with applicable permit requirements and implementation of the construction BMPs would ensure that the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts, and the impact would be less than significant.

Refer to Section 4.8, Hydrology and Water Quality, for additional information regarding the proposed project's impacts related to hydrology during operation. The proposed project includes the construction of a new curb and gutter along North Marks Avenue, West Nielsen Avenue, and North Hughes Avenue that would connect to the existing FMFCD stormwater system. While the proposed project would permanently increase the impervious surface area in the project site, the project would maintain the overall on-site drainage patterns and continue to direct surface water to catch basins that flow into the existing storm drains. Prior to the issuance of building permits, the applicant would be required to provide a stormwater improvement plan to the City to ensure that the stormwater system would be capable of handling a 25-year storm and that the drainage facilities conform to City requirements. Additionally, the applicant would be required to pay for all necessary improvement costs if the City determines that the City's storm drain system or storm drain pumping capacity requires expansion or modification as a result of the project. In addition, compliance with existing regulatory requirements, including compliance with the WPCP and compliance with the MS4, as specified in the Industrial General Permit, would reduce or eliminate the potential for project operations to cause substantial additional polluted runoff or runoff in excess of existing or planned stormwater drainage systems. As such, the proposed project would result in less than significant impacts related to the construction or expansion of stormwater drainage facilities.

Electricity. Electrical power would be supplied to the proposed project site by PG&E. PG&E provides electrical service to business and residents throughout the City via underground and above-ground service lines. PG&E owns and maintains all service and transmission lines in the City and operates several electrical substations throughout the City. According to the California Energy Commission (CEC), total electricity consumption in the PG&E service area in 2020 was 78,518 gigawatt hours

(GWh) (78,518,835,142 kilowatt-hours [kWh]).[12] Total electricity consumption in Fresno County in 2020 was 8,017.8 GWh (8,017,830,742 KWh).[13]

Short-term construction activities would be limited to providing power to the staging area and portable construction equipment and would not substantially increase demand for electricity. The heavy equipment used for construction is primarily powered by diesel fuel. Given the limited nature of potential demand for electricity during construction and the availability of existing power lines on the site, there would not be a need to construct new or alter existing electric transmission facilities. Impacts to local regional supplies of electricity would be less than significant.

The proposed project includes connections to the surrounding electrical system on-site. Existing underground utility connections provide electricity to the project site. New underground electrical lines would be installed. As discussed in Section 4.5, Energy, the estimated potential increased electricity demand associated with the proposed project is 8,448,500 kWh per year. Therefore, operation of the proposed project would increase the annual electricity consumption in Fresno County by approximately 0.11 percent. Because the proposed project would only represent a small fraction of electricity demand in Fresno County, the project would meet Title 24 requirements and there would be sufficient electricity supplies available, energy demand for the proposed project would be less than significant. Therefore, although the proposed project would require the construction of new improvements related to the provision of electricity service, the proposed project would not result in significant environmental impacts and the proposed project's impacts would be less than significant.

Natural Gas. PG&E is the natural gas service provider in the City of Fresno. PG&E owns and maintain several natural gas transmission lines in the City that feed local distribution lines that connect to individual service lines. PG&E is the natural gas service provider for the City of Fresno. According to the CEC, total natural gas consumption in the PG&E service area in 2020 was 4,508.5 million therms (4,508,542,540 therms).[14] Total natural gas consumption in Fresno County in 2020 was 325.9 million therms (325,915,257 therms).[15]

Short-term construction activities would not result in demand for natural gas since construction activities/equipment would not require accessing existing adjacent natural gas facilities. Therefore, construction activities would not impact natural gas services, and the proposed project would not require new or physically altered gas transmission facilities.

Operation of the proposed project would increase on-site natural gas demand. As discussed in Section 4.5, Energy, the estimated potential increase in natural gas demand associated with the proposed project is 161,487 therms per year. Total natural gas consumption in Fresno County in

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12 CEC. 2019b. Electricity Consumption by Entity. Website: ecdms.energy.ca.gov/elecbyutil.aspx (accessed September 2022).

13 CEC. 2019c. Electricity Consumption by County. Website: ecdms.energy.ca.gov/elecbycounty.aspx (accessed September 2022).

14 CEC. 2019e. Gas Consumption by Entity. Website: ecdms.energy.ca.gov/gasbyutil.aspx (accessed September 2022).

15 CEC. 2019f Gas Consumption by County. Website: ecdms.energy.ca.gov/gasbycounty.aspx (accessed September 2022).

2020 was 325,915,257 therms. Therefore, operation of the proposed project would negligibly increase the annual natural gas consumption in Fresno County by approximately 0.05 percent. Because the proposed project would only represent a small fraction of electricity demand in Fresno County, the project would meet Title 24 requirements and there would be sufficient natural gas supplies available, energy demand for the proposed project would be less than significant. Therefore, although the proposed project would require the construction of new improvements related to the provision of natural gas service, the proposed project would not result in significant environmental impacts and the proposed project's impacts would be less than significant.

Telecommunication Facilities. Existing telephone, cable, and internet service lines in the vicinity would serve the project site. Internal to the project site, the project applicant would be responsible for constructing adequate telecommunication facility extensions for the proposed project. The reconfiguration of these facilities would occur on-site during the site preparation and earthwork phase and are not expected to impact any telephone, cable, or internet services off-site that serve the surrounding areas. Additionally, telecommunication facilities are generally installed concurrently with utility expansions and impacts associated with the expansion of telecommunications facilities are already considered in the air quality, noise, and construction traffic analysis. Therefore, the project impacts associated with the relocation or construction of new or expanded telecommunication facilities and impacts would be less than significant.

Summary. The proposed project would not require or result in the relocation or construction of new or expanded facilities for water, wastewater treatment, storm drainage, electric power, natural gas, or telecommunications. Therefore, impacts to these utility facilities would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

Threshold 4.11.2 Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

As discussed in the WSA prepared for the proposed project, the potable demand projections in the 2020 UWMP for normal water use utilize land use-based projections. Under this methodology, existing land use and demand was accounted separately from future land use and demand. This allows different demand factors to be applied to current land use areas and future land use areas. Future land use areas represent future customers and developments that are expected to be more water-efficient than existing land uses and buildings due to the California Plumbing Code (CPC) and use of higher-efficiency appliances and landscapes.

The existing and future land use acreage was sourced from the City's Geographic Information System (GIS) database and the City's General Plan. The existing land use shapefile and associated acreage for each land use classification were used to represent 2020 land use data. Areas not served by the City were excluded from the existing land use shapefile. The future land use shapefile corresponds with the planned land use at buildout as described in the City's General Plan representing the year 2056. Although the City does not have any plans to serve areas currently served by others within the City limits, all areas within the City's Sphere of Influence (SOI) were assumed to be served by the City by buildout for conservative planning purposes.

The land use acreage between 2020 and 2056 was estimated in 5-year increments based on areas planned to be developed by 2030 from the City's Planning Department, and by linearly interpolating the remainder of the change in acreage for each land use category between 2030 and 2056. Project-specific water demand was calculated using the methodology from the 2020 UWMP, as described above, based on the following assumptions:

- The 2020 UWMP indicates there will be 5,201 acres of industrial uses in Fresno in 2025; and
- The 2020 UWMP indicates the projected water demand for industrial land uses in 2025 will be 7,410 AFY.

Therefore, it is assumed that industrial land uses, such as the proposed project, will demand approximately 1.42 AFY per acre in 2025. The total project site is 48.03 acres. Therefore, based on the assumptions identified above, the proposed project is estimated to demand approximately 68.2 AFY.

The project site is included in the land use area covered by the City's 2020 UWMP and is designated as Heavy Industrial in the City's General Plan. Land use acreages and water demand in the 2020 UWMP were based on the City's General Plan land use designations for 2020 and buildout in 2056. As such, the acreage associated with the proposed project was assumed Industrial in the 2020 UWMP; therefore, it is assumed that demand for water was accounted for in the 2020 UWMP. There is no evidence, in consideration of the calculated project water demand, that such demand exceeds that estimated in the 2020 UWMP. 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 UWMP.

The City has concluded that the City of Fresno's water system has sufficient capacity to supply the proposed project and other projected demands within the City's service area through the year 2045. As such, the proposed project would not necessitate new or expanded water entitlements, and the City would be able to accommodate the increased demand for potable water.

The WSA also discusses projected supplies and demands for a normal year, single dry year, and 5-year consecutive drought in the City. The City is projected to have greater than 100,000 AF of available supply after meeting demands in normal years. During single dry years, the City's surface water supplies and groundwater recharge of raw surface water are reduced, but all projected potable demands would be met. During a 5-year drought, the City is projected to meet all demands with existing supplies, although non-potable water used for groundwater recharge is reduced in years 3 and 4 of a 5-year drought.

The City currently balances its surface water supplies and groundwater based on minimum production for operation of the City's water treatment facilities and minimum groundwater pumping to manage and control contamination plumes and prevent their spread. The minimum operation conditions typically occur in the low-demand winter months, and the City can increase surface water production during peak-demand months when surface water is available. In normal and wet years, the City intends to rely on more surface water supply and recharge raw surface water to replenish the groundwater basin and build storage for dry years. In dry years, when surface water

is less available, the City will ramp up well production to meet demands. The City is expected to continue this supply management strategy in the future.

Additionally, the City's WSCP is used to provide guidance to the City's governing body and staff and the public by identifying response actions to allow for efficient management of any water shortage with predictability and accountability. Preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought and catastrophic supply interruptions. The WSCP, applicable to the entire City of Fresno municipal water service area, is fully applicable to the project and protective of the adequacy of the project's water supply.

As a result, the project would result in a less-than-significant impact related to water supply and there would be sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

Level of Significance Without Mitigation: Less Than Significant Impact.

Threshold 4.11.3 Would the project 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?

Wastewater collection and treatment services in Fresno are provided by the City of Fresno Department of Public Utilities. The City's wastewater collection system consists of about 1,630 miles of pipes ranging in size from 4 inches in diameter to 84 inches in diameter. This collection system also utilizes 15 lift stations throughout Fresno, ranging in pumping capacity from 0.25 million gallons per day (mgd) to 2.2 mgd. The City is served by two wastewater treatment plants: Fresno-Clovis Regional Wastewater Reclamation Facility and North Fresno Wastewater Reclamation Facility.

The Department of Public Utilities has determined that adequate sanitary sewer and wastewater services would be available to serve the proposed project subject to the payment of any applicable connection charges and/or fees and extension of services in a manner that is compliant with the Department of Public Utilities standards, specifications, and policies. As such, the City's wastewater provider would be able to provide service to the proposed project, and impacts would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

Threshold 4.11.4 Would the project 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?

Garbage disposed in the City of Fresno is taken to the Cedar Avenue Recycling and Transfer Station. Once trash has been off-loaded at the transfer station, it is sorted, and non-recyclable solid waste is loaded onto large trucks and taken to the American Avenue Landfill located approximately 6 miles southwest of Kerman.

The American Avenue Landfill (i.e., American Avenue Disposal Site 10-AA-0009) has a maximum permitted capacity of 32,700,000 cubic yards and a remaining capacity of 29,358,535 cubic yards, with an estimated closure date of August 31, 2031. The maximum permitted throughput is 2,200 tons per day.[16]

Other landfills within the County of Fresno include the Clovis Landfill (City of Clovis Landfill 10-AA-0004) with a maximum remaining permitted capacity of 7,740,000 cubic yards, a maximum permitted throughput of 2,000 tons per day, and an estimated closure date of 2047.[17]

Based on the California Emissions Estimator Model (CalEEMod, Appendix C), operation of the proposed project would generate approximately 847 tons of solid waste per year or approximately 2 tons of solid waste per day. Given the available capacity at the landfills, the additional solid waste generated by the proposed project is not anticipated to cause the facility to exceed its daily permitted capacity. As such, the project would be served by a landfill with sufficient capacity to accommodate the project's waste disposal needs. The proposed project would not 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 and impacts would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

Threshold 4.11.5 Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

The proposed project would be required to comply with the CALGreen Code, the Fresno County C&D Debris Recycling Program, which is intended to assist the County in achieving AB 939 solid waste reduction goals, and other applicable federal, State and local solid waste statutes and/or regulations related to solid waste. In addition, as described above, the proposed project would not 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. Therefore, the proposed project would have a less-than-significant impact related to solid waste.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.11.3.3 Cumulative Impacts

As defined in the *State CEQA Guidelines*, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for utilities and service systems. The project site consists of a vacant urban lot located in a primarily urban area with existing services provided by utility providers in the vicinity. The cumulative area for utilities is listed below for each individual utility provider.

[16] Ibid.
[17] Ibid.

Water Supply. As discussed above and in Section 4.8, Hydrology and Water Quality, water supply is a regional issue. The Kings Subbasin is in overdraft condition due to pumping for agricultural and urban uses. Growth in the subbasin will increase demands for groundwater pumping, potentially resulting in continued drawdown of water levels leading to localized cones of depression, changes in groundwater flow direction, concentration of contaminants, and land subsidence. However, the WSA prepared for the proposed project identified that projected water supplies available for the City would be adequate to accommodate future development in the City of Fresno, including development of the proposed project, for normal, single-year dry, and multiple-year dry conditions. Additionally, implementation of water supply management strategies from the City's 2020 UWMP and the City's WSCP would secure the efficient management of water supplies in the City during regular and dry years. Therefore, the City would have sufficient water supplies available to serve the proposed project and future projects consistent with the General Plan and the City's water management plans. Therefore, the proposed project would not have a cumulatively significant impact on water supply or facilities.

Wastewater. Public utility districts and other municipalities exist near or adjacent to the planning area and include the City of Clovis, the Pinedale Public Utility District, Pinedale County Water District, and Malaga Utility District. The City of Fresno Department of Public Utilities has determined that adequate sanitary sewer and water services would be available to serve the proposed project subject to the payment of any applicable connection charges and/or fees and extension of services in a manner that is compliant with the Department of Public Utilities standards, specifications, and policies. Other past, current, and probable future projects within the cumulative impact area would also be subject to Department of Public Utilities standards, specifications, and policies. For these reasons, the proposed project and related projects would not result in a cumulatively significant impact to wastewater generation.

Solid Waste. The geographic area for the cumulative analysis of solid waste infrastructure is the City of Fresno. Development associated with the proposed project would contribute to an increased demand for landfill capacity for solid waste. As stated previously, the American Avenue Landfill (i.e., American Avenue Disposal Site 10-AA-0009) has a maximum permitted capacity of 32,700,000 cubic yards and a remaining capacity of 29,358,535 cubic yards, with an estimated closure date of August 31, 2031. The maximum permitted throughput is 2,200 tons per day. In addition, the Clovis Landfill with a maximum remaining permitted capacity of 7,740,000 cubic yards, a maximum permitted throughput of 2,000 tons per day, and an estimated closure date of 2047. As discussed above, given the available capacity at the landfills, the additional solid waste generated by the proposed project is not anticipated to cause the facility to exceed its daily permitted capacity. Furthermore, based on their current daily maximum permitted disposal capacities and current average daily tonnage, there is currently sufficient permitted capacity provide adequate future capacity for the City's solid waste needs.

In addition, all development projects would be required to comply with federal, State, and local statutes and regulations related to solid waste. Pursuant to the California Integrated Waste Management Act of 1989 (AB 939), every city and county in the State is required to divert 50 percent of solid waste generated in its jurisdiction away from landfills. Implementation of source reduction measures, such as recycling, would serve to divert solid waste away from landfills. Cumulative development would be required to comply with existing statutes and regulations, and

therefore, cumulative impacts related to compliance with solid waste regulations would be less than significant and would not be cumulatively considerable.

Electricity and Natural Gas. Development of cumulative projects within the PG&E service area which encompasses 70,000 square miles would result in a substantial increase in electricity and natural gas demand as well as an increase in the consumption of fuel for vehicles. Although the proposed project would result in a net increase in demand for electricity, implementation of the proposed project would not result in the construction of new electric or natural gas infrastructure beyond what has already been assumed and will be included in PG&E's regional forecasts.

As discussed previously, the total annual electricity consumption in the PG&E service area in 2020 was 78,518 GWh (78,518,835,142 kWh). As shown in Table 4.5.B, the estimated potential increase in electricity demand associated with the operation of the proposed project is 8,448,500 kWh per year. Therefore, operation of the proposed project would increase the annual electricity consumption in the PG&E service area by approximately 0.01 percent. As such, the proposed project's share of cumulative electricity consumption would negligible.

Total natural gas consumption in the PG&E service area in 2020 was 4,508.5 million therms (4,508,542,540 therms). As shown in Table 4.5.B, the estimated potential increase in natural gas demand associated with the proposed project is 161,487 therms per year. Therefore, operation of the proposed project would increase the annual natural gas consumption in the PG&E service area by less than 0.01 percent. The proposed project's share of cumulative consumption of natural gas in the PG&E service area would be negligible.

In addition, as identified above, in 2021, a total of 50 percent of PG&E's delivered electricity came from renewable sources, including solar, wind, geothermal, small hydroelectric and various forms of bioenergy.[18] PG&E reached California's 2020 renewable energy goal in 2017, and is positioned to meet the State's 60 percent by 2030 renewable energy mandate set forth in Senate Bill (SB) 100. In addition, PG&E plans to continue to provide reliable service to their customers and upgrade their distribution systems as necessary to meet future demand.

Telecommunications. The geographic area for the cumulative analysis of impacts to the provision of telecommunication facilities is the City. Telephone, cable, and internet services are provided to residents through private providers of these services. The construction and expansion of telecommunication facilities for the proposed project would occur on-site and is not expected to impact any telephone, cable, or internet services off-site that serve the surrounding areas. Likewise, construction and expansion of telecommunication facilities would generally occur on-site to extend through proposed related developments. Therefore, cumulative impacts associated with the relocation or construction of new or expanded telecommunication facilities would be less than significant.

Level of Significance Without Mitigation: Less Than Significant Impact.

[18] PG&E, 2022. *Exploring Clean Energy Solutions*. https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy (accessed October 2022).

5.0 ALTERNATIVES

In accordance with the California Environmental Quality Act (CEQA) and the 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 include the construction of four office/warehouse buildings in the City of Fresno, which would be developed over a period of 24 months. The proposed buildings would result in a total gross floor area of approximately 901,438 square feet. 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 two 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 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 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, two 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 continue to be vacant. No modifications to existing site access or infrastructure would occur.

- **Reduced Project Alternative.** The Reduced Project Alternative would reduce the size of Building 1 to 250,956 square feet and the project total square footage would be reduced to 683,582 square feet. The building would have similar site access and infrastructure improvements as those identified for the proposed project.

5.2 PROPOSED PROJECT

5.2.1 Project Characteristics

The project would result in the construction of four office/warehouse buildings that would be configured for heavy industrial uses by tenants that have not been identified. The proposed buildings would result in a total gross floor area of approximately 901,438 square feet. The buildings' exterior would be up to 44 feet high with an interior height of up to 36 feet and designed with a total of 201 loading dock doors on the north and south sides of the buildings. The four buildings would be comprised of the following: Building 1 would be 468,812 square feet and would provide 122 loading dock doors; Building 2 would be 248,786 square feet and would provide 46 loading dock doors; Building 3 would be 93,074 square feet and would provide 18 loading dock doors; and Building 4 would be 90,766 square feet and would provide 15 loading dock doors.

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 objectives of the proposed project are to:

- Provide industrial warehousing consistent with the General Plan land use and zoning designation and that helps fulfil the unmet demands of industrial businesses located in the City;
- Support new employment opportunities for the residents of Fresno and surrounding communities;
- Develop new industrial businesses in proximity to major transportation infrastructure and similar type of businesses to minimize land use conflicts with surrounding existing uses; and
- Promote sustainable development and operations, to the extent practicable.

5.2.3 Significant 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 Aesthetics; Section 4.2 Air Quality; Section 4.3 Biological Resources; Section 4.4 Cultural and Tribal Cultural Resources; Section 4.7 Hazards and Hazardous Materials; and Section 4.9 Noise. The project would not result in any significant and unavoidable impacts.

The project's environmental impacts under all of the remaining resource topics (Aesthetics; Agricultural and Forest Resources; Energy; Greenhouse Gas Emissions; Hydrology and Water Quality; Land Use and Planning; Mineral Resources; Population and Housing; Public Services; Recreation; Transportation; Utilities and Service Systems; and Wildfire) would be less than significant and would not require mitigation or an alternative that would reduce these impacts. Therefore, these resource topics are not discussed further in this chapter unless an alternative has the potential to result in a significant impact on a resource that would not be significantly affected by the proposed project. The project's significant impacts, which have been used to evaluate alternatives, are summarized below.

5.3 ALTERNATIVES CONSIDERED BUT NOT SELECTED FOR DETAILED EVALUATION

State CEQA Guidelines Section 15126.6(c) requires an EIR to identify and briefly discuss any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process. The City considered certain alternatives during the preparation of this EIR and found them to be infeasible.

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.

5.3.1 Develop Residential Uses on the Project Site

An alternative that would develop residential uses on the project site was considered but dismissed from detailed evaluation because such an alternative would not achieve three of the four objectives of the proposed project. A residential development on the project site would potentially satisfy one objective, as it could promote sustainable development and operations. However, it would not satisfy the project's other three objectives which are to (1) provide industrial warehousing consistent with the General Plan land use and zoning designation and that helps fulfil the unmet demands of businesses located in the City; (2) provide a variety of new employment opportunities for the residents of Fresno and surrounding communities; and (3) provide new industrial development that is attractive and minimizes conflicts with the surrounding existing uses. As this alternative would not satisfy most of the objectives of the project, it was deemed infeasible and was not carried forth for detailed evaluation.

5.3.2 Develop the Proposed Project at an Alternative Location

As noted above, the project's four objectives are to: provide industrial warehousing consistent with the General Plan land use and zoning designation and that helps fulfil the unmet demands of businesses located in the City; provide a variety of new employment opportunities for the residents of Fresno and surrounding communities; provide new industrial development that is attractive and minimizes conflicts with the surrounding existing uses; and promote sustainable development and operations. Based on these objectives, other parcels in the Fresno area could be suitable for the development of industrial warehouse uses comparable to the proposed project. However, similar to the proposed project, the development on other sites would still have the potential to result in significant impacts on air quality, biological, cultural, and hazards and would require the same or comparable mitigation measures. Further, there would be similarly significant aesthetics, and noise impacts. As this alternative would not reduce or avoid the project's significant impacts, and because the applicant does not own the site or can reasonably acquire it, this alternative was not carried forth for detailed evaluation.

5.4 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 consist of a vacant urban lot. No modifications to existing site access or infrastructure would occur.

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

Implementation of the No Project Alternative would not result in new development that would have a substantial adverse effect on a scenic vista or substantially damage scenic resource. Similarly, the No Project Alternative would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. The No Project Alternative would also not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area; therefore, implementation of Mitigation Measures AES-1 through AES-4 would not be required. With implementation of the No Project Alternative, there would be no impact on aesthetics.

5.4.2.2 Air Quality

Under the No Project Alternative, no construction activities would occur and the site would remain vacant. Therefore, the proposed project's construction and operational less than significant criteria pollutant impacts would be avoided under this alternative; therefore, implementation of Mitigation Measure AIR-1 would not be required. In addition, this alternative would not result in exposure of surrounding residents to toxic air contaminants during project construction or operation; therefore, implementation of Mitigation Measures AIR-2 and AIR-3 would not be required. With implementation of the No Project Alternative, there would be no impact on air quality.

5.4.2.3 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 nesting birds would be avoided under this alternative and implementation of Mitigation Measure BIO-1 would not be required. In addition, under the No Project Alternative, no construction activities would occur that would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. With implementation of the No Project Alternative, there would be no impact on biological resources.

5.4.2.4 Cultural and Tribal 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, human remains, and tribal cultural resources, 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, there would be no impact on cultural and tribal resources.

5.4.2.5 Hazards and Hazardous Materials

Under the No Project Alternative, no construction or operational activities would occur on the project site; therefore, the No Project Alternative would not have the potential to expose the public or environment to hazardous building materials or emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. In addition, the No Project Alternative would not conflict with an airport land use plan, impair or interfere with emergency response or evaluation, and would not expose people or structures to wildfires. In addition, under the No Project Alternative, the project site would not include any soil disturbance activities; therefore, implementation of Mitigation Measure HAZ-1 would not be required. With implementation of the No Project Alternative, there would be no impact related to hazards and hazardous materials.

5.4.2.6 Noise

Under the No Project Alternative, no construction activities would occur and the site would remain vacant. 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 and NOI-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 impact related to noise.

5.4.3 Comparison to Project Objectives

As discussed above, the No Project Alternative would avoid all of the less than significant 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 industrial warehousing consistent with the General Plan land use and zoning designation and that helps fulfil the unmet demands of businesses located in the City; provide a variety of new employment opportunities for the residents of Fresno and surrounding communities; develop new industrial businesses in proximity to major transportation infrastructure and similar type of businesses to minimize land use conflicts with surrounding existing uses; or promote sustainable development and operations.

5.5 REDUCED PROJECT ALTERNATIVE

5.5.1 Reduced Project Alternative Description

The Reduced Project Alternative is being considered by the Project Applicant and would involve reducing the size of the proposed project by reducing Building 1 by 217,856 square feet to 250,956 square feet, as shown in Figure 5-1. The Reduced Project Alternative would reduce the total project square footage from 901,438 square feet to 683,582 square feet. All of the other improvements would be the same as the proposed project, including site access and infrastructure improvements.

5.5.2 Analysis of the Reduced Project Alternative

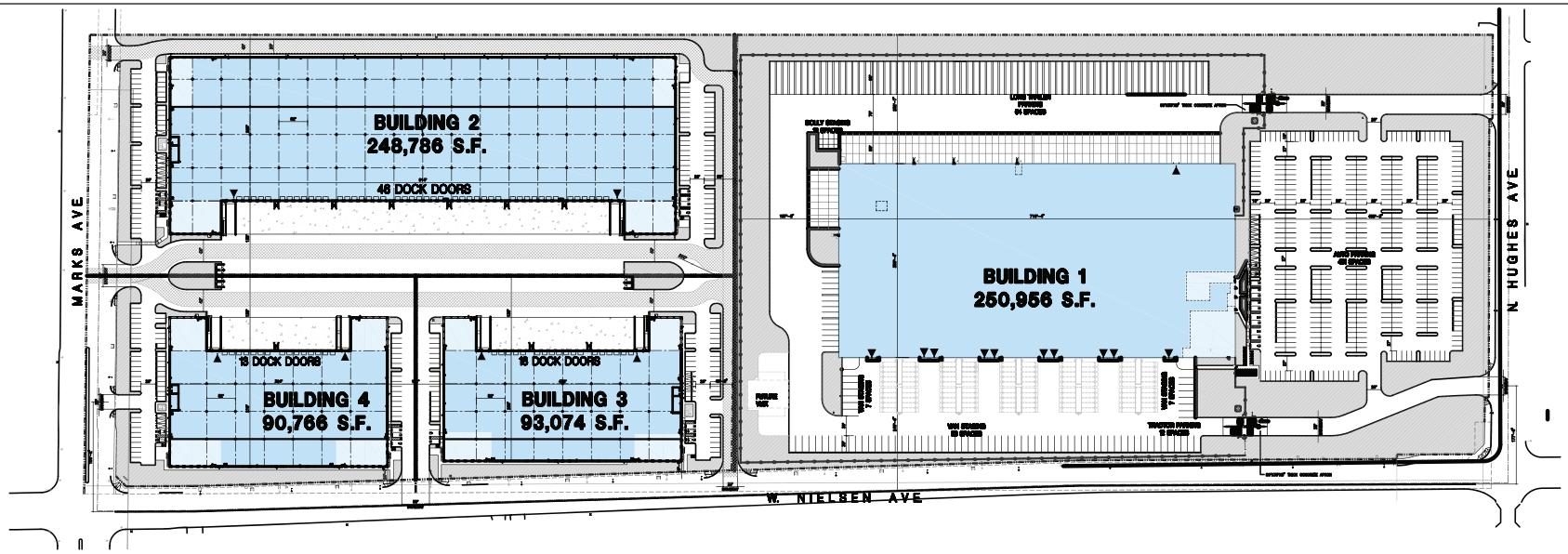
The potential impacts associated with the Reduced Project Alternative are described below.

5.5.2.1 Aesthetics

Similar to the proposed project, the Reduced Project Alternative would change the visual characteristics of the project site by developing the site with four heavy industrial buildings, consistent with the General Plan and zoning designation on the project site, and would result in less-than-significant impact related to a substantial adverse effect on a scenic vista and would not conflict with any applicable zoning or other regulations governing scenic quality. In addition, the project site is not located near a designated State Scenic Highway and there would be no impact with the Reduced Project Alternative. The Reduced Project Alternative would also have the potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area; therefore, implementation of Mitigation Measures AES-1 through AES-4 would be required. All other aesthetic impacts would be reduced compared to those of the proposed project and would be less than significant.

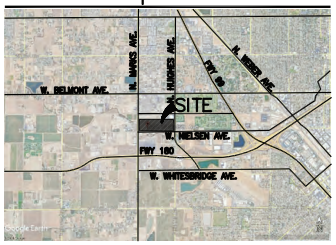
5.5.2.2 Air Quality

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. However, due to the smaller building size under this alternative, this alternative would result in reduced construction and operational emissions, including those due to vehicle and truck trips, compared to those under the proposed project. Therefore, this alternative would further reduce the project's less than significant operational air quality impact. In addition, the Reduced Project Alternative would still result in exposure of surrounding residents to toxic air contaminants during project construction and operation. As the building space to be constructed under this alternative would be less than the proposed project, this alternative would result in reduced toxic air contaminant emissions. However, the reduction in toxic air contaminant emissions would not be enough to avoid a significant impact and, similar to the proposed project, construction and operational activity associated with this alternative would still result in a health risk impact to off-site receptors. Thus, this alternative would still require the implementation of the same mitigation measures, Mitigation Measures AIR-2 and AIR-3 to reduce the impact to less than significant. All other air quality impacts would be reduced compared to those of the proposed project and would be less than significant.



Note: This is a conceptual plan. It is based on preliminary information which is not fully verified and may be incomplete. It is meant as a comparative aid in examining alternate development strategies and any quantities indicated are subject to revision as more reliable information becomes available.

Aerial Map



Tabulation

	BLDG. 1	BLDG. 2	BLDG. 3	BLDG. 4	TOTAL
SITE AREA					
Gross Site					
In sq. ft					2,091,968
In acres					48.03
Net Site					
In sq. ft	1,059,188	484,580	208,430	204,969	1,957,127
In acres	24.32	11.12	4.78	4.71	44.93
BUILDING AREA					
Office	10,675	15,000	10,000	10,000	45,675 sq. ft
Warehouse	240,081	233,786	83,066	80,766	637,699 sq. ft
TOTAL	250,956	248,786	93,066	90,766	683,574 sq. ft
MAXIMUM FLOOR AREA RA'10					
Allowed	1.5	1.5	1.5	1.5	1.5
Provided	0.24	0.51	0.45	0.44	0.35
AUTO PARKING REQUIRED					
Office: 1/300 s.f.	37	50	34	34	155 stalls
Whse: 1st 10K @ 1/2,000s.f.	5	5	5	5	20 stalls
over 10K @ 1/5,000 s.f.	47	45	15	15	122 stalls
TOTAL	89	100	54	54	297 stalls
AUTO PARKING PROVIDED					
Standard (9' x 19')	375	78	43	50	546 stalls
Accessible standard (9' x 19')	8	4	1	1	6 stalls
Accessible Van (12' x 19')	2	1	2	2	5 stalls
Accessible standard EV (9 x 19')	1	1	1	1	3 stalls
Accessible Van EV (12' x 19')	1	1	1	1	3 stalls
Clean Air / Vanpool (12% min parking)	55	13	8	9	30 stalls
EV Charging (10% min parking)	9	8	4	4	16 stalls
TOTAL	451	106	60	68	726 stalls
TRAILER PARKING PROVIDED					
Trailer	69	0	0	0	69 stalls
DOLLIES PARKING PROVIDED					
Dollies	12	0	0	0	12 stalls
TRACTORS PARKING PROVIDED					
Tractors	12	0	0	0	12 stalls
VANS PARKING PROVIDED					
Vans	64	0	0	0	64 stalls
BICYCLE RACK REQUIRED					
Short Term (4 + 5% of tota stalls)	27	10	7	8	
Long Term (1 + 5% of total stalls)	24	7	4	5	
BICYCLE RACK PROVIDED					
Short Term (4 + 5% of total stalls)	28	10	8	8	
Long Term (1 + 5% of total stalls)	24	12	8	8	
MAXIMUM BUILDING HEIGHT ALLOWED					
Allowed	60'-0"	60'-0"	60'-0"	60'-0"	
Provided	48'-0"	43'-0"	41'-0"	41'-0"	
ZONING ORDINANCE FOR CEY					
Zoning Designation - Heavy Industrial (IH)					
SETBACKS					
Front - 15'					
Side / Rear - none					

Legend

- POTENTIAL OFFICE
- WAREHOUSE
- ▼ DRIVE THRU DOOR

LSA

FIGURE 5-1

N

0 120 240

FEET

SOURCE: HPA Architecture, July 2022

I:\SNN2102\G\Reduced Project Alternative.ai (1/27/2023)

2740 West Nielsen Office/Warehouse Project

Reduced Project Alternative

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5.5.2.3 Biological Resources

Similar to the proposed project, the Reduced Project Alternative would require construction and grading activities on the project site that would have the potential to result in potentially significant impacts to nesting birds. Reduced development from this alternative could potentially reduce the development footprint on-site and allow for avoidance of trees that could be occupied by nesting birds. However, implementation of Mitigation Measure BIO-1 would still be required. In addition, construction activities associated with the Reduced Project Alternative would have a similar less-than-significant impact related to the movement of any native resident or migratory fish or wildlife species. Like the proposed project, this alternative would not affect a riparian habitat, federally protected wetlands, or conflict with an adopted habitat conservation plan.

5.5.2.4 Cultural and Tribal Resources

Similar to the proposed project, the Reduced Project Alternative would also have the potential to disturb previously unknown archaeological resources, human remains, and tribal cultural resources and result in significant impacts. As such, Mitigation Measures CUL-1 and CUL-2 identified for the proposed project would also be required for this alternative to reduce the impacts to less than significant. The same less than significant impacts associated with historic resources would also occur under this alternative.

5.5.2.5 Hazards and Hazardous Materials

Under the Reduced Project Alternative, construction or operational activities would occur on the project site; therefore, the Reduced Project Alternative would have similar less than significant impacts related to the potential to expose the public or environment to hazardous building materials or emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. In addition, the Reduced Project Alternative would have a similar less-than-significant impact related to the potential to conflict with an airport land use plan, impair or interfere with emergency response or evaluation, and would not expose people or structures to wildfires. In addition, under the Reduced Project Alternative, soil disturbance activities would occur; therefore, implementation of Mitigation Measure HAZ-1 would be required. Thus, impacts related to hazards and hazardous materials would be comparable to the proposed project and would be less than significant.

5.5.2.6 Noise

Construction activities under this 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 impact at the nearby sensitive receptors. As such, Mitigation Measure NOI-1 would be required. However, because the total project size would be smaller, the duration of construction would be reduced by a small number of months, and the duration of exposure to noise impacts would be slightly shorter. Due to the reduced building size under this alternative, this alternative would result in fewer vehicle trips than the proposed project and reduced traffic related noise impacts. As with the proposed project, the operational noise

impact from vehicle trips under this alternative would be less than significant and no mitigation would be required. However, loading dock activities would still occur with this alternative; therefore, Mitigation Measure NOI-2 would be required. In addition, as with the proposed project, construction and operational vibration impacts would be less than significant under this alternative.

5.5.3 Comparison to Project Objectives

As discussed above, the Reduced Project Alternative would reduce the overall size of the project by reducing the square footage of project components. The Reduced Project Alternative would provide industrial warehousing consistent with the General Plan land use and zoning designation and that helps fulfil the unmet demands of businesses located in the City; provide a variety of new employment opportunities for the residents of Fresno and surrounding communities; provide new industrial development that is attractive and minimizes conflicts with the surrounding existing uses; or promote sustainable development and operations. However, due to the reduced nature of the project under this alternative, demands for industrial businesses in the City might not be completely fulfilled. Additionally, this alternative would result in reduced employment opportunities compared to the proposed project.

5.6 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 (*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 noise impacts, and reduced operational-phase air quality and noise impacts due its smaller size, and lesser aesthetic impacts due to reduced development in the 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
Aesthetics	Less than Significant with Mitigation	Fewer	Similar
Air Quality	Less than Significant with Mitigation	Fewer	Fewer
Biological Resources	Less than Significant with Mitigation	Fewer	Similar
Cultural Resources and Tribal Cultural Resources	Less than Significant with Mitigation	Fewer	Similar

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
Energy	Less than Significant	Fewer	Fewer
Greenhouse Gas Emissions	Less than Significant	Fewer	Fewer
Hazards and Hazardous Materials	Less than Significant with Mitigation	Fewer	Similar
Hydrology and Water Quality	Less than Significant	Fewer	Fewer
Noise	Less than Significant with Mitigation	Fewer	Fewer
Transportation	Less than Significant	Fewer	Fewer
Utilities and Service Systems	Less than Significant	Fewer	Fewer
Attainment of Project Objectives	Meets all of the Project Objectives	Meets none of the Project Objectives	Meets the Project Objectives but not to the same degree as the proposed project

Source: LSA (January 2023).
Legend:
Greater = Greater impacts than the proposed project
Fewer = Fewer impacts than the proposed project
Similar = Similar impacts as the proposed project

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