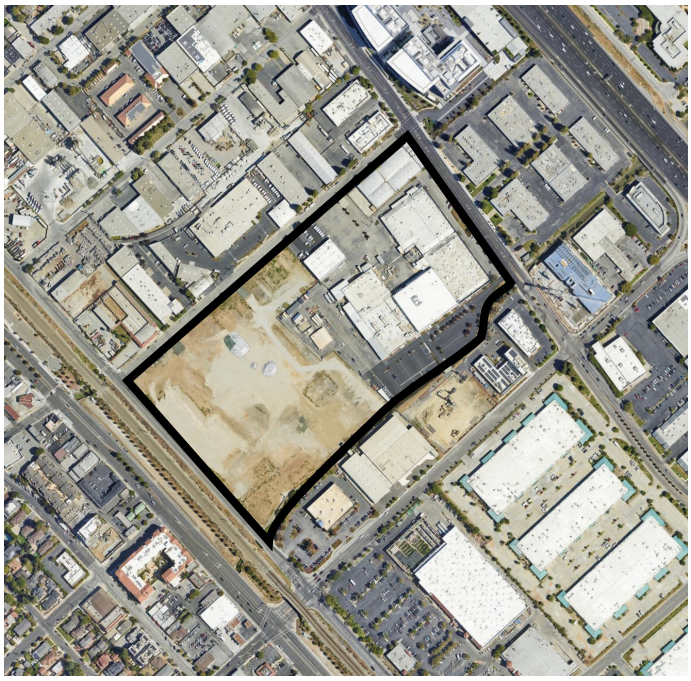
Alexandria Center for Life Science Project

Draft Environmental Impact Report

SCH No. 2021060668



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July 2024

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INTRODUCTION

PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The California Environmental Quality Act and the Guidelines promulgated thereunder (together "CEQA") require an Environmental Impact Report (EIR) be prepared for any project which may have a significant impact on the environment. An EIR is an informational document, the purposes of which, according to CEQA are "to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." The information contained in this EIR is intended to be objective and impartial, and to enable the reader to arrive at an independent judgment regarding the significance of the environmental impacts resulting from the proposed project.

This EIR evaluates the potential environmental impacts that may be associated with the proposed Alexandria Center for Life Science project ("project") in San Carlos, California. The EIR will also analyze cumulative conditions that would result with the addition of the project.

Note that the applicant also controls the previously approved office/research and development project at 825-835 Industrial Road (formerly "Meridian 25"). While some of the application materials for the current project reference how the project would relate to the development at 825-835 Industrial Road, because the development at 825-835 Industrial Road was fully analyzed under CEQA (State Clearinghouse Number 2016052015) and previously approved, the development at 825-835 Industrial Road is not considered a part of this current project for CEQA purposes, though it is accounted for in the cumulative analysis of this project.

San Carlos General Plan

The project site is within the San Carlos General Plan: Envision 2030 planning area, including the Focused General Plan and Zoning Update, for which an associated EIR was certified in January 2023 (State Clearinghouse Number 2021120442). Accordingly, this environmental analysis tiers off of the Focused General Plan Update EIR per CEQA Guidelines section 15152. Mitigation measures from the Focused General Plan Update EIR that are applicable to the proposed project are identified in this document with the mitigation title from that document prefaced with "GP-MM".

Standard Conditions

There are regulations and policies applicable to the project that would be considered uniformly applied development policies or standards pursuant to CEQA Guidelines Section 15183.3(7), or "Standard Conditions". These Standard Conditions are incorporated into a project regardless of the project's environmental determination and are therefore considered prior to determination of significance and are not considered mitigation under CEQA. Specifics of applicable Standard Conditions are discussed under the relevant topic areas throughout this document.

DOCUMENTS REFERENCED IN THIS EIR AND/OR INCORPORATED BY REFERENCE

Per CEQA Guidelines section 15150, an EIR may incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. Information from the documents that have been incorporated by reference have been briefly summarized in the appropriate sections of the EIR. All appendices to this document are incorporated by reference.

The San Carlos General Plan: Envision 2030 Focused General Plan and Zoning Update EIR (State Clearinghouse Number 2021120442) is hereby incorporated into this analysis by reference and is available in full at: City of San Carlos Planning Division at 600 Elm Street in San Carlos and online at: https://www.sancarlos2040.org/documents.

Materials that are included in the project files, which are available at City of San Carlos Planning Division at 600 Elm Street in San Carlos or digitally online at https://www.cityofsancarlos.org/business_detail_T10_R63.php, include:

- Planning Submittal plan sheets, dated 12/17/2021.
- H.T. Harvey and Associates, August 27, 2020, Alexandria District Phase 2 – Summary of Project Design Features that Reduce Avian Collision Risk
- Walter Levison Consulting Arborist, three documents as follows: Assessment of Trees at 960 Industrial Road 5/13/2019, Assessment of Trees between Industrial Road & Old County Road 2/20/2020, and Assessment of Creek Trees Between Industrial Road & Old County Road 5/5/2020.
- Langan Engineering and Environmental Services, Geotechnical Investigation – Alexandria Center for Life Science, dated September 2, 2020, and revised on June 18, 2021.
- Phase I Environmental Site Assessment: 900 Industrial Road, San Carlos, California, dated October 2018
- Phase I Environmental Site Assessment and Phase II Environmental Site Assessment: L-3 Communications Corporation, 960 Industrial Road, San Carlos, California, dated April 25, 2017
- Phase I Environmental Site Assessment: 961 Commercial Way, San Carlos, California, dated May 2018
- Phase I Environmental Site Assessment: 987–1075 Commercial Street, 915–1063 Old County Road, San Carlos, California, dated April 2020.
- Subsurface Investigation Report and Groundwater Remedial Action Plan, Former Kelly-Moore Paint Facility, 987–1075 Commercial Street, 915–1063 Old County Road, San Carlos, California, dated May 18, 2021
- Supplemental Soil Vapor Investigation Report, Former Kelly-Moore Paint Facility, 987–1075 Commercial Street, 915–1063 Old County Road, San Carlos, California, dated November 22, 2022
- Fourth Quarter 2022 Groundwater Monitoring Report, Former Kelly-Moore Paint Facility, 987–1075 Commercial Street, 915–1063 Old County Road, San Carlos, California, dated April 5, 2023

- Freyer & Laureta, Inc., September 2020, In-Lieu Stormwater Treatment and Green Infrastructure technical memorandum.
- Freyer & Laureta, Inc., January 5, 2022, Flood Mitigation Strategy – Alexandria Center for Life Sciences, San Carlos, California.
- Mott Macdonald for City of San Carlos, Task Order #10 Amendment: Various San Carlos Development Alternatives - Sewer Capacity Model Update
- ARUP, June 8, 2021, Alexandria Center for Life Sciences, San Carlos CA- Utility Demand Report
- EKI Environment & Water, September 2022, Water Supply Assessment for the Alexandria District for Science and Technology

ENVIRONMENTAL IMPACT REPORT REVIEW PROCESS

This Draft EIR, together with the Final EIR (discussed below) will constitute the EIR for the proposed project. The EIR is intended to enable City decision makers, public agencies, and interested citizens to evaluate the environmental issues associated with the proposed project.

In reviewing the Draft EIR, readers should focus on the sufficiency of the document in identifying and analyzing the possible environmental impacts associated with the project. Readers are also encouraged to review and comment on ways in which significant impacts associated with this project might be avoided or mitigated. Comments are most helpful when the basis for the comments is explained and they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate significant environmental impacts.

The Draft EIR will be available for review online at https://www.cityofsancarlos.org/business_detail_T10_R63.php and as a hard copy at the Planning Division office, 600 Elm Street, San Carlos and at the San Carlos Public Library, 610 Elm Street. Technical reports for the project included by reference in the EIR may be viewed online at: https://www.cityofsancarlos.org/business_detail_T10_R63.php. Comments on the Draft EIR may be submitted in writing (emailed, mailed, or dropped off) during the public review period to:

City of San Carlos
Planning Division
Lisa Costa Sanders, Principal Planner
600 Elm Street
San Carlos, CA 94070
Email: LCostaSanders@cityofsancarlos.org

The comments received during the public review period will be compiled and presented together with responses to those comments in the Final EIR. Any minor revisions to the Draft EIR will also be included in the Final EIR.

The City of San Carlos Planning Commission and the City Council will review the EIR documents and will determine whether or not the EIR provides a full and adequate appraisal of the project and its alternatives. After reviewing this Draft EIR and the Final EIR, and after reviewing the recommendation of the City of San Carlos Planning Commission regarding the certification of the EIR as adequate and complete, the City Council will be in a position to determine whether or not the EIR should be certified. An EIR does not control the agency's ultimate discretion on the project. However, as required under

CEQA, the agency must respond to each significant effect identified in the EIR by making findings and, if necessary, by making a statement of overriding considerations for any significant and unavoidable impacts. In accordance with California law, the EIR on the project must be certified before any action on the project can be taken. Once the EIR is certified, the City of San Carlos can then consider whether the project as proposed should be approved, revised, or rejected.

CONTENT AND ORGANIZATION OF THE DRAFT EIR

A Notice of Preparation (NOP) was issued in June 2021 to solicit comments from public agencies and the public regarding the scope of the environmental evaluation for the proposed project. The NOP and all written responses to the NOP are presented in Appendix A. These comments were taken into consideration during the preparation of the Draft EIR.

An Executive Summary follows this introduction as Chapter 2. This summary presents an overview of the project and the potentially significant environmental impacts which may be associated with the project, including a listing of recommended mitigation measures and a discussion of those impacts which would remain significant and unavoidable even following mitigation.

The Draft EIR presents a description of the project in Chapter 3. Chapters 4 through 18 present environmental analysis of the project, focusing on the following issues:

4. Aesthetics
5. Air Quality
6. Biological Resources
7. Cultural Resources
8. Energy
9. Geology and Soils
10. Greenhouse Gas Emissions
11. Hazards and Hazardous Materials
12. Hydrology and Water Quality
13. Noise and Vibration
14. Population and Housing
15. Transportation
16. Tribal Cultural Resources
17. Utilities and Service Systems
18. Other CEQA Topics

Chapter 19 presents an evaluation of the environmental effects that may be associated with the proposed project and three alternatives evaluated: the "No Project" Alternative, the “Industrial Infill” Alternative and the “Conforming with Zoning” Alternative.

Chapter 20 lists the persons who prepared the Draft EIR, identifies those persons and organizations contacted during the preparation of the document, and lists the reference materials used.

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EXECUTIVE SUMMARY

INTRODUCTION AND PROJECT OVERVIEW

This report, together with its appendices, constitutes the Draft Environmental Impact Report (EIR) on the Alexandria Center for Life Science Project. The Lead Agency for environmental review under the California Environmental Quality Act is the City of San Carlos.

The approximately 25.34-acre site is bounded by Industrial Road to the east, Commercial Street to the north, Old County Road to the west, and Pulgas Creek to the south. The site includes the following addresses: 900 and 960 Industrial Road; 961- 967, 987, 1003, 1011, 1015, 1057 and 1075 Commercial Street; and 915, 921, 1015, 1055 and 1063 Old County Road (Assessor's Parcel Numbers 046-162-010, -210, -270, -280, and -290; and 046-184-090, -110, -120, -280, -290, and -300). The site contains various industrial, office, and commercial buildings totaling 232,068 square feet along with associated surface parking. Approximately half of the site is currently vacant, as the former Kelly Moore buildings were demolished independent of this project.

The project sponsor is proposing to demolish all remaining existing buildings and to construct a new office/R&D campus of seven buildings totaling 1,734,532 gross square feet of building space including one amenity building and two above-grade parking structures. The project also would include community-accessible open space and possible amenities in the parking garage along Commercial Street. The six office/R&D buildings would be at grade, five to seven stories tall, and vary in height from about 80 to 116 feet.

The project would enhance the section of Pulgas Creek that borders the project site on the south to improve current flooding issues, stabilize the banks, increase the presence of native plant species, and provide a publicly accessible creek-side pedestrian path.

Community benefits have been proposed by the applicant in conjunction with the project, including off-site creek improvements along the southern side of Pulgas Creek, a Creekside Bike and Pedestrian Trail along the northern side of Pulgas Creek, improvements to Commercial Street including expanded bike and pedestrian paths and landscaping as outlined in the East Side Innovation District Plan, development of a Transportation Management Association Plan to increase efficiency and effectiveness of transportation demand management for development throughout the East Side Innovation District, and a financial contribution to the City.

The City of San Carlos General Plan designates the project site as Planned Industrial, and the site is zoned Heavy Industrial (IH), under which R&D use is explicitly allowed and office use is allowed with a conditional use permit. The applicant is proposing approval under a Planned Development (PD) rezone, which would define development standards including intensity, height, setbacks, etc.

The project is located in the Stream Development and Maintenance Overlay District as defined by San Carlos Municipal Code Chapter 18.14, which sets development requirements and limitations near Pulgas Creek.

The City of San Carlos requires the following approvals and permits from the applicant for the project: Planned Development Rezoning, Planned Development Permit(s), Design Review Permit(s), Lot Merger/Lot Line Adjustment/Parcel Map (to be determined), Grading and Dirt Haul Certificate, Development Agreement (with community benefits in recognition of proposed increased development/density), Protected Tree Removal Permits, and Transportation Demand Management Program approval.

SUMMARY OF CONCLUSIONS

SIGNIFICANT AND UNAVOIDABLE IMPACTS

This EIR did not identify any impacts of the project that would remain significant following implementation of identified mitigation. The project would not result in any Significant and Unavoidable impacts.

POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

All potentially significant impacts and the identified mitigation measure to reduce those impacts are included in **Table 2.1** with less than significant impacts following. Relevant standard conditions that the City applies to all projects are listed in **Table 2.2**.

Potentially significant impacts are largely limited to construction-period disturbance, including impacts and mitigation related to construction emissions (Air-4); potential disturbance of nesting birds, (Bio-1); potential erosion and impacts to Pulgas Creek, (Bio-4a, -4b, and -4c); potential disturbance of unknown cultural, tribal cultural, and/or paleontological resources (Culture-2a, Culture-2b, GP-MM TRIB-1, and Geo-7); and potential accidental release of hazardous materials from building demolition and ground disturbance (Haz-2a and -2b).

Following construction, significant operational impacts and mitigation are related to volatile organic compound emissions (Air-3) and employee VMT (Trans-2).

As detailed in the following chapters of this EIR, all potentially significant impacts of the project would be reduced to less than significant levels through implementation of the identified mitigation measures. All other impacts would be less than significant without the need for mitigation (also included in Table 2.1).

ALTERNATIVES

Three alternatives to the project were evaluated in Chapter 19 of this EIR, including:

- The **"No Project" Alternative** representing a scenario in which the existing buildings at the project site remain in place, and the vacant area would remain vacant.
- The **"Industrial Infill" Alternative** representing a scenario in which the existing buildings at the project site remain in place, and the vacant area would be developed with light industrial projects.
- The **"Conforming with Zoning" Alternative** representing development of the entire project site, but with buildings that are consistent with zoning restrictions currently in place.

The "No Project" alternative was identified as the environmentally superior alternative, since it would result in no impacts. There would be no changes from baseline in operations, there would not be any demolition, and there would be no construction activities. However, this alternative only meets one of

the project objectives outlined in Chapter 3 of this EIR, would not provide any of the environmental benefits of the project, and continued vacancy of a portion of the site would not be enforced by any mechanism and would be unlikely to continue in perpetuity, so would be feasible only in the short term.

Under CEQA, when the "No Project" alternative has been identified as the environmentally superior alternative, it is necessary to identify another alternative that would represent the environmentally superior alternative in the absence of the "No Project" Alternative. The CEQA Guidelines require consideration of whether alternatives "avoid or substantially lessen" significant impacts of the proposed project. No significant and unavoidable impacts were identified under the proposed project. All project impacts are either less than significant or can be reduced to those levels through implementation of the mitigation contained in this Draft EIR.

Both the "Industrial Infill" Alternative and the "Conforming with Zoning" Alternative would involve construction, and would require mitigation measures related to nesting birds, the potential for runoff into Pulgas Creek, and the potential for cultural, tribal cultural or paleontological resource disturbance. Both would likely have shorter construction periods and fewer employees than the project, both would avoid work within Pulgas Creek and the two related mitigation measures, and both would avoid the need for mitigation of operational ROG emissions and construction period exhaust emissions.

The "Industrial Infill" Alternative would have the lowest employment density, would have the lowest impacts related to operations and employee vehicle use, and would therefore be the environmentally superior alternative. This alternative would meet only one of the 15 project objectives to the same degree as the project and does not meet 6 objectives at all.

Table 2.1: Summary of Project Impacts and Mitigation Measures

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
Significant and Unavoidable Impacts		
This EIR did not identify any impacts of the project that would remain significant following implementation of identified mitigation. The project would not result in any Significant and Unavoidable impacts.		
Less than Significant Impacts After Mitigation		
Impact Air-2: Construction Period Dust and Emissions. Construction activities would generate exhaust emissions from vehicles and equipment and fugitive dust particles that could affect local air quality. While the project emissions would be below threshold levels, the Bay Area Air Quality Management District (BAAQMD) considers dust generated by grading and construction activities to be a potentially significant impact associated with project development if uncontrolled and recommends implementation of construction management practices to reduce construction-related emissions and dust for all projects, regardless of comparison to their construction-period thresholds. The project's impact on air quality due to construction would be *less than significant with mitigation*.	**Air-2: Basic Construction Best Management Practices.** The project shall demonstrate proposed compliance with all applicable regulations and operating procedures prior to issuance of demolition, building or grading permits, including implementation of the following BAAQMD "Basic Best Management Practices": • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph. • All trucks and equipment, including their tires, shall be washed off prior to leaving the site. • Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel. • Publicly visible signs shall be posted with the telephone number and name of the person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints phone	Less than Significant

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
	number shall also be visible to ensure compliance with applicable regulations.	
Impact Air-3: Operational Period Emissions. Emissions from operation of the project, including site operations as well as mobile sources (e.g., employee vehicle trips) and stationary sources (e.g., emergency generators), could cumulatively contribute to air pollutant levels in the region. The project would have significant emissions of the ozone precursor pollutant reactive organic gasses (ROG) during operations. Mitigation Measure Air-3 would reduce ROG emissions such that the impact would be *less than significant with mitigation*.	**Air-3: Require Use of Super-Compliant VOC Coatings to Reduce Operational ROG Emissions.** The project shall use super-compliant volatile organic compound (VOC, i.e., ROG) coatings that are below current BAAQMD requirements (i.e., Regulation 8, Rule 3: Architectural Coatings last amended in July 2009) for at least 90 percent of all interior and exterior paints for the lifetime of the project. At least 90 percent of coatings applied must meet a "super-compliant VOC standard of less than 10 grams of VOC per liter of paint, which achieves the required reduction. This mitigation measure applies to 90 percent of coatings since there may be some special coatings required for certain aspects of the project that cannot meet this requirement.	Less than Significant
Impact Air-4: Exposure of Sensitive Receptors. During construction activities, the project could expose sensitive receptors to substantial pollutant concentrations from construction-related emissions. Specifically, the project's construction emissions could cause an excess cancer risk level exceeding 10 in one million at the maximally exposed sensitive receptor. Impacts from operational activities also contribute to the cancer risk level exceeding 10 per million, but to a much smaller degree than the construction impacts. With implementation of construction-period exhaust emission reduction, the impact would be *less than significant with mitigation.*	**Air-4: Construction Period Exhaust Emissions Reduction**. The project shall use construction equipment that has low diesel particulate matter (DPM) exhaust to minimize cancer risk and annual fine particulate matter (PM2.5) concentrations, which shall include either A or B below: A. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 emission standards. In rare cases where the use of Tier 4 equipment is not specifically available, alternatively: i. Use equipment that meets U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 70 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; and/or ii. Use electrical or non-diesel fueled equipment. B. Alternatively, the applicant can develop a plan that reduces on- and near-site diesel particulate matter emissions by 70 percent or greater. Such a plan would have to be supported by an air quality analysis from a	Less than Significant

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
	qualified air quality consultant and reviewed and approved by the City.	
Impact Bio-1: Disturbance of Nesting Birds. The removal of trees and shrubs during the February 1 to August 31 breeding season could result in the destruction of active nests or cause a disturbance that leads to nest abandonment. This could include but is not limited to species of special concern. This impact is *less than significant with mitigation.*	**Bio-1: Pre-Construction Nesting Bird Survey**. Initiation of construction activities during the avian nesting season (February 1 through August 31) shall be avoided to the extent feasible. If construction initiation during the nesting season cannot be avoided, pre-construction nesting bird surveys for each construction phase shall be conducted by a qualified biologist within 14 days before initial ground disturbance or vegetation removal for such construction phase to avoid disturbance to active nests, eggs, and/or young of nesting birds protected by the Migratory Bird Treaty Act (MBTA) and California Fish & Game Code. Surveys shall encompass the entire construction phase area and the surrounding 100 feet. An exclusion zone where no construction would be allowed shall be established around any active nests of any protected avian species found in the project site until a qualified biologist has determined that all young have fledged and are independent of the nest. Suggested exclusion zone distances differ depending on species, location, and placement of nest, and shall be at the discretion of the biologist (typically 300 feet for raptors and 100 feet for other species). These surveys would remain valid as long as construction activity is consistently occurring in a given area and shall be completed again if there is a lapse in construction activities of more than 14 consecutive days during the nesting bird season.	Less than Significant
Impact Bio-4: Indirect Impacts on Wetlands. While no wetlands occur on the project site, project activities could result in temporary and permanent effects on a Perennial Stream and jurisdictional waters. This impact would be *less than significant with mitigation.*	**Bio-4a: Protect Pulgas Creek from Construction Debris and Runoff**. Applicant shall implement the following measures to reduce construction-related impacts to Pulgas Creek: a. During construction above the top of bank, orange construction fencing backed by silt fencing and wildlife-friendly hay wattles (no monofilament netting) shall be installed along the banks of Pulgas Creek to prevent equipment from entering protected areas and to prevent fuels, lubricants, soils, de minimis fill, and other pollutants from impacting Pulgas Creek.	Less than Significant

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
	b. Construction below the top of bank shall be completed with equipment staged above the top of bank to the greatest extent feasible. If operation of small equipment below the top of bank is required, that work shall be completed in a dewatered condition and all construction debris and equipment shall be removed from the channel before returning flow to the dewatered area. c. Pill control absorbent material, for use beneath stationary equipment, shall be present on-site and available at all times. Any hazardous chemical spills shall be cleaned immediately. d. All stockpiling of construction materials, equipment, and supplies, including storage of chemicals such as fuel, oil or other substances that could adversely affect aquatic resources, shall occur outside Pulgas Creek and surrounding riparian areas. No equipment shall be washed where runoff could enter the channel. e. All refueling and maintenance of equipment, other than stationary equipment, shall occur outside the channel's top-of-bank. f. All construction debris shall be gathered on a regular basis and placed in a dumpster or other container that is emptied or removed at least on a weekly basis. g. At the end of each workday, areas of the project site that are under construction must be inspected, cleaned and secured against potential erosion, dumping, or discharge to the creek, street, gutter, or storm drains. h. The applicant shall comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2022-0057-DWQ) adopted by the SWRCB by preparing and implementing a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the requirements of the General Permit. The SWPPP must include best management practices (BMPs) specific to project construction and is subject to inspections by a Qualified Stormwater Practitioner (as defined in Order No. 2022-0057-DWQ). BMPs aim to control degradation of surface water by preventing	

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
	soil erosion or pollution discharge from the project area. These requirements shall be superseded by any conflicting and more stringent requirements set forth in any Lake or Streambed Alteration Agreement, Section 404 permit, or Section 401 water quality certification issued for the project. **Bio-4b: Implement a Dewatering and Diversion Plan.** The project applicant shall submit a Dewatering and Diversion Plan for review and approval by the City Engineer to mitigate impacts to Pulgas Creek during dewatering, and shall implement the approved Plan. The Plan shall comply, at a minimum, with the following: a. All dewatering and diversion activities shall comply with the requirements of all necessary regulatory permits and authorizations from other agencies (e.g., Regional Water Quality Control Board [RWQCB], California Department of Fish and Wildlife [CDFW], U.S. Fish and Wildlife Service [USFWS], and Army Corps of Engineers [USACE]). b. All native aquatic life (e.g., fish, amphibians, and turtles) within areas to be dewatered shall be relocated by a qualified biologist prior to dewatering, in accordance with applicable regional, state, and federal requirements. The biologist shall check daily for stranded aquatic life until the area is dewatered. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets, and by hand. Captured aquatic life shall be released immediately in the nearest appropriate downstream site. This mitigation measure does not authorize the take or disturbance of any state or federally listed species unless the applicant obtains a project-specific authorization from the CDFW and/or the USFWS, as applicable. c. If any temporary dam or other artificial obstruction is constructed to facilitate the proposed improvements, maintained, or placed in operation within the stream channel, the applicant shall ensure that sufficient water to maintain native aquatic life below the	

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
	temporary dam or other artificial obstruction is allowed to pass down channel at all times. d. Construction and operation of dewatering/diversion devices shall meet the standards contained in the latest edition of the Erosion and Sediment Control Field Manual published by the RWQCB. e. Coffer dams and/or water diversion system shall be constructed of a non-erodible material that will cause little or no siltation, such as encased sandbags, gravel bags, or inflatable bladders. Coffer dams and the water diversion system shall be maintained in place and functional throughout construction in the channel. If the coffer dams or water diversion systems fail, they shall be repaired immediately based on the recommendations of a qualified civil engineer in consultation with a qualified biologist. The devices shall be removed after construction is complete and the site is stabilized. f. Water pumped from the dewatered area shall be passed through a sediment settling device before returning to the stream channel. Velocity dissipation measures or devices are required at the outfall to prevent erosion. These requirements shall be superseded by any conflicting and more stringent requirements set forth in any LSAA, Rivers and Harbors Act Section 10 authorization, Section 404 permit, or Section 401 water quality certification issued for the project. **Bio-4c: No Net Loss of Ecological Conditions**. Prior to any work in or on the bed or bank of Pulgas Creek, the applicant shall submit to CDFW a Lake or Streambed Alteration (LSA) notification pursuant to Fish and Game Code section 1602. The Applicant shall comply with all requirements of any LSAA issued for the project, including any compensatory mitigation requirements. If CDFW issues an LSAA for the project, a copy of the fully executed LSAA shall be submitted to the City prior to initiation of any work impacting riparian habitats or Pulgas Creek. For unavoidable placement of fill in jurisdictional waters, Applicant shall ensure compliance with the Porter-Cologne Water	

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
	Quality Control Act, Section 404 of the CWA, and Rivers and Harbors Act Section 10, as applicable. Section 404 and Section 10 compliance may be accomplished by complying with the terms of any applicable Nationwide Permit, Regional General Permit, USACE-issued letter of permission or an individual permit. Applicant shall apply for a Section 401 water quality certification (permit) and waste discharge requirements (as applicable) from the San Francisco RWQCB as necessary and shall comply with any conditions or stipulations included in any Rivers and Harbors Act Section 10, Section 404 and 401 permits and waste discharge requirements and authorizations issued for the project. If work within Pulgas Creek results in a permanent net loss of aquatic resources, the Applicant shall provide mitigation to offset this impact, either through (1) the creation, enhancement, or restoration of aquatic resources onsite or off-site in an appropriate location or (2) through the purchase of mitigation credits from a USACE, RWQCB, or CDFW approved mitigation bank. The purchase of such credits shall serve as full mitigation for impacts. If project-specific creation, enhancement, or restoration of aquatic resources is implemented, these resources shall be restored, enhanced, or created at a minimum ratio of 1:1 (compensation: impact) on an acreage basis or such greater amount as otherwise required by any state or federal permitting agencies, and at a location approved by the City or as otherwise required by any state or federal permitting agencies. A qualified biologist shall develop a mitigation and monitoring plan that includes the following components (or as otherwise modified by regulatory agency permitting conditions): • Summary of habitat impacts and mitigation acreage requirements to meet the required mitigation ratio; • Goal of the restoration to achieve no net loss of habitat functions and values; • Location of mitigation site(s) and description of existing site conditions; • Mitigation design: o Existing and proposed site hydrology;	

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
	o Grading plan, if appropriate, including bank stabilization or other site stabilization features; o Planting plan; o Remedial measures and adaptive management; and • Monitoring plan, including success criteria, monitoring methods, data analysis, reporting requirements, and monitoring schedule. Success criteria shall include quantifiable measurements of riparian and aquatic vegetation type (e.g., dominance by natives), the appropriate extent for the restoration location, and the provision of ecological functions and values equal to or exceeding those in the affected by the project. At a minimum, success criteria shall include following: o At Year 5 post-mitigation, total cover or survivorship (as applicable based on mitigation design) by planted native vegetation shall be at least 75 percent. The mitigation and monitoring plan must be approved by the City and other applicable agencies prior to the creek impacts and must be implemented within 1 year after the discharge of fill into the creek. Prior to issuance of any City permits for construction, grading, or other site-disturbing activities with the potential to impact Pulgas Creek and surrounding riparian habitat, the Applicant shall provide proof to the City that any necessary permits and authorizations from the USACE, RWQCB, and CDFW have been obtained.	
Impact Culture-2: Unanticipated Discovery of Archaeologic Resources. During ground disturbing activities associated within the project site, it is possible that currently unidentified historic- or pre-historic-period archaeological resources could be discovered and disturbed. This impact is *less than significant with mitigation.*	**Culture-2a: Worker Training**. Project supervisors, contractors, and equipment operators shall participate in an Archaeological and Tribal Cultural Resource Awareness Training, conducted by a Secretary of Interior-qualified archaeologist, to become familiar with the type of artifacts and features that could be encountered during project-related ground disturbing activities, as well as the procedures to follow if cultural resources are unearthed during construction.	Less than Significant

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
	Culture-2b: Halt Construction Activity, Evaluate Find and Implement Mitigation. If archaeological or tribal cultural resources are encountered during excavation or construction, construction personnel shall immediately suspend all activity within 50 feet of the suspected resources and the City and a licensed archaeologist shall be contacted to evaluate the situation, including determine the significance of the find. If the find is potentially significant, the find shall be avoided if feasible. If avoidance is infeasible, then specific and appropriate measures that can be implemented to protect the find, in accordance with section 21083.2 of the California Public Resources Code, such as preservation in place, capping, planned open space, or data recovery, shall be required. Work near the find can resume when a licensed archeologist, in conjunction with the City, has determined that such work no longer could adversely affect the find.	
Impact Geo-7: Paleontological Resources. During ground disturbing activities associated within the project site, it is possible that currently unidentified paleontological resources could be discovered and disturbed. This impact would be *less than significant with mitigation.*	**Geo-7: Halt Excavation, Evaluate Find and Implement Mitigation**. Should any unknown fossils or fossil-bearing deposits be discovered during grading, trenching, or other on-site excavation(s), earthwork within 50 ft of these materials shall be stopped until a qualified paleontologist has an opportunity to document the find as needed (in accordance with Society of Vertebrate Paleontology standards [Society of Vertebrate Paleontology 1995]), evaluate the potential significance of the resource under the criteria set forth in CEQA Guidelines Section 15064.5, and notify the appropriate agencies to determine the procedures that would be followed before construction activities would be allowed to resume at the location of the find. If avoidance is not feasible, the paleontologist shall prepare an appropriate excavation plan to mitigate the effect of project construction on the find, subject to review and approval by the City prior to implementation, and all construction activity shall adhere to the recommendations in the excavation plan.	Less than Significant
Impact Haz-2: Accidental Release of Hazardous Materials. Portions of the project site contain contaminated soil and groundwater from historical uses. Demolition of existing buildings during	**Haz-2a: Compliance with Removal Action Workplan, Groundwater Remedial Action Plan, and Regulatory Agency Requirements.** The applicant shall demonstrate proposed compliance with agency requirements related to	Less than Significant

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
construction could expose the public or construction workers to hazardous materials. The impact related to accidental release of hazardous materials would be *less than significant with mitigation.*	known contamination in the soil, groundwater, and vapor, including the Removal Action Workplan and Groundwater Remedial Action Plan, prior to initiation of construction activities and shall demonstrate compliance with any agency-required post-construction requirements prior to occupancy. The Groundwater Remedial Action Plan covers the former Kelly Moore portion of the project site and includes the following: • Installation and monitoring of three shallow groundwater monitoring wells in the central part of the impacted area. • Continued groundwater monitoring of the existing site groundwater monitoring well network in the southeastern area. • Groundwater remediation. • Evaluation of vapor intrusion mitigation measures for the three future occupied buildings on the former Kelly Moore sites. **Haz-2b: Lead-Based Paint, Asbestos, and Mold Abatement.** Prior to demolition, the applicant shall demonstrate that buildings have been assessed for asbestos-containing materials and lead-based paint, and during demolition, any suspected such materials have been abated by a licensed abatement contractor and disposed of according to all state and local regulations.	
Impact Hydro-3: Potential for Erosion and Siltation. Erosion and siltation can occur during construction activities and along creeks. The project's preparation and implementation of a Stormwater Control Plan and Stormwater Facility Operation and Maintenance Plan, as well as stabilizing the banks of Pulgas Creek, would reduce the potential for erosion or siltation. This impact would be *less than significant with mitigation.*	**Mitigation Measures Bio-4a and Bio-4b** detailed in Chapter 6: Biological Resources would be applicable to Impact Hydro-3 as well.	Less than Significant
Impact Trans-2: Vehicles Miles Traveled. The VMT per project employee would exceed the City's adopted threshold of 15 percent below the Countywide average if employee trips were not reduced. With successful implementation of a TDM program, the VMT per	**Trans-2: Implementation of Transportation Demand Management Program for Vehicle Miles Traveled Reduction.** A TDM Plan shall be prepared prior to any building occupancy that includes a description of the TDM measures listed in Municipal Code section 18.25.040 to be implemented such that it achieves the code-	Less than Significant

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
employee would be brought more than 15 percent below the Countywide average. This impact is *less than significant with mitigation.*	required 20% trip reduction on a daily, AM peak hour, and PM peak hour basis, and reduces average VMT per service population to 14.5 or lower, and includes, at a minimum, the following elements: 1. The project applicant will designate an on-site Transportation Coordinator that will be responsible for implementation of the TDM Plan, including providing relevant TDM trip reduction and program information to all employees on site, and arranging for independent annual monitoring and employee surveys. 2. The project applicant and the project's Transportation Coordinator will be responsible for ensuring that the TDM Plan is implemented each year and an annual monitoring report is submitted to the City of San Carlos. 3. The Transportation Coordinator shall facilitate a site inspection by City staff to confirm that all approved physical measures in the project's TDM Plan have been implemented and/or installed prior to the first and any subsequent certificates of occupancy that include physical TDM features or as a part of annual monitoring if new physical TDM features have been indicated in the plan since the last site inspection. 4. The TDM Plan monitoring will be conducted per Municipal Code Section 18.25.080. Annual reporting of the effectiveness of the measures will verify if the implemented TDM measures are effective and achieving the vehicle trip and VMT reduction goals. As required by Section 18.25.080, a five-year review shall evaluate the overall effectiveness of all of the TDM activities and may suggest new or modified activities or substitute activities to meet the program's objectives, per the Community Development Director's review and approval. The Director may impose reasonable changes to assure the program's objectives will be met. 5. Consistent with common traffic engineering data collection principles, to ensure that trip reduction measures are meeting the requirements of the City's TDM ordinance, traffic conditions will be monitored annually by means of daily and AM and PM commute	

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
	hour driveway counts at each project access point. The counts will include daily as well as peak hour traffic counts to be conducted between 7:00 AM and 9:00 AM and between 4:00 PM and 6:00 PM on three non-consecutive days per year on typical weekdays (Tuesday, Wednesday, or Thursday) during the fall when school is in session. Mechanical tube counts, hand counts, or video counts may be used. The peak 60-minute period will be calculated for each two-hour traffic count period. 6. An annual employee survey will be conducted by an independent consultant to determine employee transportation mode choice (e.g., drive alone, carpool, bus, Caltrain, etc.). This annual commuter survey should be formatted as a general survey including non-transportation questions (e.g., satisfaction with property management, activities, etc.) to increase the response rate. 7. The project's Transportation Coordinator will work with an independent consultant to obtain traffic count data, implement the annual employee commuter surveys, and document all findings in a TDM monitoring report. The annual monitoring report will be submitted to the City of San Carlos by the Transportation Coordinator. The TDM Plan monitoring data will be reviewed by the City to assess whether the vehicle trip and VMT reduction goals are being met. This will be assessed by comparing the driveway counts to the trip targets of this TDM plan report. 8. For the life of the project, upon occupancy of any portion of the project site, a monitoring form must be completed and approved for the entire site on an annual basis to verify that both vehicle trip and VMT reduction goals are being achieved. If the annual monitoring report shows that the applicable targets have not been achieved for the project, the applicant shall submit a list of TDM Plan modifications to the Community Development Director for approval within 60 calendar days of the report submittal. The Community Development Director shall review the list of modifications and may also recommend modifications to the TDM Plan, as appropriate, in order to ensure that the	

Potentially Significant Impacts	Mitigation Measures	Resulting Level of Significance
	applicable targets are achieved. Upon approval of the requested changes, the applicant shall have 30 calendar days to implement the approved measures. The applicant shall then submit a follow-up monitoring report within six months of implementation of the new measures. 9. If the project continues to not achieve the applicable targets, the City may require the applicant to enact other measures as appropriate to achieve the vehicle trip and VMT reduction goals. 10. The TDM Plan monitoring will include documentation of the total number of vehicle trips accessing the site on a daily basis as well as a mode split survey of building occupants used to estimate the site specific VMT per service population. The exact methodology for the monitoring plan must be reviewed and approved by City staff prior to the first monitoring period	
Impact Tribal-1: Tribal Cultural Resources. During ground disturbing activities associated within the project site, it is possible that currently unidentified tribal cultural resources could be discovered and disturbed. This impact is *less than significant with mitigation*.	**Mitigation Measures Culture-2a and Culture-2b** detailed in Chapter 7: Cultural Resources would be applicable to Impact Tribal-1 as well. **GP-MM TRIB-1: Consider all Native American Archaeological Discoveries to be Significant Resources**. All Native American artifacts (tribal finds) shall be considered as a significant Tribal Cultural Resource, pursuant to PRC 21074 until the lead agency has enough evidence to make a determination of significance. The City shall coordinate with an archaeologist who meets the U.S. Secretary of the Interior's Professional Qualifications, as well as an appropriate tribe or tribes, as determined by the NAHC, to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing and analysis. An archaeological report shall be written detailing all archaeological finds and submitted to the City and the Northwest Information Center.	Less than Significant

Less than Significant Impacts (No Mitigation Required)
Impact Air-1: Consistent with Bay Area 2017 Clean Air Plan. The project would not obstruct or conflict with any of the primary goals of the Bay Area 2017 CAP and would support applicable control measures. This would be a *less than significant* impact.
Impact Bio-2: Bird Collisions. While the proposed development would add structures that could present a risk of bird collisions as they travel across the site between surrounding habitats, the specific design of the proposed structures, including the lack of extensive glazing elements, would minimize this risk below levels where it could substantially impact sensitive species. This is a *less than significant* impact.
Impact Bio-3: No Loss of Valuable Riparian Habitat. Current conditions along the banks of Pulgas Creek on the project site do not contain a sensitive vegetation community or high habitat value. This is a *less than significant* impact.
Impact Bio-5: Tree Removal. The proposed development as well as vegetation management activities would result in the removal of 92 trees, some of which qualify as "Significant Trees" under the City's Municipal Code. However, the applicant is required to comply with the City's regulations, including the need for permits and payment of fees as appropriate and would therefore not conflict with local policies. This is a *less than significant* impact.
Impact Culture-1: Removal of Historic Age Structures. Construction activities include demolition of structures over 50 years old. However, historic assessment concluded that these structures would not be eligible for listing as historic resources and therefore the impact with respect to removal of historic age buildings would be *less than significant*.
Impact Culture-3: Unanticipated Discovery of Human Remains. During ground disturbing activities associated within the project site, it is possible that currently unidentified human remains could be discovered and disturbed. The project would be required to comply with applicable regulations of the California Health and Safety Code specifying appropriate handling of human remains and this impact is *less than significant*.
Impact Energy-1: Increased Energy Consumption. The project would have an incremental increase in the demand for energy given the increase in development on the project site compared to existing conditions. However, the project would be more energy efficient than the existing buildings and would not violate applicable federal, state and local statutes and regulations relating to energy standards. Additionally, development at the project site is required to meet or exceed applicable energy efficiency standards. The project would have a *less than significant* impact related to energy.
Impact Energy-2: Consistency with Plans for Renewable Energy and Energy Efficiency. The project would not conflict with a State or local plan for renewable energy or energy efficiency. The project would have a *less than significant* impact relating to consistency with energy-related plans.
Impact Geo-1: Seismic Ground Shaking. There is a high probability that the proposed development would be subjected to strong ground shaking from an earthquake during its design life. The project would be required to comply with a Design-level Geotechnical Investigation and Structural Design Plans per standard conditions and the impact of the project with respect to strong seismic ground shaking would be *less than significant*.
Impact Geo-2: Seismic Ground Failure, including Liquefaction, Densification, and Differential Settlement. Site-specific analysis has determined that soils at the site have potential for liquefaction, and there is a low potential for densification (seismic settlement/saturated sand shaking) or lateral spreading to occur at the site. The project would be required to comply with a Design-level Geotechnical Investigation and Structural Design Plans per standard conditions and the impact of the project in this context would be *less than significant*.
Impact Geo-3: Seismically-induced Landslides. Site-specific analysis has determined that the slope of Pulgas Creek at the project site is stable. The impact of the project with respect to seismically induced landslides would be a *less than significant* impact.

Less than Significant Impacts (No Mitigation Required)
Impact Geo-4: Soil Erosion. Grading and other construction activities would be required to comply with local regulations, and soil erosion after construction would be controlled with approved landscape plans. This would be a *less than significant* impact.
Impact Geo-5: Unstable Geologic Unit. The project site was found to have settlement potential of several inches to several feet under the weight of new fill and project buildings. The project would be required to comply with a Design-level Geotechnical Investigation and Structural Design Plans per standard conditions and the project's impact would be *less than significant*.
Impact Geo-6: Potentially Expansive Soils. The project site was found to have moderate to high expansion potential of existing near surface soils that can be susceptible to substantial differential movement resulting in damage to structures, concrete slabs, retaining walls, pavements, sidewalks and other improvements. The project's impact with respect to expansive soils would be *less than significant.*
Impact GHG-1: Increased GHG Emissions. Construction and operation of the proposed project would be additional sources of Greenhouse Gas (GHG) emissions, primarily through consumption of fuel for transportation and energy usage on an ongoing basis. However, the GHG emissions level would be below applicable significance thresholds and would therefore be a *less than significant* impact.
Impact GHG-2: Compliance with GHG Reduction Plans. The project would be compliant with applicable measures of the Clean Air Plan, Plan Bay Area 2050 and the City of San Carlos' Climate Mitigation and Adaptation Plan, and would therefore be a *less than significant* impact.
Impact Haz-1: Routine Use of Hazardous Materials. With compliance with applicable regulations, the project would not expose employees, the nearby public, or the environment to significant hazards due to the routine transport, use, disposal, or storage of hazardous materials (including chemical, radioactive and biohazardous waste). This impact would be *less than significant*.
Impact Haz-3: Development within Airport Land Use Plan Boundaries. The proposed project is located within the Airport Land Use Plan boundaries of San Carlos Airport, but the project would comply with applicable regulations including required consultation with the Federal Aviation Administration prior to construction and would not result in a safety hazard for people residing or working at the project site. This impact would be *less than significant*.
Impact Haz-4: Temporary Construction Obstructions. The proposed project would not result in permanent changes to the roadway system or otherwise result in changes to area emergency response or evacuation plans. No substantial construction-period roadway obstruction is planned and any temporary construction obstructions would follow appropriate procedures. This impact would be *less than significant.*
Impact Hydro-1: Potential for Contaminated Runoff. Runoff can carry sediment and contamination from the site if not properly controlled and treated. Project activities would be required to follow an approved SWPPP to prevent contaminated runoff from entering Pulgas Creek for both the construction phase and on-going operation of the project. Design requirements would address the increased erosion potential caused by construction activities and increased runoff that could result in the sedimentation of receiving waters. This would be a *less than significant* impact.
Impact Hydro-2: No Substantial Effect on Groundwater. The project involves redevelopment of a fully-developed site and would not directly utilize groundwater. Project construction and operation would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. This would be a *less than significant* impact.
Impact Hydro-4: Need to Control Runoff and Flood Flows. Much of the project site is located in a flood zone and subject to periodic seasonal flooding from Pulgas Creek. Redevelopment of the site would alter on-site drainage patterns, but the project has been designed to protect on-site development without exacerbating off-site flooding conditions. This impact would be *less than significant*.

Less than Significant Impacts (No Mitigation Required)
Impact Hydro-5: Contribute to the Stormwater System. Redevelopment of a site can result in changes to runoff and use of stormwater system capacity. With compliance with applicable regulations and implementation of the proposed on-site stormwater system, the project would not increase flows to the off-site stormwater system. This impact would be *less than significant*.
Impact Hydro-6: Development within a Flood Hazard Zone. Much of the project site is located in a flood hazard zone. However, the project includes features to reduce the risk of on-site flooding and related risk of pollutant release. This impact would be *less than significant*.
Impact Hydro-7: Compliance with Water Plans. Construction and operation of the project would follow all required water quality and groundwater management regulations. This impact would be *less than significant.*
Impact Noise-1: Temporary Construction Noise. Existing noise-sensitive land uses would be exposed to temporary noise due to project construction activities, but these would not exceed levels expected to cause adverse community reaction and would not represent a substantial increase over ambient noise levels. This is a *less than significant* temporary noise impact.
Impact Noise-2: Permanent Noise Level Increase. The proposed project would result in permanently increased ambient noise levels, but the increases would not be substantial at the noise-sensitive receptors in the project vicinity and operational noise levels generated by the proposed project would not exceed applicable standards established by the City of San Carlos. This is a *less than significant* impact.
Impact Noise-3: Exposure to Groundborne Vibration. Office and/or R&D uses are not a source of substantial operational vibration and construction-related vibration levels at the project site would not exceed 0.3 in/sec PPV at the existing structures. This is a *less than significant* impact.
Impact Noise-4: Excessive Aircraft Noise. The project site is located approximately 1000 feet from San Carlos Airport and approximately 9 miles from San Francisco International Airport. The noise environment attributable to aircraft from both these airports is considered normally acceptable for the proposed commercial use. This is a *less than significant* impact.
Impact Pop-1: Induce Indirect Population Growth. The project would result in increased employment opportunities and therefore contribute to indirect population growth. However, the project is identified in and/or consistent with relevant City and regional plans. The project's impact related to substantial unplanned population growth would be a *less than significant* impact.
Impact Trans-1: Increased Demand for Transit, Bicycle, and Pedestrian Facilities. The project would improve pedestrian and bicycle facilities at the site and while it would result in increased use of bicycle, pedestrian, transit, and roadway facilities, it would not conflict with applicable plans and policies. This is a *less than significant* impact.
Impact Trans-3: Meets Safety Standards. The proposed project would not substantially increase hazards due to a geometric design feature or incompatible uses. This is a *less than significant* impact.
Impact Trans-4: Adequate Emergency Access. The design of the project would meet all applicable City and safety standards related to circulation and emergency access and would not result in inadequate emergency access for the surrounding environment. This is a *less than significant* impact.
Impact Util-1: Increased Utility Demand. While the proposed project would lead to an increase in utility demand at the site, the project would utilize existing service systems, including some localized improvements, and is not by itself of sufficient size to require new or expanded off-site utility facilities. Therefore, the impacts related to increased utility demand would be *less than significant*.
Impact Util-2: Increased Water Demand. The project's water demands would not exceed water supplies available to serve the project, and there are sufficient water supplies to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. This impact would be *less than significant*.

Less than Significant Impacts (No Mitigation Required)
Impact Util-3: Increased Wastewater Collection and Treatment. The proposed project would not exceed wastewater collection or treatment capacity. The impact related to wastewater would be *less than significant.*
Impact Util-4: Increased Solid Waste Production. Construction and operation of the proposed project would be expected to be in full compliance with all federal, state, and local statutes and regulations related to solid waste. The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would not conflict with applicable solid waste management and reduction statutes. The project would have a *less than significant* impact in relation to solid waste.

Table 2.2: Standard Conditions

Standard Conditions
Standard Condition: Exterior Materials. Pursuant to San Carlos Municipal Code Chapter 18.29, the colors and materials of the structure and improvements shall be in substantial compliance with those presented and described within the application materials. Any changes determined to be significant as determined by the Community Development Director shall be reviewed and approved by the Planning Commission.
Standard Condition: Exterior Lighting Plan. Pursuant to San Carlos Municipal Code Chapter 18.29, a final exterior lighting plan with specifications in conformance with the approved plans is subject to review and approval by the Planning Division prior to Building Permit issuance.
Standard Condition: Signage. New signs are subject to compliance with San Carlos Municipal Code Chapter 18.22. No signs have yet been approved as part of this project. Any signs that are visible from U.S. Highway 101 shall require approval by the Planning Commission.
Standard Condition: Protection of Trees. Pursuant to San Carlos Municipal Code Sections 18.18.070 and 18.41.020, the project proponent shall obtain a permit to remove any tree(s) protected under the City's Interim Protected Tree Ordinance, as determined by an arborist, and shall also prepare a tree protection plan that includes a map of the tree protection zone and is included in the construction drawings and bid package. Removed trees will be replaced in accordance with the ordinance at the discretion of the Community Development Director. If any removed trees are within the jurisdiction of California Department of Fish and Wildlife (CDFW), and CDFW issues a Lake and Streambed Agreement for the project, the tree replacement ratios shall comply with CDFW requirements.
Standard Condition: Protection of Human Remains. If human remains are unearthed during ground-disturbing activities, Section 7050.5(b) and (c) of the California Health and Safety code will be implemented. Section 7050.5(b) and (c) states: (b) In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the PRC. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. (c) If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those

Standard Conditions
of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC. [In which case, section 5097.98 of the California PRC would apply.]
Standard Condition: Compliance with Design-level Geotechnical Investigation and Structural Design Plans. Consistent with plan check procedures for Building Permit consideration and Section 12.80.060 of the San Carlos Municipal Code, proper foundation engineering and construction shall be performed in accordance with the recommendations of a Registered Geotechnical Engineer and a Licensed Professional Engineer. The structural engineering design, with supporting Geotechnical Investigation, shall incorporate seismic parameters compliant with the California Building Code.
Standard Condition: Stormwater Control Plan. A stormwater and drainage control plan shall be prepared and implemented in compliance with the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), Provision C.3 of the County's Municipal Regional Stormwater NPDES Permit and any other required provisions of the City of San Carlos Municipal Code. The plan shall specify best management practices for the control and prevention of stormwater pollution. The plan shall address both construction-phase and post-construction pollutant impacts from development. Construction-phase measures shall include: erosion control measures such as installing fiber rolls, silt fences, gravel bags, or other erosion control devices around and/or downslope of work areas and around storm drains prior to earthwork and before the onset of any anticipated storm events; monitoring and maintaining all erosion and sediment control devices; designating a location away from storm drains when refueling or maintaining equipment; scheduling grading and excavation during dry weather; and removing vegetation only when absolutely necessary. Post-construction drainage controls shall be specified to capture and treat stormwater onsite.
Standard Condition: Construction Noise. Construction Activities shall comply with the City's noise ordinance (Chapter 9.30 of the San Carlo Municipal Code), which includes restriction of construction activities to the hours of 8:00 AM to 5:00 PM on weekdays, and 9:00 AM to 5:00 PM on Saturdays.
Standard Condition: Transportation Demand Management (TDM). Pursuant to Chapter 18.25 of the City of San Carlos Municipal Code and San Mateo County Congestion Management Program Land Use Implementation Policy (C/CAG TDM Policy), a Transportation Demand Management Plan shall be implemented for the life of the project as presented to and approved by the Planning and Transportation Commission. The owner and/or future tenants shall be responsible for supplying Planning Staff with the contact information for the Designated TDM Contact person. A report documenting the TDM activities undertaken and their results shall be submitted to the Community Development Director annually at the responsibility of the applicant. The Director may impose reasonable changes to assure the program's objectives will be met. The owner and/or future tenants shall be responsible for ensuring that C/CAG TDM Policy requirements and monitoring and reporting are met. As new, more efficient and effective TDM measures become available to reduce vehicle trips, these measures may be included or substituted to maintain the trip reduction levels described in the Plan. Any such substitutions shall be to the satisfaction of the Community Development Director. Any changes determined to be substantive or inconsistent with the TDM Plan by the Community Development Director shall require review and approval by the Planning and Transportation Commission.

3

PROJECT DESCRIPTION

Note that **Figures 3.1 through 3.7c** are included together at the end of this chapter (pages 3-12 through 3-20).

PROJECT APPLICANT

The project applicant is ARE-San Francisco No. 88, LLC.

PROJECT OBJECTIVES

The applicant has identified the following objectives for the Alexandria Center for Life Science Project in coordination with the City of San Carlos:

1. Create state-of-the-art research and development facilities consistent with the General Plan designation of the site and General Plan goals and policies, including Policy LU-1.2, which aims to support additional job growth within the Transit Oriented Development corridor while being sensitive to surrounding uses, and LU-6.6, which encourages new development on the East Side to feature high quality architecture.

2. Support the implementation of the East Side Innovation District Vision Plan to establish a well-connected, multi-modal neighborhood that integrates existing businesses with new science and technology uses and offers a rich array of community amenities for a more resilient and inclusive future.

3. Allow for redevelopment of an underutilized site at a higher density than its current use to take advantage of the opportunities offered in the East Side Innovation District to create a vibrant research and development campus.

4. Provide a positive fiscal impact on the local economy through the creation of jobs, enhancement of property values, and generation of property tax and other fees.

5. Create a high-quality commercial campus development to enhance and expand San Carlos' emerging position as a center for science and technology businesses.

6. Contribute to a functional green boulevard along Industrial Avenue that establishes a sense of place and creates a welcoming public realm consistent with the goals of the East Side Innovation District Vision Plan.

7. Manage and reduce flooding risks in the area through the increase of permeable landscaped areas and provision of stormwater retention features including for Pulgas Creek overflows.

8. Contribute to increased community recreation, and multi-modal connectivity through inclusion of on-site publicly accessible open spaces, a trail along Pulgas Creek, and improved pedestrian and bicycle circulation onsite and on adjacent streetscapes.

9. Encourage multi-modal travel via pedestrian and bicycle improvements to adjacent roadways and the tunnel to Arroyo Avenue, and establishment of robust transportation demand management.
10. Contribute to improvement of the ecological conditions near and in Pulgas Creek, including the quality of water entering the Creek from the project site.
11. Reduce vehicle miles travelled by locating jobs near transit.
12. Provide sufficient space for tenants to employ key scientific and business personnel in proximity to each other to foster efficient collaboration and productivity.
13. Incorporate flexibility as to permitted office and research and development uses to ensure that the project is responsive to tenant demands based on market conditions.
14. Provide for a development that can be phased to meet market demands.
15. Allow for the continued operation of existing light industrial uses until new development occurs.

LOCATION AND VICINITY OF THE PROJECT

PROJECT SITE

The approximately 25.34-acre site is bounded by Industrial Road to the east, Commercial Street to the north, Old County Road to the west, and Pulgas Creek to the south. The site includes the following addresses: 900 and 960 Industrial Road; 961- 967, 987, 1003, 1011, 1015, 1057 and 1075 Commercial Street; and 915, 921, 1015, 1055 and 1063 Old County Road (Assessor's Parcel Numbers 046-162-010, -210, -270, -280, and -290; and 046-184-090, -110, -120, -280, -290, and -300). **Figure 3.1** shows the project location.

Regional access to the site is provided primarily from U.S. 101 via a full interchange at Holly Street to Industrial Road or Old County Road. There is an additional southbound interchange at Brittan Avenue, which also intersects with both Old County Road and Industrial Road.

The project site is in a Transit Priority Area, as defined by California Public Resource Code, Section 21099. It is approximately 0.5 miles from the San Carlos Multi-Modal Transit Center which includes the San Carlos Caltrain Station. The project is an Employment Center Project as defined by California Public Resources Code, Section 21099.

The project site is relatively level, with elevations above mean sea level from 10 to 17 feet above mean sea level, with the higher grade toward Old County Road. Groundwater is estimated at 11.7 to 4.5 feet below ground surface.

Potions of the site are impacted by contamination from historic uses, mostly from Kelly Moore products and solvents. Impacted soil has been removed, and groundwater remediation has been completed, but soil vapor monitoring activities are ongoing. See Chapter 11: Hazards and Hazardous Materials for more details.

EXISTING USES

The site currently contains various industrial, office, and commercial buildings along with associated surface parking. **Figure 3.2** shows the existing conditions at the site. Existing buildings total 232,068 square feet, including approximately 50,256 square feet of warehouse space and 181,812 square feet of office space. These uses are considered the baseline conditions for the environmental analysis of project impacts throughout this EIR.

The buildings on the former Kelly Moore property were approved for removal as a separate action prior to this project and have been demolished. Therefore, for purposes of this analysis, the removal of those buildings is not considered a part of the current project and no existing use of these buildings is included in the baseline for project impact analysis. This includes buildings e through o and q, r, and s (as tagged on the existing site plan included as Figure 3.2 on page 7) encompassing the Phase 1 area and a portion of the Phase 2 area.

SURROUNDING USES

The project site is located adjacent to industrial and warehousing uses to the north, east, and south, with some office/research and development (R&D) buildings in the pipeline or under construction. The surrounding industrial uses range from one to three stories and often have setbacks from the street and large surface parking areas. The underway office/R&D developments are often more campus-like and will have underground or structured parking and open space amenities. Road and elevated train corridors are adjacent to the project to the west, providing a buffer of over 250 feet to the development on the far side of El Camino Real, which includes retail, hotel/motel, and mixed-use residential development. Diagonally across from the project site is an office/R&D facility owned by the same applicant group, consisting of two buildings and one parking garage. That facility, located at 825-835 Industrial Road, is expected to operate in coordination with the project.

The closest residential uses to the project are the 1001 Laurel Street mixed-use residential building approximately 300 feet to the west, with single family homes beyond in the direction starting about 600 feet from the project site. The Greater East San Carlos neighborhood has single family homes located approximately 1,300 feet to the north of the project site.

The San Carlos Airport is located approximately 1,000 feet to the northeast of the project on the other side of U.S. 101.

SITE GENERAL PLAN AND ZONING

The City of San Carlos General Plan designates the project site as Planned Industrial, and the site is zoned Heavy Industrial (IH), under which R&D use is explicitly allowed and office use is allowed with a conditional use permit. The applicant is proposing approval under a Planned Development (PD) rezone, which would define development standards including intensity, height, setbacks, etc.

Per Chapter 18.36 of the San Carlos Municipal Code, a Planned Development can be approved when the proposed development is demonstratively superior to the development that could occur under the standards applicable to the underlying base district, and will achieve superior community design, environmental preservation and/or substantial public benefit.

The project is located in the Stream Development and Maintenance Overlay District as defined by San Carlos Municipal Code Chapter 18.14, which sets development requirements and limitations near Pulgas Creek.

CITY OF SAN CARLOS EAST SIDE INNOVATION DISTRICT VISION PLAN

In October 2021, the City of San Carlos approved the East Side Innovation District Vision Plan to guide the changes occurring in the East Side District including the multiple proposed development projects in the planning stages within that area. The Vision Plan is not a regulatory document but is discussed because it presents the intended direction for future regulatory planning efforts. The goal of the Vision Plan is to help shape infrastructure, urban design, transportation circulation management and mobility, service provision, open space, community facilities, present and future land uses, and economic development, and establish a framework for community benefits. The Vision Plan covers an area of

150-acres, bounded by Holly Street, Brittan Avenue, Old County Road, and U.S. 101. At the time of the Vision Plan publication, two new projects had completed construction, and eight additional projects were proposed in the East Side Innovation District, including this Alexandria Center for Life Science project.

The Vision Plan incorporates its goals and principles into ten strategies, or "10 Big Moves":

1. Establish Industrial Road as a green boulevard.
2. Establish an open space network.
3. Promote environmental stewardship.
4. Integrate recycled water infrastructure.
5. Support distinct District subareas.
6. Prioritize activity hubs.
7. Foster an inclusive business environment.
8. Invest in multi-modal streets.
9. Reduce congestion through coordinated transportation.
10. Adopt a shared District parking strategy.

DESCRIPTION OF THE PROJECT

BUILDINGS AND MASSING

The project sponsor is proposing to demolish all remaining existing buildings and to construct a new office/R&D campus with a total of approximately 1,734,532 square feet of building space (the usable square footage or "Usable Floor Area" of which is approximately 1,614,918 as calculated per San Carlos Municipal Code section 18.03.080), two above-grade parking structures (not included in the office/R&D square footage), ground level open space, pedestrian and bicycle connections, landscaping, and circulation/parking elements. A Conceptual Site Plan is included as **Figure 3.3**.

The proposed campus-like development includes six life science office/R&D buildings (referred to as B1 through B6), one centrally located amenity building (B7), two parking garages (PG1 and PG2), and publicly-accessible open space and amenities, including enhancement of the Pulgas Creek corridor along the project site's southern boundary by stabilizing the banks, removing invasive plant species adding native plants, and improving the stormwater infrastructure, as described in more detail under the Pulgas Creek subheader below. The amenity building (B7) could include a combination of amenities for campus tenants, including meeting space and/or active recreation, which could possibly be open to public use after hours and on weekends. At the applicant's election, the amenity building might include a childcare center, which also could be open to the public. However, as the most intensive potential use of the building, childcare was used in this EIR analysis for the most conservative results, meaning the highest impact results.

The office/R&D buildings would be at grade, five to seven stories tall, and vary in height from about 80 to 116 feet. Each of the six office/R&D buildings would have a 2.0 MW emergency generator to support building life-safety systems. Space would be provided for a future emergency generator, up to 1.5MW in capacity. Both generators would be installed in the walled service yard adjacent to the building they serve. A fitness center and bicycle parking and repair shop, both intended for tenant use, are conceptually planned in Phase 1and could be incorporated into the ground level of PG1, fronting Old County Road. The parking garages would include approximately 3,200 parking spaces in seven

and eight levels of parking, respectively, including a rooftop and a basement level and reach heights of between approximately 59 and 70 feet. The central amenity building (B7) would be one or two-stories with a maximum height of approximately 30 feet. Figure 3.3 shows conceptual building sections to the side of the Illustrative Site Plan, **Figure 3.4** shows a conceptual massing model and conceptual building elevations.

The project proposes high-quality architecture in a cohesive campus. Each building is intended to complement each other in terms of scale, pedestrian and vehicular circulation, and distribution of functions throughout the campus. Materials could vary for each building, but common features proposed include:

- Curtainwall facades featuring high-performance energy-efficient glass.
- Metal panels with durable high-quality coatings that resist corrosion and color fade.
- Concrete or cementitious panels that add texture and color to the building exteriors.
- Architectural grade metal roof screens to conceal rooftop equipment.
- Wayfinding and signage design that is consistent throughout the campus.

Buildings have been designed to meet USGBC LEED Gold certification, a benchmark of sustainability and quality in new construction.

Sustainability Features

The proposed project would be designed to enhance resource efficiency and ensure good indoor environmental quality, as well as reduce energy consumption, water consumption, and waste generation. Examples of the proposed sustainability measures include low-flow shower heads, aerators, and toilets; Energy Star–rated appliances; electric vehicle charging spaces (EVCS); and a waste diversion program that would separate compost, bottles/cans, paper and cardboard, and landfill materials. Proposed design elements, such as connectivity with shuttles and bicycle parking and bike repair, would encourage alternative transportation modes. The project would be designed to meet the standards of the San Carlos Municipal Code and applicable CALGreen building requirements. In addition, the project would be designed to meet LEED Gold certification, meet WELL Building Standard certification preconditions, and achieve Fitwel certification for base buildings.[1,2] Furthermore, the proposed project is designed to have all-electric infrastructure and appliances (but may have "point of use" natural gas for R&D purposes). The proposed parking garages are designed to accommodate future installation of rooftop solar photovoltaic arrays. The proposed project would also be designed to conserve resources and protect water quality through the management of stormwater runoff as part of green infrastructure through low-impact development (LID). This approach implements engineered controls to allow stormwater filtering, storage, and flood control. Biotreatment areas would be located adjacent to the proposed buildings.

[1] WELL Building Standard is a set of strategies that aim to advance human health through design, and operational protocols and policies, focusing on air, water, nourishment, light movement, thermal comfort, sound, materials, mind, and community.

[2] The Fitwel standards include evidence-based design and operational strategies that enhance a building's environment for its occupants. The Fitwel standards have seven health impact categories for evaluating a building, including, but not limited to, access to healthy food, opportunities for physical activity, and promotion of occupant safety.

Landscaping

The proposed project includes a large publicly-accessible green space, central to the campus, with outdoor amenity spaces adjacent to each of the proposed buildings. These amenity spaces would include landscaping, outdoor gathering, and seating areas. In addition, the project would include new landscaping and pathways along the perimeter of the site along Industrial Road, Commercial Street, Old Country Road, and Pulgas Creek. The proposed project would include approximately 210,000 square feet of planted landscaped areas (not accounting for the proposed biotreatment areas, discussed below) and approximately 320,000 square feet of usable landscaped areas, for a total of 530,000 square feet of planted and usable landscaped areas at full build-out. In addition, the proposed project would include bioswale water treatment areas adjacent to each building. The bioswale areas would total an additional 37,500 square feet. The proposed project would include over 500 newly planted trees, more than double the 221 trees required by San Carlos Municipal Code.

Lighting

The proposed project includes site lighting to create a safe and welcoming environment throughout the campus. Light fixtures throughout the campus would be energy efficient LEDs with ground-facing diffusers to minimize light pollution towards the sky. Streetlights would be provided along roadway perimeters for vehicular and sidewalk circulation with special consideration of maintaining City of San Carlos standard streetlights along Old County Road. Within the campus, pathways, outdoor gathering, and select landscape areas would be illuminated with a combination of ambient and accent lighting that would be cohesive with the landscape and building architecture. Light levels would meet code required light levels for egress and safety of occupants.

Bird-Safe Design

The proposed project is designed to be bird friendly by minimizing clear glazing. For example, the parking garage facades would be predominantly opaque with only limited use of glazing. The glass on the building facades would be low-reflective glazing (<15% reflectance) and the buildings would include features that reduce the extent of transparent glazing that can be seen as a clear path, such as opaque wall panels, screens, spandrel glazing, and perforated metal panels. The buildings also include features that make them appear solid from a distance, including mullions, shadow boxes, fins, and overhangs. The design further includes walled service areas adjacent to several of the buildings that separate landscape vegetation and trees from glazed facades. Finally, the proposed project would minimize the vegetation that could act as an attractant to birds along potentially dangerous flight paths, including in between most buildings and adjacent to transparent glass corners.

Community Benefits

The applicant has proposed the following community benefits in conjunction with the project:

- Off-site creek improvements along the southern side of Pulgas Creek
- Creekside Bike and Pedestrian Trail along the northern side of Pulgas Creek.
- Improvements to Commercial Street including expanded bike and pedestrian paths and landscaping as outlined in the East Side Innovation District Plan
- Development of a Transportation Management Association Plan to increase efficiency and effectiveness of transportation demand management for development throughout the East Side Innovation District
- Financial Contribution

The community benefits will be memorialized in the Development Agreement.

PHASING

It is currently anticipated that the project would be implemented in approximately three phases as shown in **Table 3.1** and **Figure 3.5**. In addition to construction of the proposed buildings and outdoor improvements, each phase would include demolition of any remaining structures in that phase area and any adjacent roadway and creek-side improvements. To be responsive to market conditions, however, the phases could change and the combinations of buildings in each phase could differ from those shown in Table 3.1 and Figure 3.5, or each phase could be broken down into subphases resulting in the construction of one building at a time and a longer overall construction duration. Preliminary schedules are often revised as projects proceed. Because emissions controls become stricter over time, if a schedule is extended, impacts would be the same or reduced from those analyzed in this document. Similarly, because construction activities occurring at once compound for a greater impact than individual activities, assuming faster completion is more conservative and if a schedule is extended, impacts would be the same or reduced from those analyzed in this document. The preliminary schedule when the analysis for this EIR began estimated that construction would start in late 2021 and all phases would be completed by 2029, which is the fastest construction could occur. The current anticipated start date is 2024. The start date used in the technical analysis precedes the now anticipated start date of 2024, and the completion date also has been pushed forward by an equivalent number of years. The technical analysis is conservative because it does not account for regulations and technical improvements that would occur between 2021 and 2024 and beyond and would reduce impacts from what is shown in this EIR.

Note that potential impacts and mitigation measures identified in this document are applicable to all phases unless otherwise indicated.

Table 3.1: Project Details by Phase

Phase	Preliminary Construction Schedule[1]	Structures	Use	Usable Floor Area[2]	Percent of Total Buildout
Phase 1	27 Months	B5, B6	Office / R&D	516,962	32%
		PG1	Fitness Center / Bike Repair Shop	9,150	
Phase 2	31 Months	B1, B4	Office / R&D	457,509	29%
		PG2	Retail	4,500	
		B7	Amenity Building	11,543	
Phase 3	31 Months	B2, B3	Office / R&D	628,904	39%
Total	89 Months			1,628,568	100%

Source: Applicant and Project Plan Set dated 2/28/2020

Notes:

[1] Construction schedule reported here was based on preliminary estimates. The actual construction could occur in different phases and timeframes, but the total amount of construction activities is based on the development proposed, and as discussed where relevant throughout this analysis, changes to the phasing and timeframe would not change the conclusions in this EIR.

[2] Usable Floor Area for the office/R&D, retail and community center use is presented here because that is what is used for the assessment of impacts related to operations, consistent with "usable square footage" per San Carlos Municipal Code section 18.03.080. For construction activities, full gross square feet of all structures, about 1,734,532 gross square feet, is used instead.

ACCESS AND CIRCULATION

Vehicle Circulation

Vehicular access into the site would be provided via five driveways: one on Industrial Road, three on Commercial Street and one on Old County Road. There would also be an off-road pick-up/drop-off point on Industrial Road and on Old County Road. Access to the P1 parking garage, the smaller of the two proposed parking structures, would use the driveway on Old County Road plus one on Commercial Street. Based on parking spaces, approximately 43 percent of project vehicles would use P1. The P2 parking garage would be accessed from two driveways on Commercial Street for both entrance to and exit from the project site. The P2 garage would accommodate approximately 53 percent of the project-related vehicles. Visitor parking would be in the surface parking lot accessible via a driveway off of Industrial Road. Internal roads and driveways would allow access for service and emergency vehicles through the site to all buildings on the campus.

Pedestrian, Bicycle, and Transit Circulation

Pedestrian connections would be provided onto and through the site, including a trail along the length of Pulgas Creek. Existing gaps in the sidewalk network along the frontages of the project site would be completed with necessary improvements for a continuous sidewalk along Old County Road, Commercial Street, and Industrial Road.

A new Class IV Bikeway would be installed along Commercial Street, which does not currently have a dedicated bicycle lane. The existing Class II bike lane along Old County Road would be upgraded to a Class IV Bikeway from Commercial Street to the project driveway north of Pulgas Creek.

The project site is approximately 0.5 miles from the San Carlos Multi-Modal Transit Center via a pedestrian tunnel from Old County Road to El Camino Real, under the above-grade Caltrain tracks. The San Carlos Multi-Modal Transit Center provides coordinated access to Caltrain commuter rail services, SamTrans fixed route bus services, as well as providing for local shuttles, pedestrians and bicyclists. Caltrain is a regional rail corridor that provides connectivity between San Francisco and San Jose, with limited service to Gilroy during commute hours.

The project site is also located approximately 0.1 miles from the El Camino Real/Arroyo Avenue SamTrans bus stop, serviced by Route 295, and 0.2 miles from the El Camino Real/Brittan Avenue SamTrans bus stop, serviced by routes ECR, 397, and 398.

The project would include on-site facilities for pedestrians and bikes. The conceptual vehicular and pedestrian circulation plan are shown in **Figure 3.6**. Circulation elements are discussed in more detail in Chapter 15: Transportation.

INFRASTRUCTURE AND UTILITIES

The project anticipates receiving utility service from the following providers:

- Electricity: Peninsula Clean Energy
- Solid Waste & Recycling: Recology San Mateo County
- Water: Cal Water
- Sewer and Stormwater: City of San Carlos

The project would result in adaptive reuse of a site already provided with utilities and services. The project buildings would not be connected to natural gas infrastructure and its appliances would be all

electric, but future users may have "point of use" natural gas equipment for R&D processes. In addition to on-site improvements and connections to existing utility lines, an off-site improvement will replace an 85-foot section of 8-inch sewer pipe with a 15-inch sewer pipe under Industrial Road, from the southern corner of Industrial Road and Commercial Street northward to in front of 896 Industrial Road.

CONSTRUCTION

As described under the Phasing section above, demolition of existing buildings and project construction is scheduled to be completed in no fewer than three phases.

Project construction would depend on market demand but is estimated to occur over at least 89 months. As currently anticipated, Phase 1 would involve approximately 1 year of site preparation and utilities. Buildings B5, B6 and either PG1 or surface parking could be constructed after utility work is completed. If built concurrently, construction of all 3 structures (PG1, B5, B6) is estimated to span a total of 27 months. If built sequentially, the project may result in one or two buildings (B5 and/or B6) with temporary surface parking lots before a garage is built. Subsequent phases could span 31 months each.

While these target timespans would depend on timing of approvals and market demand, delayed commencement and/or completion of construction activities or further breakdown into additional phases would not otherwise change the activities and would not change conclusions in this EIR.

If a childcare center is built as part of the project, all parties agree (as a Condition of Approval) to suspend childcare operations during demolition, rough grading, foundations, and structural steel framing of any subsequent Phases constructed as part of the project due to air quality concerns (see Chapter 5: Air Quality).

GRADING

The existing site is relatively level, with general site grades ranging from approximately 10 to 17 feet above sea level, rising from Industrial Road toward Old County Road. Finished grades around the campus would be raised such that they generally range from 14 feet to 23 feet above sea level following development. The office/research buildings and parking structures would surround an amenities building and courtyard depression for stormwater detention.

Grading to accommodate the proposed development over all 3 Phases would bring in an additional approximately 50,572 cubic yards of fill, after a cut of approximately 15,466 cubic yards and a fill of approximately 66,038 cubic yards. (Conceptual grading plans by phase are shown in **Figures 3.7a to 3.7b.**)

PULGAS CREEK

Pulgas Creek borders the site on the south side and the property lines of the project extend to approximately along the center of the creek. The creek banks are approximately 6 to 7 feet high, with localized areas up to 10 feet high.

Three bridges cross Pulgas Creek within the project limits; one pedestrian-only bridge connects the building at 1015 Commercial Street to a building directly across the creek, a second pedestrian-only bridge is located directly northeast of the first bridge, and a third, two-lane vehicular bridge connects the paved parking area southeast of the 960 Industrial building to another parking area across the creek. No changes to the physical structures of the existing bridges are proposed, though none are proposed to be used for vehicular traffic following project construction. A pedestrian path along the creek would be created, from Old County Road to Industrial Road, as envisioned in the East Side Innovation District Vision Plan.

Pulgas Creek can be a source of area flooding during heavy rain events, including on and around the project site. Proposed on-site enhancements are intended to address flooding conditions for the site without worsening conditions for nearby properties. The proposed project would allow inflow of flood waters to the site in a predictable, controlled fashion via surface swales and culverts. Most of the flood water would be directed to the proposed open space area near the center of the site, which would be constructed at a lower elevation than the adjacent portions of the site to provide short-term storage until flooding conditions subside. Portions of the existing flow path within the southeastern portion of the site would be maintained for some flood water, which would allow flood water flow within the site to mimic existing conditions by conveying flood waters over the surface parking and releasing across Industrial Road, similar to existing conditions. Flooding is discussed in more detail in Chapter 12: Hydrology and Water Quality.

The project proposes work within Pulgas Creek to manage onsite flooding and to ensure the project does not cause significant increases in offsite flooding. The project may also include work within Pulgas Creek to address existing creek bank stability deficiencies identified in the City's Storm Drain Master Plan and treatments to the bed and bank of the creek to improve stability. All work would occur within the reach of Pulgas Creek between Old County Road and Industrial Road. Potential work along/within the creek includes the following:

- Installation of both an overflow weir and a box culvert in separate locations along the north bank of the creek to (a) route high flows into an onsite swale and landscaped depression capable of detaining water during high flow events and (b) convey return flows from the landscaped depression back to the creek. These features protect onsite development from flooding and prevent adverse changes in the depth or extent of flooding on off-site property and public rights-of-way.
- Stability treatments along the north bank of the creek, potentially including installation of rock slope protection, vegetated retaining walls, or bioengineering treatments to repair or replace existing unstable streambanks comprised of various materials (generally roughly graded earthen slopes with non-native plants or sakrete walls).
- Stability treatments along the south bank of the creek, potentially including installation of rock slope protection, vegetated retaining walls, or bioengineering treatments to repair or replace existing unstable streambanks comprised of various materials (generally roughly graded earthen slopes with non-native plants or sakrete walls).[3]
- Integration of native plant species into creek stability treatments and replacement of existing invasive plant species with native plant cover along creek banks.
- Debris removal within the creek channel to remove existing obstacles to flow.
- Potential placement of streambed gravel/cobble at the transition from the existing upstream concrete apron to the natural channel bed (if needed to provide hydraulic protection to reduce the risk of stream flows causing erosion at the edge of the existing concrete apron).
- Repair and replacement of existing stormwater infrastructure (culverts) conveying water to the creek along the north bank from the project site.
- Temporary dewatering and/or bypassing of the waters of Pulgas Creek may be required to complete the above work within the creek.

[3] This work would require the participation of the property owner to the south of the project site.

PROJECT APPROVALS

The project applicant is requesting the following approvals from the City of San Carlos:

- Planned Development Rezoning
- Planned Development Permit(s)
- Design Review Permit(s)
- Lot Merger/Lot Line Adjustment/Parcel Map (to be determined)
- Grading and Dirt Haul Certificate
- Development Agreement (with community benefits in recognition of proposed increased development/density)
- Protected Tree Removal Permits
- Transportation Demand Management Program

The project also may seek the following approvals from other agencies:

- Because the project is located in the San Carlos Airport Land Use Compatibility Plan area, the project would be subject to a consistency determination by the Airport Land Use Commission.
- The project is required to comply with Municipal Regional Permit and Storm Water Pollution Prevention Plan requirements originating from the Bay Area Regional Water Quality Control Board (RWQCB) related to stormwater pollution prevention.
- The project generators would require approval by the Bay Area Air Quality Management District.
- Streambed Alteration Agreement from CDFW
- Clean Water Act Section 401 water quality certification from the RWQCB
- Waste discharge requirements from the RWQCB
- Clean Water Act Section 404 permit from the US Army Corps of Engineers
- Rivers and Harbors Act Section 10 authorization from the US Army Corps of Engineers

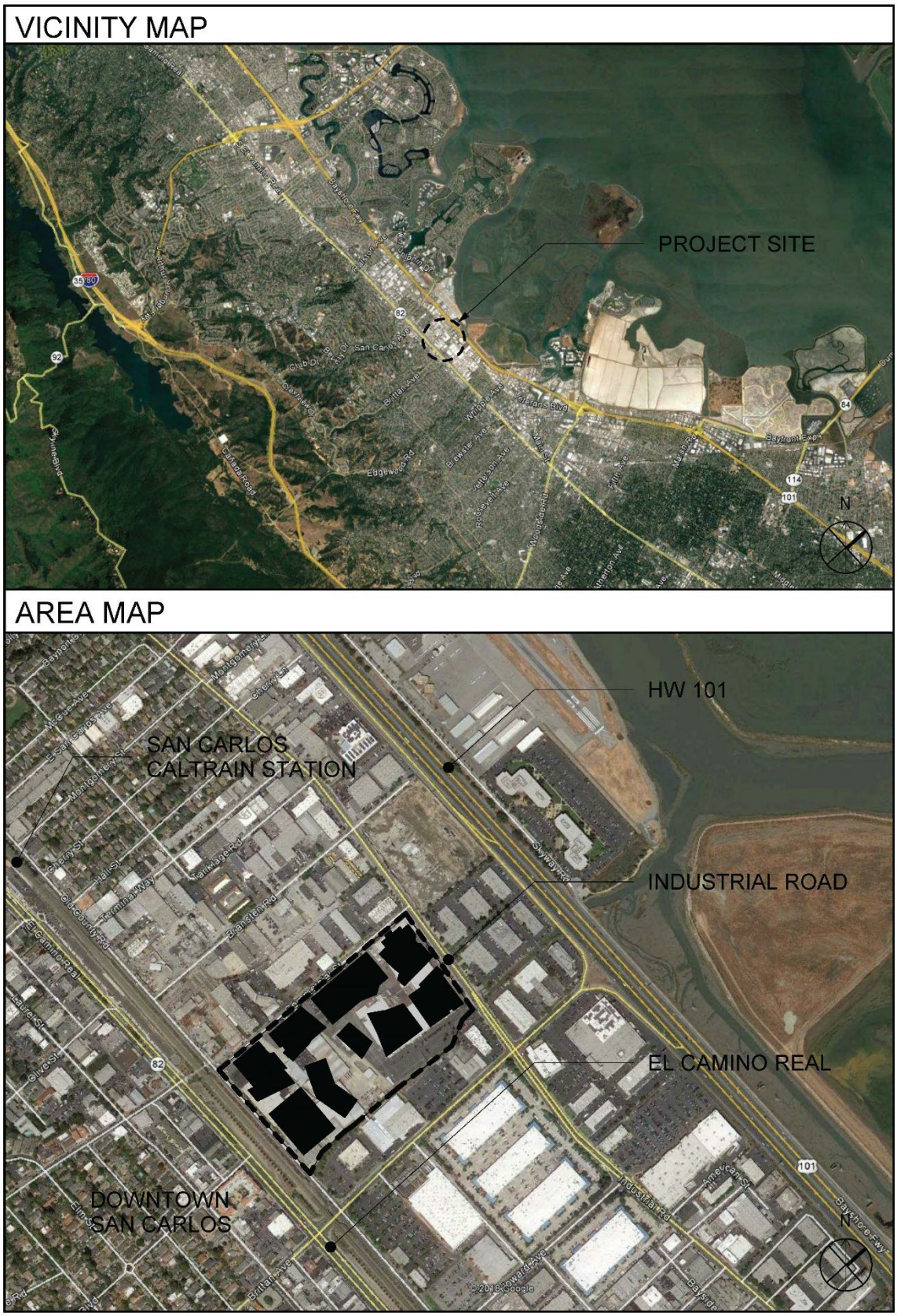


Figure 3.1: Project Location
Source: Applicant, June 2024

Figure 3.2: Existing Conditions
Source: Preservation Architecture, 2024

Figure 3.3: Conceptual Site Plan
Source: Applicant, June 2024

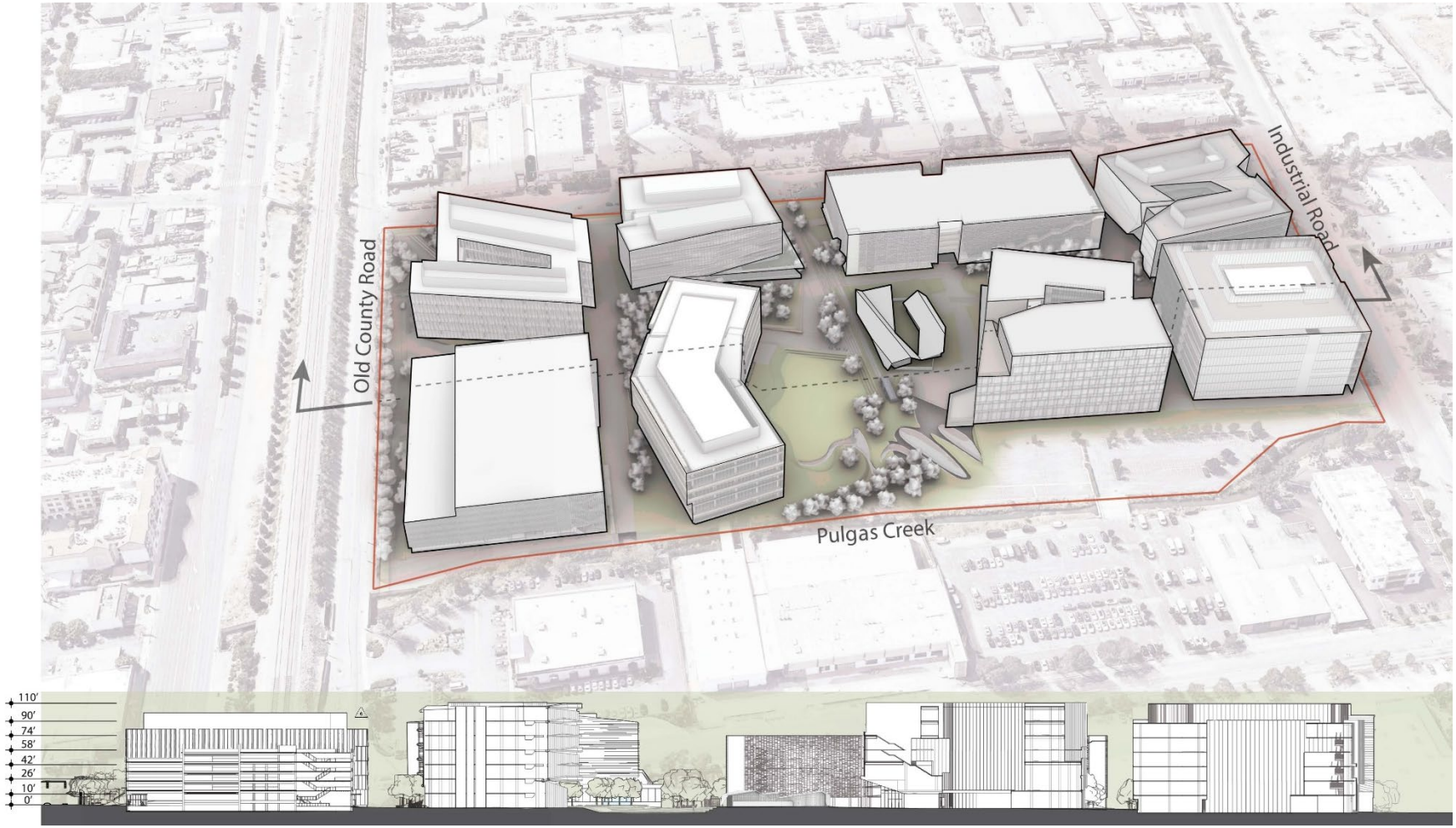


Figure 3.4: Conceptual Massing Model and Building Elevations
Source: Applicant, June 2024

Figure 3.5: Conceptual Phasing Plan
Source: Applicant, June 2024

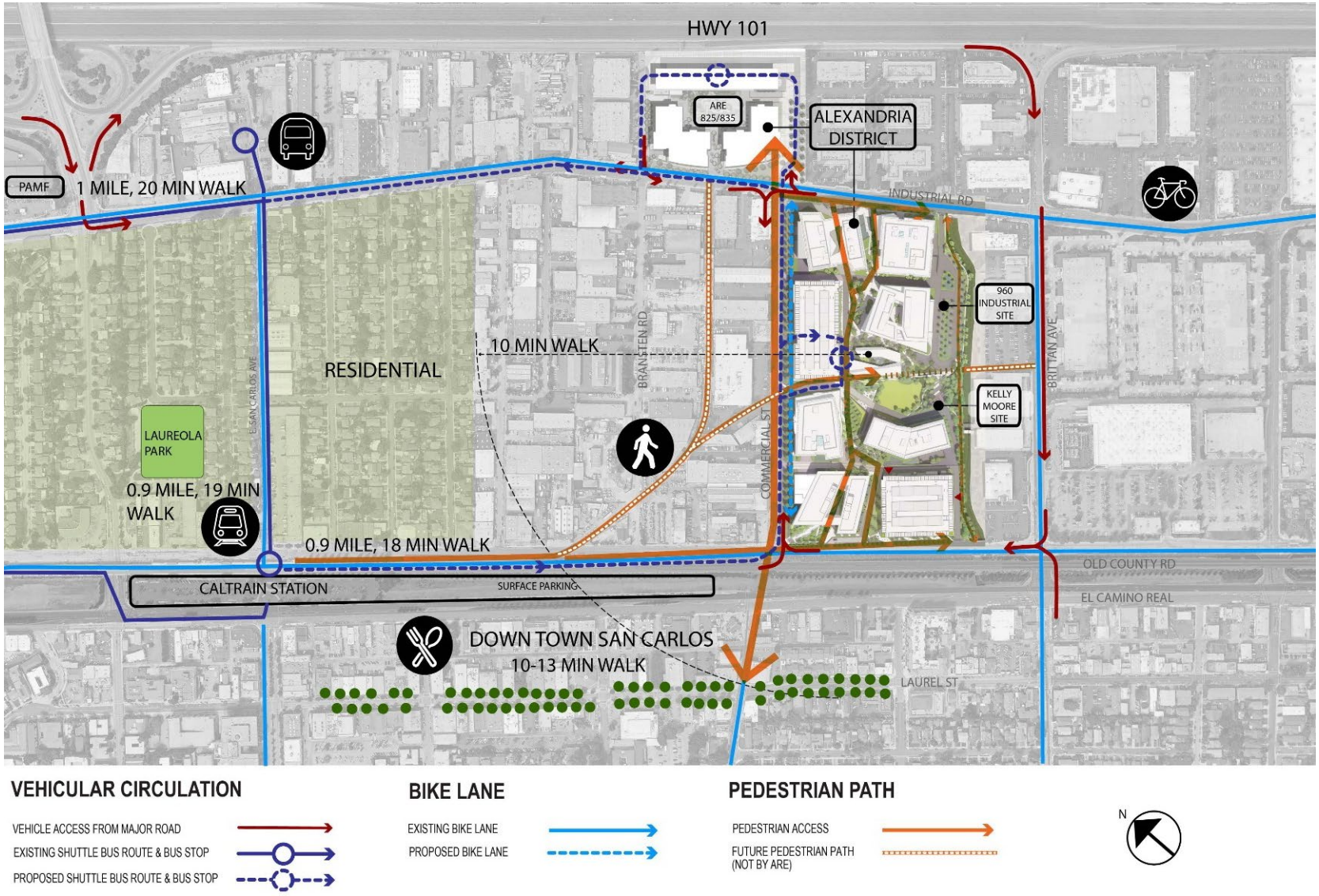


Figure 3.6: Conceptual Circulation Plan
Source: Applicant, June 2024

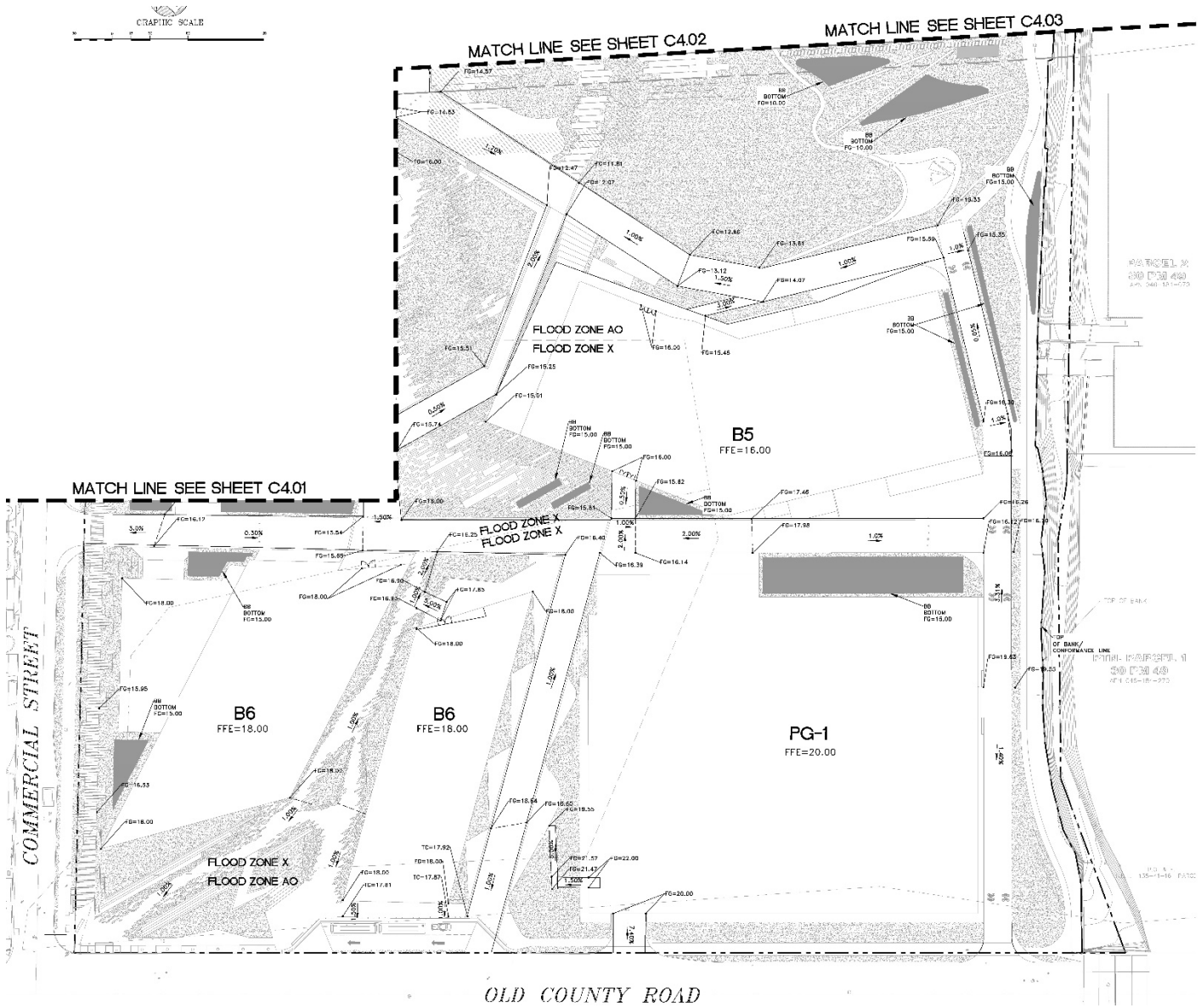


Figure 3.7a: Conceptual Grading Plan, Phase 1
Source: Applicant, June 2024

Figure 3.7b: Conceptual Grading Plan, Phase 2
Source: Applicant, June 2024

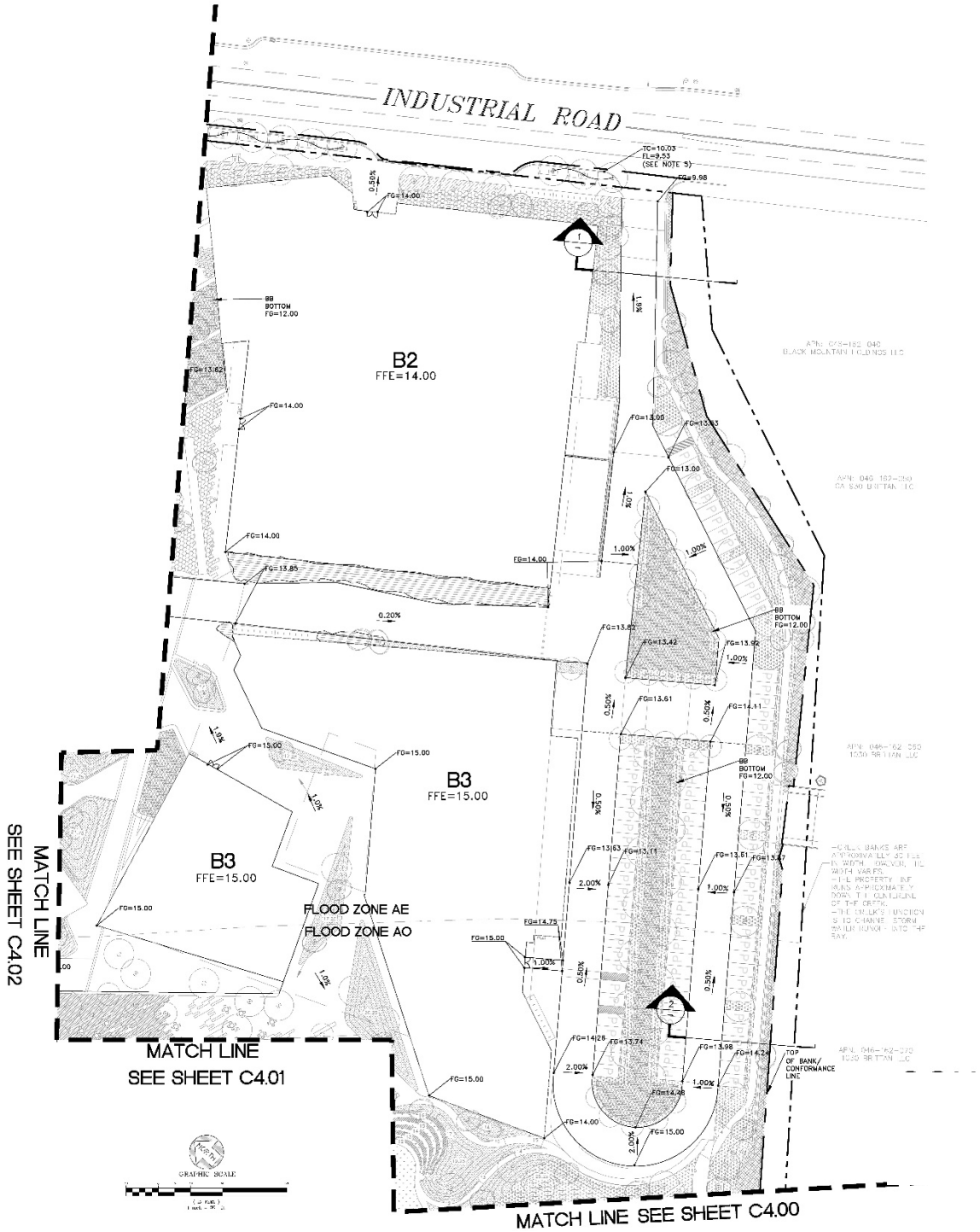


Figure 3.7c: Conceptual Grading Plan, Phase 3
Source: Applicant, June 2024

4

AESTHETICS

INTRODUCTION

This section describes the existing aesthetic resources and visual characteristics of the project site and its immediate vicinity, along with existing plans and policies relevant to visual resource issues within San Carlos.

Under CEQA Section 21099(d), "Aesthetic… impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment."

Accordingly, aesthetics is no longer considered in determining if a project has the potential to result in significant environmental effects for projects that meet all three of the following criteria:

1. The project is in a transit priority area. CEQA Section 21099(a)(7) defines a "transit priority area" as an area within one-half mile of an existing or planned major transit stop. A "major transit stop" is defined in CEQA Section 21064.3 as a 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 interval of 15 minutes or less during the AM and PM peak commute periods.

2. The project is on an infill site. CEQA Section 21099(a)(4) defines an "infill site" as either (1) a lot within an urban area that was previously developed; or (2) a vacant site where at least 75 percent of the site perimeter adjoins (or is separated by only an improved public right-of-way from) parcels that are developed with qualified urban uses.

3. The project is residential, mixed-use residential, or an employment center. CEQA Section 21099(a)(1) defines an "employment center" as a project situated on property zoned for commercial uses with a floor area ratio of no less than 0.75 and located within a transit priority area.

The proposed project meets all three of the above criteria because the project (1) is in a transit priority area due to the location of the El Camino Real transit corridor and San Carlos Caltrain Station, both of which are within the one-half mile threshold distance from the project site;[1] (2) is on an infill site that has been previously developed and is fully adjoined by urban uses and public rights-of-way within San Carlos; and (3) is an employment center with a projected floor area ratio (FAR) of 2.18. Thus, this section does not consider aesthetics, including the aesthetic impacts of light and glare, in determining the significance of project impacts under CEQA.

[1] Association of Bay Area Governments and Metropolitan Transportation Commission, 2021, map of Transit Priority Areas, available at: https://opendata.mtc.ca.gov/datasets/370de9dc4d65402d992a769bf6ac8ef5_1/explore?location=37.500389%2C-122.257426%2C14.94

Nevertheless, the City recognizes that the public and decision makers may be interested in information about the aesthetic changes related to a proposed project; therefore, the information contained in this section related to aesthetics is provided solely for informational purposes and is not used to determine the significance of environmental impacts pursuant to CEQA.

SETTING

PROJECT VICINITY

San Carlos is comprised of a number of neighborhoods, districts, and open spaces. The visual character is typical of surrounding cities and contains several aesthetic resources such as scenic vistas from the hills in the western portions of the city, cohesive residential neighborhoods and a vibrant, pedestrian-scale downtown. Existing neighborhoods are predominantly residential, while districts contain a mixture of residential, commercial, and industrial uses. The project site falls within the City's East Side area core district.

The East Side is located on the east side of San Carlos, bounded by U.S. 101 to the east, the Caltrain Corridor and El Camino Real to the west, Holly Street to the north, and Brittan Avenue to the south. Industrial Road serves as the central spine, connecting to other San Carlos industrial neighborhoods, including the Industrial Arts District to the south. The primarily single family residential Greater East San Carlos neighborhood is directly adjacent to the north. San Carlos Multi-Modal Transit Center and Downtown are both within half a mile of the District, and Palo Alto Medical Foundation campus, Redwood Shores, the San Carlos Airport, and the San Francisco Bay are all within a short drive or bike ride. The East Side area was initially the site of small industrial firms, service businesses, and World War II era housing. Most parcels had height limits of 50 feet. Starting in the 1990s, it began to transition to R&D, IT companies, and biotechnology. Between Commercial Street and Terminal Way are smaller parcels and older buildings with predominately industrial uses. On the east side of Commercial Street to Brittan Avene, bordered by U.S. 101 and Old County Road in the north and south, are larger parcels and development footprints, where the transition to life science uses began.[2]

The project site is located adjacent to industrial and warehousing uses to the north, east, and south, with some office/R&D buildings recently completed, in the pipeline or under construction. The surrounding industrial uses range from one to three stories and often have setbacks from the street and large surface parking areas. The recently constructed and underway office/R&D developments are generally more campus-like, with taller buildings and underground or structured parking and open space amenities. For example, a recently constructed office/R&D facility consisting of two buildings and a parking garage at 825-835 Industrial Road is located kitty-corner to the project site, north of Commercial Street and east of Industrial Road. That recently constructed facility is six-stories tall, with predominantly glass facades, landscaped spaces, and structured parking. Road and elevated train corridors are adjacent to the project site to the west, providing a buffer of over 250 feet to the development on the far side of El Camino Real, which includes retail, hotel/motel, and mixed-use residential development.

Existing sources of light in the area are typical of urban areas, consisting of interior and exterior illumination from industrial and commercial buildings, street and parking lot lights, and headlights from vehicle traffic. Existing sources of glare include the sun reflecting off of vehicles and building windows. Views toward the Bay or mountains from ground level in the project vicinity are blocked by buildings and the elevated Caltrain tracks.

[2] City of San Carlos, October 25, 2021, *East Side Innovation District Vision Plan*, Technical Appendix I, p.9.

PROJECT SITE

The project site is located in the East Side neighborhood and consists of approximately 25.34 acres bounded by Industrial Road to the east, Commercial Street to the north, Old County Road to the west, and Pulgas Creek to the south. The project site is relatively flat, with general site grades ranging from approximately 10 to 17 feet above sea level, rising from Industrial Road toward Old County Road. The eastern approximately two-thirds of the project site is improved with single-story industrial buildings totaling approximately 542,037 square feet. These buildings have interior and exterior lighting consistent with typical industrial site lighting in the area. The western approximately one-third of the project site formerly was improved with approximately 223,000 square feet of industrial buildings that recently were demolished, and this portion of the site currently is vacant and rough graded. There are approximately 50 perimeter and parking lot trees on the developed portion of the project site. That area of the city is generally flat, and with the exception of the immediate vicinity, the project site is only visible from some locations in the hills to the west. The project site does not currently have access to any scenic views at ground level, as it is surrounded by other developments and the elevated Caltrain tracks.

The project proposes to demolish all existing improvements on the project site and to construct six life science buildings, a central amenity building, and two parking garages, organized around a network of pedestrian connections or "strands" with nodes at the major intersections where programs and amenities would be concentrated. The urban strands would include amenities for outdoor gathering, while the landscape strands would include natural features. The project proposes a fully developed landscape plan consisting of trees, shrubs, and grasses to provide shade and shelter and to naturally filter stormwater in bioswales. As described in Chapter 3: Project Description and Chapter 6: Biological Resources, the project also proposes improvements to both sides of Pulgas Creek, including debris removal and integration of native plants into creek stability improvements and replacement of invasive plant species with native plant cover along the creek banks.

REGULATORY SETTING

STATE

Caltrans Scenic Highway Program

California's Scenic Highway Program is administered by the California Department of Transportation (Caltrans). The Scenic Highway Program was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been officially designated. In the vicinity of the project site, the only designated State Scenic Highway is Interstate 280, approximately 2.6 miles west of the project site.

Title 24 Building Codes and Standards

Title 24 is a set of building codes and standards that regulate energy efficiency in California. Regulations on lighting include Lighting Control Standards, such as occupancy sensors and dimming capabilities, and Maximum Allowable Lighting Power Density, which sets limits on the amount of power that can be used for lighting in different types of spaces.

LOCAL

City of San Carlos General Plan and Municipal Code

Land Use Designation and Zoning

The San Carlos General Plan designates the project site as Planned Industrial, which permits research and development, biotech, light industrial, flex, warehousing, and related uses.[3]

The site is currently zoned IH, but the applicants have requested a rezoning to PD. The City's PD District provision (San Carlos Municipal Code (SCMC) Chapter 18.10), gives applicants with project sites of 2 acres or greater more flexibility on development characteristics, including setbacks, heights, and FAR. This flexibility is given in exchange for better design, including site design and community benefits, provided the project can meet all required findings set forth in the Zoning Ordinance. The Planning and Transportation Commission reviews and makes recommendations on PD applications, but the City Council is authorized to make the final decision. For projects seeking PD approval by the City, a key finding that must be met (SCMC §18.36.040.F) is whether the proposed project is superior to the development that could occur under the baseline development standards. This key finding requires projects to have superior design (including site design), embody environmental preservation, provide a substantial public benefit, and enhance both the character and environment of the area for years to come.[4]

Other Applicable Municipal Code Provisions

The project is located in the Stream Development and Maintenance Overlay District (SCMC Chapter 18.14), which requires a 25-foot setback of all development from creek banks, with the exception of those related to storm drainage, erosion control and streambank stability improvements. Within this overlay district, the City may, as a condition of a development permit or subdivision, require the dedication of a drainage and/or scenic easement over and maintenance, in its natural condition or existing state, of each stream channel within the top of each bank or such other distance as specified by the review authority to avoid excavation, filling, development or construction that could adversely affect the public health and safety by aggravating drainage flows during flooding conditions or interfering with the streamside habitat.

SCMC Chapter 18.22 sets standards for signage. Any signs that would be visible from U.S. 101 require approval from the Planning and Transportation Commission as a standard condition of approval before the erection of a sign.

SCMC Chapter 18.29 lists the scope and requirements of the City's design review process. Design requirements apply to the design of the site plan, structures, landscaping, and other physical features, including parking, and fences and walls. It requires that any substantial change in exterior materials of structures from those described in the application materials must be reviewed and approved by the Planning and Transportation Commission, and that a final exterior lighting plan must be approved by the Planning Division before a Building Permit is issued as standard conditions of project approval. In addition to the overall design of the project, the design review criteria specifies that "The project design preserves major public views and vistas from major public streets and open spaces…" (SCMC §18.29.060.H) and "Lighting and lighting fixtures are designed to complement buildings, be of appropriate scale, provide adequate light over walkways and parking areas to create a sense of pedestrian safety, and avoid creating glare." (SCMC §18.29.060.J). Current design guidelines adopted

[3] City of San Carlos, October 12, 2009, *San Carlos 2030 General Plan*, p.30.

[4] City of San Carlos, October 25, 2021, *East Side Innovation District Vision Plan*, p.9.

by the City include requirements for grading, concrete, underground utilities, storm drains and sewers, and public roadway details such as traffic lights and street lighting.[5]

General Plan Aesthetics-Related Policies

The San Carlos General Plan 2030 includes the following goals and policies in regard to design, light and glare:

Goal LU-8: Ensure excellence in all developmental design.

Policies:

LU-8.1: Require all development to feature high quality design that enhances the visual character of San Carlos.

LU-8.2: Ensure that new development is sensitive to the character of adjacent structures and the immediate neighborhood.

LU-8.3: Encourage design features and amenities in new development and redevelopment, including, but not limited to:
a. Interconnected street layout.
b. Clustering of buildings.
c. Landscaping on each lot.
d. Visual buffers.
e. Facilitation of pedestrian activity.
f. Distinctiveness and variety in architectural design.

LU-8.4: Promote pedestrian-scaled design through site planning, building design, finish details and landscaping for all types of development by requiring height and locational transitions between buildings of varied levels that are sensitive to the interrelationships of surrounding uses and structures, especially residential.

LU-8.5: Optimize architectural quality by encouraging the use of quality materials, particularly as accents and authentic detailing, such as balconies and window trims.

LU-8.6: Encourage new commercial development to provide outdoor areas and landscaping and tree canopy to enhance the surroundings.

LU-8.8: Encourage design of convenient pedestrian walkways with shade and minimal tripping hazards, preferably with landscape buffers between roadways and walkways.

LU-8.9: Encourage the design of attractive outdoor pedestrian spaces that encourage impromptu public gathering places with features such as plazas, interior walkways and paseos, ornamental gates, trellises, lighting, trees and landscaping, seating and fountains.

LU-8.10: On all sides of buildings, require the incorporation of quality architectural design elements for all building façades and stepping back upper floors in order to reduce bulk and mass and to break up monotonous wall lines.

LU-8.11: Discourage abrupt changes in building scale. A gradual transition between low-rise to mid-rise buildings should be achieved by using the low-rise buildings at the edge of

[5] City of San Carlos Design Guidelines available at: https://www.cityofsancarlos.org/city_hall/departments_and_divisions/public_works/view_documents.php#outer-77sub-84

the project site. Consider the relationship of buildings to the street, to one another and to adjacent structures and land uses, especially single-family residential.

LU-8.13: Require parking areas associated with development to be located and designed to minimize visual impact to the greatest extent feasible. This may include locating parking behind buildings street frontage, below grade, or screening through the use of natural landscaping.

LU-8.16: Require high quality signage through design, use of materials and colors compatible with and complementary to the architectural character of the building(s) and surrounding.

LU-8.17: Require telecommunications and utility facilities to be sensitively placed, shielded, screened or lessened from view to the greatest extent possible through design review.

Additional relevant policies:

LU-6.6: Encourage new development on the East Side to feature high quality architecture that reinforces the character of the area.

LU-9.9: Encourage the design of development to minimize the obstruction of significant views of the San Francisco Bay, the western hills, or other significant natural vistas to the greatest extent possible.

EM-1.4: Protect and preserve the circadian cycle (the cycle of night and day) by limiting sources of light during nighttime hours.

CSS-4.6: Prohibit land uses and development which emit odors, particulates, light glare, or other environmentally sensitive contaminants from being located within proximity of schools, community centers, senior homes and other sensitive receptors. Sensitive receptors shall be prohibited from locating in the proximity of environmentally sensitive contaminants.

City of San Carlos East Side Innovation District Vision Plan

In October 2021, the City of San Carlos approved the Vision Plan to shape the development of the East Side including the multiple proposed projects in the planning stages within that area. The goal of the Vision Plan is to help shape infrastructure, urban design, transportation circulation management and mobility, service provision, open space, community facilities, present and future land uses, economic development, and community benefits.

One strategy of the Vision Plan that is applicable to the aesthetics discussion of this project is to convert Industrial Road to a green boulevard that provides a distinct identity, creates a sense of place, and weaves nature into the East Side Innovation District. The Vision Plan calls for consistent and generous tree-lined sidewalks along Industrial Road, incorporated street furniture, and coordinated signage, banners, lighting, and streetscape elements.

Another applicable strategy of the Vision Plan is to establish an open space network, with the goal of providing a mix of accessible connected open spaces and non-vehicular connections in the East Side Innovation District to serve existing and future District users and the greater San Carlos community. The Vision Plan contemplates requirements for on-site community open-spaces for larger development projects that can facilitate a range of active and passive uses, and for non-vehicular connections, discovery paths (a minimum width of 44 feet, with both circulation and landscaping elements), and mid-block connections in new development.

INFORMATIONAL DISCUSSION OF AESTHETICS

As detailed in the introduction section at the start of this chapter, the project meets the criteria under CEQA §21099(d) and is therefore determined not to have a significant impact with respect to aesthetics. Nevertheless, the City recognizes that the public and decision makers may be interested in information about the aesthetic changes related to a proposed project; therefore, the information contained in this section related to aesthetics is provided solely for informational purposes and is not used to determine the significance of environmental impacts pursuant to CEQA.

Therefore, the topics listed under Aesthetics in CEQA Guidelines, Appendix G – Environmental Checklist Form, are not used to assess impacts. They are included here to structure the informational discussion:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3. If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
4. Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

SCENIC VISTAS

The San Carlos General Plan EIR defines scenic vistas as views from public areas of natural landscapes that provide views of unique flora, geologic or other natural features that are generally free from urban intrusions, and typically include views of mountains and hills, and waterbodies. San Carlos has varied topography that ranges from land at sea level to the hilly western portion of the city with elevations up to 900 feet. The hillsides and ridgelines that comprise the city's diverse landscape provide a rich array of scenic resources and afford numerous vantage points from which scenic vistas can be enjoyed. Views of the surrounding open space and San Francisco Bay can be accessed in many areas west of Alameda de las Pulgas, including City parks and open space and existing residential neighborhoods.[6]

The City has not officially designated any scenic vistas or overlooks with broad sweeping views of picturesque landscape features, from which to view the above-described scenic resources. However, San Carlos General Plan Land Use Element Policy LU-9.9 encourages development to minimize obstruction of scenic vistas from major public streets and open spaces, and 18.29.060 of the City's Municipal Code requires new development to respect existing public scenic vistas. Compliance with these regulations would be confirmed through design review pursuant to Chapter 18.29.

The project would demolish all existing buildings on the project site and construct six new office/R&D buildings and an amenity building plus two parking garages on the project site. The new office/R&D buildings would be five to seven stories and approximately 80 to 116 feet in height. The parking garages would include seven and eight levels of parking including a rooftop and a basement level and reach heights of approximately 59 and 70 feet. The project would include improvements to Pulgas Creek.

The project site and immediately surrounding areas are generally flat and do not afford substantial long-distance views across the site that could be considered scenic vistas. The project site is not located within or adjacent to a scenic vista and it can be reasonably concluded that it would not impact such informal vistas. It is possible the project would change the character of some views from nearby

[6] City of San Carlos, October 2022, *San Carlos Focused General Plan Update EIR*, p.4.1-1.

commercial uses and could be visible in some mid-range views from residential uses to the west and views from more distant hillside residences, but these private views would not qualify as scenic vistas or otherwise protected views under CEQA.

While the project proposes buildings that would be taller than the buildings currently at the site and would be visible from more locations, the project would not substantially interfere with any public scenic vistas.

SCENIC HIGHWAYS

There is one designated State Scenic Highway near San Carlos, Interstate 280.[7] This highway affords sweeping views of the Bayside and San Francisco watersheds. However, this highway is approximately 2.6 miles from the project site at its closest point and the project site is generally not visible from the highway due to topography, and if momentary views were able to glimpse the site, due to the distance and angle of views, the project would appear as part of an existing commercially-developed area and would not substantially change views to or of the bay or scenic elements.

There is no designated or eligible State Scenic Highway in the vicinity of the project nor is the project site adjacent to any scenic roadway identified in the City's General Plan.[8,9]

As noted above, this topic is being discussed as an informational item only because the CEQA Guidelines have determined this type of project would not have a significant impact in this regard. This informational discussion is consistent with the statutory conclusion that the project impact would not be significant.

CONFLICT WITH APPLICABLE ZONING AND OTHER REGULATIONS GOVERNING SCENIC QUALITY

In urbanized areas, the aesthetic analysis reviews a project's consistency with zoning and other regulations governing scenic quality. The project site is in an urbanized area, currently developed with industrial uses, is zoned and designated for commercial and industrial development, and is surrounded by other sites with industrial/commercial zoning and development.

The site currently is zoned IH, but the applicant has requested a rezoning to PD. The PD District would allow uses permitted by the IH district, including R&D, Business and Professional Offices, Industry, Limited, and Accessory Uses. The PD District would give the applicant greater flexibility with regard to development standards, including setbacks, heights, and FAR. This flexibility is given in exchange for better design, including site design, and provision of community benefits.

The project is located in the Stream Development and Maintenance Overlay District (SCMC Chapter 18.14), which requires a 25-foot setback of development from creek banks unless related specifically to the functioning or aesthetics of the creek. While this overlay district has a stated purpose to protect the natural hydrological system and ecological functions of waterways and protect property owners and the public from hazards related to stream bank failures and flooding, the required setback acts to create a green space corridor along the creek. Within this overlay district, the City may, as a condition of a development permit or subdivision, require the dedication of a drainage and/or scenic easement including maintenance, in its natural condition or existing state, of the stream channel. As described in Chapter 3: Project Description, the project proposes hydrological, biological, and aesthetic

[7] California Department of Transportation, State Scenic Highway Mapping System, http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm

[8] Ibid

[9] City of San Carlos, October 12, 2009, *San Carlos 2030 General Plan*, pp.92-95.

improvements to the creek such that it would act as a public green space corridor along the project's Pulgas Creek frontage.

Policy LU-6.6 of the General Plan encourages new development on the East Side to feature high quality architecture that reinforces the character of the area, and Goal LU-8 aims to ensure excellence in all developmental design through a number of policies. The project proposes high-quality architecture in a cohesive campus, consistent with these policies. Each building would have its own design and unique visual expression, but all the buildings are designed to complement each other in terms of scale, pedestrian and vehicular circulation, and distribution of amenity functions throughout the campus. Materials vary for each building, but common features include:

- Curtainwall facades featuring high-performance energy-efficient glass.
- Metal panels with durable high-quality coatings that resist corrosion and color fade.
- Concrete or cementitious panels that add texture and color to the building exteriors.
- Architectural grade metal roof screens to conceal rooftop equipment.
- Wayfinding and signage design that is consistent throughout the campus.

Buildings are designed to meet USGBC LEED Gold certification, a benchmark of sustainability and quality in new construction.

The project site, as well as the adjacent properties on the north, south, and east sides, are all identified by the City as potential sites for redevelopment and are being guided by the new Vision Plan. The project is consistent with the Vision Plan with regard to establishing Industrial Road as a green boulevard and establishing an open space network. The project would provide a tree-lined sidewalk along Industrial Road, incorporating street furniture and green infrastructure and setting back buildings at least 26 feet to provide sidewalk, bicycle facilities, landscaping, and buffers as provided in the Plan. With regard to open space, the project would provide on-site open spaces and consistent street trees along Old County Road, as well as the development of a pedestrian nature trail along Pulgas Creek.

Chapter 18.29 of the Zoning Code requires architectural review for all new development in San Carlos prior to the issuance of a building permit. This review process is intended to ensure that all new development is aesthetically appropriate in scale and design, and that new buildings maintain the character of the surrounding district. At the time of architectural review, the Planning and Transportation Commission will review the project for compliance with the General Plan, Vision Plan, and the required design review findings pursuant to §18.29.050.

While the project would increase the height of development at the site – from one or two stories to up to seven stories – increased height would be consistent with the Vision Plan, the proposed PD District, and the City's design review requirements. The proposed changes are consistent with the general type of development in the vicinity and the development anticipated at the site under the Vision Plan. As noted above, this topic is being discussed as an informational item only because the CEQA Guidelines have determined this type of project would not have a significant impact in this regard. This informational discussion is consistent with the statutory conclusion that the project impact would not be significant.

INFORMATION REGARDING CHANGE IN VISUAL CHARACTER

Even though the project's aesthetics would not be an environmental impact under CEQA and even though change in visual character is not analyzed in urban areas, because nearby residents are expected to be interested in changes to the visual character, this document provides visual information about the views toward the site from the Greater East San Carlos residential neighborhood to the north and

neighborhoods to the west, showing massing of the proposed project as an informational item in **Figures 4.1a through 4.9**.

Figures 4.2 through 4.6 demonstrate that the project would be partially visible but not prominent in views from the Greater East San Carlos residential neighborhood, due to distance and existing trees and buildings.

Figure 4.7 demonstrates that the project would be partially visible and prominent in views from the closest residential area to the west, but that these views are across El Camino Real and the raised Caltrain tracks and would not constitute scenic views under existing conditions.

Figures 4.8 and 4.9 demonstrate that while the project would be visible from residential areas on the hillsides to the west, due to the distance and angle of the views, the project would be visually part of an existing commercially-developed area and would not substantially change views to or of the bay or the east bay hillsides.

Figure 4.1a: Viewpoint Locations for Figures 4.2 through 4.6
Source: Applicant Team Community Renderings, January 20, 2022

Figure 4.1b: Viewpoint Location for Figure 4.7
Source: Applicant Team Community Renderings, January 20, 2022

Figure 4.1c: Viewpoint Locations for Figures 4.8 and 4.9

Source: Applicant Team Community Renderings, January 20, 2022

Existing View

Rendering with Project

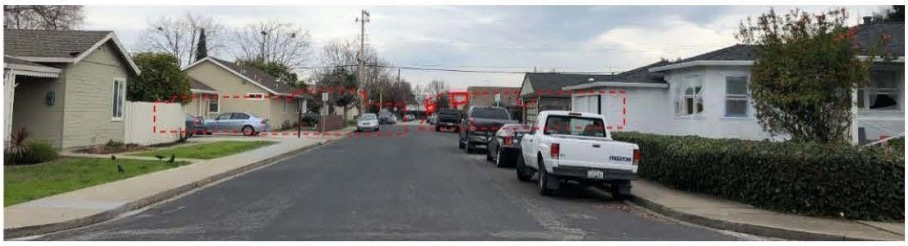
Project Building Locations (solid red outline visible, dashed red outline not visible)

Figure 4.2: View from Hall Street and Bayport Avenue, Existing and with Project

Source: Applicant Team Community Renderings, January 20, 2022

Existing View

Rendering with Project



Project Building Locations (solid red outline visible, dashed red outline not visible)

Figure 4.3: View from Cherry Street and Bayport Avenue, Existing and with Project

Source: Applicant Team Community Renderings, January 20, 2022

Existing View

Rendering with Project

Project Building Locations (solid red outline visible, dashed red outline not visible)

Figure 4.4: View from Montgomery Street and Bayport Avenue, Existing and with Project

Source: Applicant Team Community Renderings, January 20, 2022

Existing View

Rendering with Project

Project Building Locations (solid red outline visible, dashed red outline not visible)

Figure 4.5: View from E. San Carlos Avenue and Bayport Avenue, Existing and with Project
Source: Applicant Team Community Renderings, January 20, 2022

Existing View

Rendering with Project

Project Building Locations (solid red outline visible, dashed red outline not visible)

Figure 4.6: View from McCue Avenue and Bayport Avenue, Existing and with Project

Source: Applicant Team Community Renderings, January 20, 2022

Existing View

Rendering with Project

Project Building Locations (solid red outline visible, dashed red outline not visible)

Figure 4.7: View from Walnut Street and Morse Boulevard, Existing and with Project

Source: Applicant Team Community Renderings, January 20, 2022

Existing View

Rendering with Project

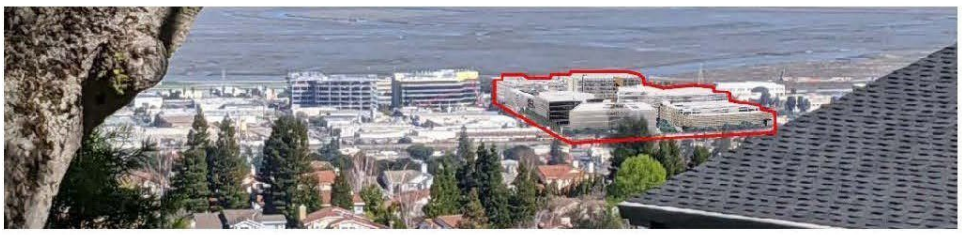
Project Building Locations (solid red outline visible, dashed red outline not visible)

Figure 4.8: View from Hemlock Street and Belle Avenue, Existing and with Project

Source: Applicant Team Community Renderings, January 20, 2022

Existing View

Rendering with Project



Project Building Locations (solid red outline visible, dashed red outline not visible)

Figure 4.9: View from Portofino Court, Existing and with Project

Source: Applicant Team Community Renderings, January 20, 2022

LIGHT AND GLARE

Sources of light and glare in the project vicinity include interior and exterior building lights and light from parking lots. Light and glare associated with vehicular traffic along major thoroughfares in the area also create sources of glare. The existing level and sources of light and glare are typical of those in a developed urban setting.

Redevelopment of the project site has the potential to create additional light or glare, including new interior and exterior building and parking garage lights, security lights, lighting on pedestrian walkways throughout the project site, increased vehicular traffic, and sunlight reflecting off of project windows. Existing City regulations would ensure that new development does not create substantial adverse light and glare impacts through the design review process. SCMC §18.15.070 sets standards for lighting heights, types of exterior lighting, and fixture types with requirements for shielding and maximum lamp lumens, as well as requirements to shield sources of glare and prevent light trespass onto adjacent lots. Preliminary lighting plans and photometric analysis submitted by the applicant, as required as a standard condition of approval, as detailed below:

> Standard Condition
> Exterior Lighting Plan. Pursuant to San Carlos Municipal Code Chapter 18.29, a final exterior lighting plan with specifications in conformance with the approved plans is subject to review and approval by the Planning Division prior to Building Permit issuance.

The preliminary lighting plan and photometric analysis for the project are available as part of the project file and demonstrate that proposed lighting is consistent with City and industry guidelines and standards, as well as General Plan Policy EM-1.4, and this would be confirmed through the design review process. The architectural and materials plans submitted by the applicant and available as part of the project file at the City specify that where glass surfaces are proposed, the project uses low-reflectivity glazing (<15% reflectance). There are no adjacent schools, community centers, senior homes, or other light-sensitive receptors; therefore, the project would comply with General Plan Policy CSS-4.6.

During construction, work lights at the project site may increase area illumination. Pursuant to SCMC §18.15.070.C.2(d), construction lighting must be discontinued immediately upon completion of construction work but is otherwise exempt from outdoor lighting regulations.

The project would comply with applicable aesthetics-related regulations and policies. As noted above, this topic is being discussed as an informational item only because the CEQA Guidelines have determined this type of project would not have a significant impact in this regard. This informational discussion is consistent with the statutory conclusion that the project impact would not be significant.

5

AIR QUALITY

INTRODUCTION

This chapter discusses the potential impacts of the implementation of the proposed project on the local and regional air quality. Development projects generally contribute to air quality pollutants through construction-phase emissions and dust and operational emissions including vehicle emissions.

The discussion of criteria pollutants and toxic air contaminants (TACs) in this chapter is based on the following report prepared for this analysis:

- Illingworth & Rodkin, Alexandria District for Science and Technology Air Quality and Greenhouse Gas Assessment, dated February 18, 2022, and revised April 12, 2024 (included in Appendix B).

SETTING

METEOROLOGY

During the summer, mostly clear skies result in mild to warm daytime temperatures and cool nights along the San Francisco Peninsula. Winter temperatures are mild, except for very cool but generally frost-less mornings. Further inland where the moderating effect of the bay is not as strong, temperature extremes are greater. Rainfall amounts are modest, ranging from 13 inches in the lowlands to 20 inches in the hills. Wind patterns are influenced by local terrain, with a northwesterly breeze in response to the sea breeze infiltrating San Francisco Bay typically developing during the daytime. Winds are usually stronger in the spring and summer. The southerly winds experienced are more common in late fall and winter.

For planning purposes, regions like the San Francisco Bay Area (Bay Area) are given an air quality status designation by the federal and state regulatory agencies. Areas with monitored pollutant concentrations that are lower than ambient air quality standards are designated "attainment" on a pollutant-by-pollutant basis. When monitored concentrations exceed ambient standards within an air basin, it is designated "nonattainment" for that pollutant. The city is within the jurisdiction of the San Francisco Bay Area Air Quality Management District (BAAQMD), which regulates air quality in the San Francisco Bay Area. Air quality conditions in the Bay Area have improved significantly since BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen dramatically. Neither the California Ambient Air Quality Standards (CAAQS) nor the National Ambient Air Quality Standards (NAAQS) for the following pollutants have been exceeded in recent decades: nitrogen dioxide (NO_2), sulfur dioxide (SO_2), sulfates, lead, hydrogen sulfide, and vinyl chloride. Exceedances of air quality standards that do occur happen primarily during periods when meteorological conditions are conducive to high levels of pollution, such as cold, windless nights or hot, sunny summer afternoons. The Bay Area is considered "attainment" (or unclassified) for all of the national standards, with the exception of ozone and the 24-

hour fine particulate matter pollution ($PM_{2.5}$) standard. For State air quality standards, the Bay Area is considered "nonattainment" for all averaging times for ozone and particulate matter (PM_{10} and $PM_{2.5}$).[1]

Accordingly, ozone and $PM_{2.5}$ are the major regional air pollutants of concern in the San Francisco Bay Area. Ozone is primarily a problem in the summer, and fine particle pollution in the winter. In San Mateo County, ozone levels almost never exceed health standards. $PM_{2.5}$ concentrations exceed the national standard about one day each year. San Mateo County frequently receives fresh marine air from the Pacific Ocean. The air passes over the coastal hills as it moves into the county. In winter, $PM_{2.5}$ may be transported into San Mateo County from other parts of the Bay Area. $PM_{2.5}$ may combine with wood smoke, which may lead to elevated concentrations. However, the concentrations are rarely high enough to exceed health standards.[2]

CRITERIA AIR POLLUTANTS

Ambient air quality standards have been established by state and federal environmental agencies for specific air pollutants most pervasive in urban environments. These pollutants are referred to as criteria air pollutants because the standards established for them were developed to meet specific health and welfare criteria set forth in the enabling legislation, including to be protective of human health with a reasonable margin of safety. The criteria air pollutants emitted by development, traffic and other activities anticipated under the proposed project include ozone, ozone precursors oxides of nitrogen and reactive organic gases (NO_x and ROG), carbon monoxide (CO), NO_2, and suspended PM_{10} and $PM_{2.5}$. Other criteria pollutants, such as lead and SO_2, would not be substantially emitted by the proposed development or traffic, and air quality standards for them are being met throughout the Bay Area so these are not further discussed here. A brief description of adverse health impacts of relevant criteria air pollutants is provided below.

Ozone and Ozone Precursors Oxides of Nitrogen and Reactive Organic Gasses

While ozone serves a beneficial purpose in the upper atmosphere (stratosphere) by reducing ultraviolet radiation potentially harmful to humans, when it reaches elevated concentrations in the lower atmosphere it can be harmful to the human respiratory system and to sensitive species of plants. Ozone concentrations build to peak levels during periods of light winds, bright sunshine, and high temperatures. Short-term ozone exposure can reduce lung function in children, make persons susceptible to respiratory infection, and produce symptoms that cause people to seek medical treatment for respiratory distress. Long-term exposure can impair lung defense mechanisms and lead to emphysema and chronic bronchitis. Sensitivity to ozone varies among individuals, but about 20 percent of the population is sensitive to ozone, with exercising children being particularly vulnerable.

Ozone is not generally emitted directly into the environment but is formed in the atmosphere by a complex series of photochemical reactions between "ozone precursors" that are two families of pollutants: NO_x and ROG. While state and national ambient air quality standards relate to ozone levels, ozone levels are regulated indirectly through regulation of its precursors, NO_x and ROG. NO_x and ROG are emitted from a variety of stationary and mobile sources, with vehicle emissions being the single largest source of ozone precursors. Other than NO_2, an NO_x, which is discussed below, the health effects

[1] BAAQMD, *Ambient Air Quality Standards and Bay Area Attainment*, via website https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status, accessed October 2022.

[2] BAAQMD, 2019, *Climate and Air Quality in San Mateo County*. Available https://www.baaqmd.gov/about-the-air-district/in-your-community/san-mateo-county, accessed February 20, 2023.

of NO_x and ROG are indirect, relating to the formation of ozone and its potential health effects (discussed above).

Carbon Monoxide

CO is an odorless, colorless gas formed by the incomplete combustion of fuels. The single largest source of CO in the Bay Area is motor vehicles. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death. People with cardiovascular diseases, chronic lung disease or anemia, as well as fetuses, are even more sensitive to high concentrations of CO.

CO transport is limited; it disperses with distance from a source under normal meteorological conditions. Under certain extreme meteorological conditions, however, CO conditions near congested roadways or intersections may reach unhealthful levels and adversely affect local sensitive receptors.

Emission controls placed on automobiles and the reformulation of vehicle fuels have resulted in a sharp decline in CO levels, especially since 1991.

Nitrogen Dioxide

NO_2 is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. High concentration of NO_2 can irritate airways in the respiratory system. Such exposure over short periods can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections such as colds, flu, and bronchitis. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2.

NO_2, along with other NO_x, is an ozone precursor compound and contributes indirectly to health impacts related to ozone, as discussed above. NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels, potentially reducing visibility.

Particulate Matter

Respirable PM, PM_{10}, and fine PM, $PM_{2.5}$, consist of PM that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM_{10} and $PM_{2.5}$ represent fractions of PM that can be inhaled and cause adverse health effects. PM_{10} and $PM_{2.5}$ are a health concern, particularly at levels above the federal and State ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) is thought to have greater effects on health because minute particles are able to penetrate to the deepest parts of the lungs. Scientific studies have suggested links between fine PM and numerous health problems including asthma, bronchitis, acute and chronic respiratory symptoms such as shortness of breath and painful breathing. Children are more susceptible to the health risks of $PM_{2.5}$ because their immune and respiratory systems are still developing. Very small particles of certain substances (e.g., sulfates and nitrates) can also directly cause lung damage or can contain absorbed gases (e.g., chlorides or ammonia) that may be injurious to health.

PM in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of PM, such as mining and demolition and construction activities, are more local in nature, while others, such as

vehicular traffic, have a more regional effect. In addition to health effects, particulates also can damage materials and reduce visibility. Dust comprised of large particles (diameter greater than 10 microns) settles out rapidly and is more easily filtered by human breathing passages. This type of dust is considered more of a soiling nuisance rather than a health hazard.

TOXIC AIR CONTAMINANTS (TACS)

Besides the "criteria" air pollutants, there is another group of substances found in ambient air referred to as Hazardous Air Pollutants under the Federal Clean Air Act and TACs by the California Air Resources Board (CARB). TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer). TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source. Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level. BAAQMD regulates TACs with a risk-based approach that uses a Health Risk Assessment (HRA) to determine which sources and which pollutants to control as well as the degree of control. An HRA is an analysis in which human exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances to provide a quantitative estimate of health risks.[3] As part of ongoing efforts to identify and assess potential health risks to the public, BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area.

Diesel particulate matter (DPM) from the exhaust of diesel-fueled vehicles and equipment is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to CARB, diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complicated scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent California State Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015 and were used in this analysis.[4]

CARB's Diesel Risk Reduction Plan is intended to reduce DPM emissions and associated health risks substantially through the introduction of ultra-low-sulfur diesel fuel, a step that has already been implemented, and cleaner diesel engines.[5] The technology for reducing DPM 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. CARB's plan also established airborne toxic control measures (ATCMs) for mobile sources, including on-road and off-road vehicles, and stationary sources. With implementation of ATCMs, statewide DPM concentrations decreased from approximately 1.8 µg/m3 to approximately 0.61 µg/m3 between 1990 and 2012, resulting in a 66 percent reduction over that period.[6] CARB continues to explore strategies to reduce

[3] In general, an HRA is required if BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer because of exposure to one or more TACs.

[4] OEHHA, February 2015, *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.

[5] CARB, 2000, *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. Available: https://ww2.arb.ca.gov/sites/default/files/classic//diesel/ documents/rrpfinal.pdf.

[6] CARB, 2021, *Overview: Diesel Exhaust and Health*. Available: https://ww2.arb.ca.gov/ resources/overview-diesel-exhaust-and-health. Accessed: March 15, 2022.

DPM emissions through engine retrofits, cleaner diesel fuel, advanced engine technologies, and alternative fuels. By 2035, CARB estimates that DPM emissions will be less than half of what they were in 2010.[7]

High-Volume Roadways. Air pollutant exposures and their associated health burdens vary considerably at particular locations in relation to the sources of the air pollutants. Motor vehicle traffic is perhaps the most important source of air pollution in urban areas. 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.[8] At present, it is not possible to attribute the effects of roadway proximity on non-cancer health effects to one or more specific vehicle type or vehicle pollutant. Engine exhaust from diesel, gasoline, and other combustion engines is a complex mixture of particles and gases with collective and individual toxicological characteristics.

ODORS

Odor refers to the perception or sensation experienced when one or more volatilized chemical compounds come in contact with receptors on the olfactory nerves. Odorant refers to any volatile chemical in the air that is part of the perception of odor by a human. The difference in sensory and physical responses experienced by individuals is responsible for the significant variability in the individual sensitivity to the quality and intensity of an odorant.

Some land uses commonly associated with odors include agriculture, wastewater treatment plants, food processing and rendering facilities, chemical plants, composting facilities, landfills, waste transfer stations, and dairies. In addition, the occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause any physical harm, they can still be unpleasant, leading to distress and often generating citizen complaints to local governments and regulatory agencies.

SENSITIVE RECEPTORS

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, health clinics, daycare facilities, elder care facilities, elementary schools, and parks where sensitive receptors are present. Places of employment (e.g., commercial and industrial uses) are not considered sensitive land uses because health-sensitive individuals (e.g., children and seniors) typically are not present and workers are only present at the site during a workday (whereas it is assumed that residents can be present at their homes all day every day). For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the site are infants and children that may be living in the multi-family residences approximately 300 feet to the southwest opposite El Camino Real. Additional sensitive

[7] Ibid.

[8] CARB, April 2005, *Air Quality and Land Use Handbook: A Community Health Perspective*. Available: https://sfmohcd.org/sites/default/files/20%20-%20CARB%2C%20Air%20Quality%20and%20Land%20Use%20Handbook%202005.pdf. Accessed: March 15, 2022.

receptors can be found at further distances to the southwest of the project site and to the northwest. If daycare is included as part of the project, this project would introduce new sensitive receptors (i.e., infants and children at daycare) to the area.

EXISTING AIR QUALITY CONDITIONS

Existing Air Quality Conditions CARB and the EPA (and BAAQMD in the Bay Area) maintain ambient air quality monitoring stations in California. The air quality monitoring station closest to the project site is the 897 Barron Avenue station in Redwood City, operated by BAAQMD, which is approximately 3.5 miles to the southeast; it monitors criteria air pollutants. The air quality trends from this station are used to represent ambient air quality in the project area. Ambient air quality in the project area from 2018 to 2020 (the most recent available period) is shown in **Table 5.1**. The pollutants monitored at the Redwood City station are ozone, CO, NO_2, and $PM_{2.5}$. Air quality trends for PM_{10} are not monitored in San Mateo County; therefore, air quality trends for PM_{10} are from the 158 Jackson Street monitoring station in San Jose, operated by BAAQMD, approximately 25 miles southeast of the project site.

Existing TAC Sources and Health Risks

BAAQMD maintains an inventory of health risks associated with all permitted stationary sources within the SFBAAB. The inventory was last updated in 2020 and is publicly available online.[9] Within 1,000 feet of the project site, there are 13 permitted facilities that have a quantified background health risk associated with them. Of the 13, five are generators, three are gas dispensing facilities, one ready-mix concrete facility, one woodworking operation, one metal coating operation, one sub-slab vapor mitigation system, and one auto-body coating operation. Aside from stationary sources, emissions of TACs around the project site are also generated from mobile sources and railways. BAAQMD considers roadways with an average daily traffic (ADT) level of more than 10,000 to be "high-volume roadways" and recommends they be included in the analysis of health risks.

[9] BAAQMD, 2020, *Permitted Stationary Sources Risks and Hazards*. Available: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65. Accessed: March 15, 2022.

Table 5.1: BAAQMD Local Monitoring Station Ambient Air Quality Data (2018–2020)

Pollutant Standards	2018	2019	2020
Ozone at Redwood City station			
Maximum 1-hour concentration (ppm)	0.067	0.083	0.098
Maximum 8-hour concentration (ppm)	0.049	0.077	0.077
Fourth highest 8-hour concentration (ppm)	0.048	0.054	0.054
Number of days standard exceeded			
CAAQS 1-hour standard (> 0.09 ppm)	0	0	1
CAAQS 8-hour standard (> 0.070 ppm)	0	2	1
NAAQS 8-hour standard (> 0.070 ppm)	0	2	1
CO at Redwood City station			
Maximum 8-hour concentration (ppm)	1.7	1.1	1.5
Maximum 1-hour concentration (ppm)	2.5	2.0	2.1
Number of days standard exceeded			
NAAQS 8-hour standard (≥ 9 ppm)	0	0	0
CAAQS 8-hour standard (≥ 9.0 ppm)	0	0	0
NAAQS 1-hour standard (> 35 ppm)	0	0	0
CAAQS 1-hour standard (≥ 20 ppm)	0	0	0
NO_2 from Redwood City station			
Maximum state 1-hour concentration (ppm)	0.077	0.054	0.045
Annual average concentration (ppm)	0.010	0.009	0.008
Number of days standard exceeded			
CAAQS 1-hour standard (0.18 ppm)	0	0	0
NAAQS 1-hour standard (0.100 ppm)	0	0	0
PM_{10} at Jackson Street station			
Maximum state 24-hour concentration (µg/m^3)	121.8	77.1	137.1
Maximum national 24-hour concentration (µg/m^3)	115.4	75.4	134.9
National annual average concentration	20.9	18.4	29.9
Measured number of days standard exceeded			
CAAQS 24-hour standard (50 µg/m^3)	4	4	10
NAAQS 24-hour standard (150 µg/m^3)	0	0	0
$PM_{2.5}$ at Redwood City station			
Maximum state 24-hour concentration (µg/m^3)	120.9	29.5	124.1
Maximum national 24-hour concentration (µg/m^3)	120.9	29.5	124.1
National annual average concentration	10.5	7.0	9.8
Measured number of days standard exceeded			
NAAQS 24-hour standard (> 35 µg/m^3)	13	0	9

Sources:
CARB, 2021, *iADAM: Air Quality Data Statistics.* Top 4 Summary. Available: https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed: November 2021.
EPA, 2021, *Monitor Values Report.* Available: https://www.epa.gov/outdoor-air-quality-data/monitor-values-baareport. Accessed: November 2021.
Notes:
NAAQS = National Ambient Air Quality Standard; CAAQS = California Ambient Air Quality Standard; ppm = parts per million; µg/m^3 = micrograms per cubic meter
An exceedance is not necessarily a violation.
State statistics are based on local conditions data; state statistics are based on California-approved samplers.
National statistics are based on standard conditions data. In addition, national statistics are based on samplers, using federal reference or equivalent methods.
State criteria for ensuring data are adequate for calculating valid annual averages are more stringent than national criteria.

Regional Attainment Status

Local monitoring data are used to designate areas as nonattainment, maintenance, attainment, or unclassified areas for ambient air quality standards. The four designations are defined below. **Table 5.2** summarizes the attainment status of San Mateo County.

- Nonattainment—assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- Maintenance—assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- Attainment—assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- Unclassified—assigned to areas where data are insufficient to determine whether a pollutant is violating the standard in question.

Table 5.2: Federal and State Attainment Status for San Mateo County Portion of the SFBAAB

Criteria Pollutant	Federal Designation	State Designation
Ozone (8-hour)	Nonattainment	Nonattainment
CO	Unclassified/Attainment	Attainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
NO_2	Unclassified/Attainment	Attainment
SO_2	Unclassified/Attainment	Attainment
Lead	Unclassified/Attainment	Attainment
Sulfates	(No Federal Standard)	Attainment
Hydrogen Sulfide	(No Federal Standard)	Unclassified
Visibility-Reducing Particles	(No Federal Standard)	Unclassified

Source: CARB, 2020, *State Area Designations Regulations*. Appendix C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. Available: https://ww3.arb.ca.gov/ regact/2021/sad20/appc.pdf. Accessed: November 2, 2021.

REGULATORY FRAMEWORK

The Federal Clean Air Act (CAA) and its subsequent amendments form the basis for the nation's air pollution control effort. The United States Environmental Protection Agency (EPA) is responsible for implementing most aspects of the CAA. The NAAQS for criteria pollutants are a key element of the CAA, which delegates enforcement of the NAAQS to the states. In California, CARB is responsible for enforcing air pollution regulations and ensuring that the NAAQS and CAAQS are met. CARB, in turn, delegates regulatory authority for stationary sources and other air quality management responsibilities to local air agencies. BAAQMD is the local air agency for the project area.

The following sections provide more detailed information on federal, state, and local air quality regulations that apply to the proposed project.

FEDERAL

Clean Air Act and National Ambient Air Quality Standards

The Federal CAA was enacted in 1963 and amended numerous times in subsequent years (1965, 1967, 1970, 1977, and 1990). The federal CAA establishes federal air quality standards, known as NAAQS,

and specifies future dates for achieving compliance. The federal CAA also requires each state to submit and implement a State Implementation Plan (SIP) for local areas that fail to meet the standards. The plan must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the federal CAA identify specific emission reduction goals for areas that fail to meet the NAAQS. These amendments require both a demonstration of reasonable progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the federal CAA that would affect development of the proposed project include Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).

Table 5.1 above shows the NAAQS that are currently in effect for each criteria pollutant. The CAAQS (discussed below) are provided for reference. Neither the NAAQs nor CAAQs are thresholds that individual projects should be measured against. Rather clean air plans and air district thresholds are intended to ensure that the NAAQs and CAAQs are met, and projects are measured against these plans and thresholds.

Non-Road Diesel Rule and Corporate Average Fuel Economy Standards

The EPA sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the Federal standards.

In the past decade, the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X, PM_{10} and $PM_{2.5}$, and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are projected to reduce PM and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[10]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD), is currently required for use by all vehicles in the U.S.

All of the above federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

Corporate Average Fuel Economy Standards

First enacted by Congress in 1975, the purpose of Corporate Average Fuel Economy (CAFE) Standards is to reduce energy consumption by increasing the fuel economy of cars and light trucks. The CAFE

[10] USEPA, December 2000, *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements, EPA420-F-00-05*.

standards are fleet-wide averages that must be achieved by each automaker for its car and truck fleet, each year, since 1978. When these standards are raised, automakers respond by creating a more fuel-efficient fleet, which improves our nation's energy security and saves consumers money at the pump, while also reducing greenhouse gas (GHG) emissions.

CAFE standards are regulated by the Department of Transportation (DOT)'s National Highway Traffic and Safety Administration (NHTSA). NHTSA sets and enforces the CAFE standards, while the EPA calculates average fuel economy levels for manufacturers, and also sets related GHG standards. NHTSA establishes CAFE standards under the Energy Policy and Conservation Act (EPCA) of 1975, as amended by the Energy Independence and Security Act (EISA) of 2007, while EPA establishes GHG emissions standards under the CAA.

On March 31, 2022, NHTSA finalized CAFE Standards for model years (MYs) 2024 through 2026.[11] The final rule establishes standards that require an industry-wide fleet average of approximately 49 miles per gallon (mpg) for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8% annually for MYs 2024 and 2025, and 10% annually for model year 2026. NHTSA projects the final standards will save consumers nearly $1,400 in total fuel expenses over the lifetimes of vehicles produced in these MYs and avoid the consumption of about 234 billion gallons of gas between MYs 2030 to 2050. NHTSA also projects the standards will cut GHGs from the atmosphere, reduce air pollution, and reduce the country's dependence on oil.

NHTSA is currently working on an Environmental Impact Statement to analyze its proposed CAFE Standards for MYs 2027 and beyond and its requirements for heavy-duty pickup trucks and vans for MYs 2029 and beyond.

STATE

Under the California Clean Air Act (CCAA), the CARB is responsible for research activities, the establishment of CAAQS, guidelines for air quality management, and the regulation of both stationary and mobile emission sources. As noted above, both the CARB and the EPA have established ambient air quality standards for common pollutants, including ozone, CO, NO_2, PM_{10} and $PM_{2.5}$. These ambient air quality standards represent levels that avoid specific adverse health effects associated with each pollutant. Individuals vary widely in their sensitivity to air pollutants, and standards are set to protect more pollution-sensitive populations (e.g., children and the elderly). National and state standards are reviewed and updated periodically based on new health studies. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent. National and California ambient air quality standards are shown in **Table 5.1**, above.

Executive Order (EO) N-79-20 states that 100 percent of new passenger cars and trucks sold in the state are to be zero-emission vehicles by 2035, 100 percent of medium- and heavy-duty trucks and buses for all operations are to be zero-emission vehicles by 2045 (by 2035 for drayage trucks, where feasible), and 100 percent of off-road vehicles, as well as equipment, are to be zero-emission vehicles by 2035, where feasible. California EO N-79-20 also directed CARB to partner with the Governor's Office of Business and Economic Development and other agencies to develop the Zero-Emissions Vehicle Market Development Strategy, which was released in February 2022. To meet the goals in EO N-79-20, CARB adopted Advanced Clean Cars II (ACC II) Regulations in 2022, which require all new passenger cars, trucks and SUVs sold in California to be zero emissions by 2035. The ACC II

[11] DOT NHTSA, *Corporate Average Fuel Economy*, available at: https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy#:~:text=NHTSA's%20Corporate%20Average%20Fuel%20Economy,heavy%2Dduty%20trucks%20and%20engines.

Regulations are two-pronged. First, they amend the Zero-emission Vehicle Regulation to require an increasing number of zero-emission vehicles, relying on currently available advanced vehicle technologies, including battery-electric, hydrogen fuel cell electric and plug-in hybrid electric-vehicles, to meet air quality and climate change emissions standards. Second, the Low-emission Vehicle Regulations were amended to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions. ACC II establishes a year-by-year process, starting in 2026, so all new cars and light trucks sold in California will be zero-emission vehicles by 2035, including plug-in hybrid electric vehicles. The regulation codifies the light-duty vehicle goals set out in Governor Newsom's EO N-79-20. Currently, 16 percent of new light-duty vehicles sold in California are zero emissions or plug-in hybrids. By 2030, 68 percent of new vehicles sold in California would be zero emissions and 100 percent by 2035.

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.[12] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce DPM emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation aims to substantially reduce these emissions between 2013 and 2023, by accelerating the rate at which the fleet either turns over so there are more cleaner vehicles on the road, or the fleet is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

In 2021, CARB adopted the Advance Clean Truck (ACT) regulation, targeting medium- and heavy-duty vehicles through both manufacture sales requirements and reporting requirements for large entities and fleets that operate or dispatch more than 50 trucks in California. A certain percentage of trucks sold, varying by vehicle class, must be zero-emission vehicles starting in 2024. Fleets and entities must report information about their fleet operations, including vehicle types, annual miles traveled, and fuel usage.[13] In October 2023, to complement the ACT, CARB adopted the Advanced Clean Fleet (ACF) regulations, intended to accelerate the transition to zero-emission vehicles by requiring both fleets and

[12] CARB, October 2000, *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*.

[13] CARB, Advanced Clean Truck webpage, available at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks. Accessed November 22, 2023.

manufacturers to meet certain targets and milestones. Different types of fleets have differing targets and deadlines. By 2035 drayage trucks must be 100 percent zero-emission, high priority fleets must be at least 75 percent zero-emission, and state and local government fleets must be at least 50 percent zero-emission. To meet the increased market demand created by these requirements, the ACF regulations also require manufacturers to sell an increasing percentage of zero-emission trucks and buses, starting with model year 2024.[14]

Air Toxic Control Measure

In 2004, CARB developed multiple ATCMs to address specific mobile- and stationary-source issues that have an impact on public health. The ATCMs focused on reducing the public's exposure to DPM and TAC emissions. The "Limit Diesel-Fueled Commercial Motor Vehicle Idling" ATCM requires drivers of heavy-duty trucks with a GVWR of more than 10,000 pounds to not idle the primary engine for more than 5 minutes at any given time or operate an auxiliary power system for more than 5 minutes within 100 feet of a restricted area.[15] In addition, CARB set operating requirements for new emergency standby engines (i.e., diesel-fueled compression-ignition engines of less than 50 brake horsepower). Specifically, new engines shall not operate more than 50 hours per year for maintenance and testing purposes. This does not limit engine operation for emergency use or emission testing required to show compliance with ATCM Section 93115.6(a)(3).

Toxic Air Contaminant Regulation

California regulates TACs primarily through the Toxic Air Contaminant Identification and Control Act (Tanner Act) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 ("Hot Spots" Act). In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Act created California's program to reduce the public's exposure to air toxics. The "Hot Spots" Act supplements the Tanner Act by requiring a statewide air toxics inventory, notification for people who were exposed to a significant health risk, and facility plans to reduce risks.

In August 1998, CARB identified DPM from diesel-fueled engines as a TAC. In September 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. As discussed previously, implementation of ATCMs helped reduce statewide DPM concentrations substantially. CARB plans to continue its efforts to reduce DPM emissions and estimates that, by 2035, DPM emissions will be less than half of what they were in 2010.[16]

State of California Building Codes

The California Green Building Standards Code (CALGreen) is part of the California Building Standards Code under Title 24, Part 11.[17] CALGreen encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency, resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable

[14] CARB, Advanced Clean Fleets webpage, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets. Accessed November 22, 2023.

[15] CARB, 2005, *Final Regulation Order, Regulation for In-Use Off-Road Diesel Vehicles.* Available: https://ww3.arb.ca.gov/regact/2007/ordiesl07/frooal.pdf.

[16] CARB, 2021, *Overview: Diesel Exhaust and Health*. Available: https://ww2.arb.ca.gov/ resources/overview-diesel-exhaust-and-health. Accessed: March 15, 2022.

[17] California Department of General Services, Building Standards Commission, CalGreen. See: https://www.dgs.ca.gov/BSC/CALGreen.

to residential and non-residential developments. The most recent CALGreen Code (2022 California Building Standard Code) was effective as of January 1, 2023.

Assembly Bill 1826

Assembly Bill 1826 (AB 1826) requires that state agencies, businesses, and multifamily complexes that generate specific quantities of organic or solid waste each week enroll in organic recycling programs through an applicable solid waste disposal company. AB 1826 defines organic waste as food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. Solid waste is defined as the total of trash, recycling, and organics. Organic recycling programs may take the form of composting, mulching, or anaerobic digestion. In September 2020, CalRecycle reduced the threshold for covered businesses that are required to implement organic or solid waste recycling programs under AB 1826 to 2 cubic yards of solid waste.

REGIONAL AIR QUALITY REGULATIONS

Bay Area Air Quality Management District

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area. The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

Community Air Risk Evaluation Program

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area. The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall CalEnviroScreen score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract. BAAQMD has identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. The project site is not within a designated CARE area and not within a BAAQMD overburdened area as identified by CalEnviroScreen.

For commercial and industrial sources, BAAQMD regulates TACs using a risk-based approach. This approach uses an HRA to determine what sources and pollutants to control as well as the degree of

control. An HRA is an analysis in which human health exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances in order to provide a quantitative estimate of health risks.[18] As part of ongoing efforts to identify and assess potential health risks to the public, BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area. BAAQMD has identified seven affected communities; San Carlos has not been identified as an affected community.[19,20]

BAAQMD Guidelines

BAAQMD also provides a document titled *California Environmental Quality Act Air Quality Guidelines* ("BAAQMD Guidelines"), which provides guidance for consideration by lead agencies, consultants, and other parties evaluating air quality impacts in the San Francisco Bay Area Air Basin conducted pursuant to CEQA. The document provides guidance on evaluating air quality impacts of development projects and local plans, determining whether an impact is significant, and mitigating significant air quality impacts. The most recent version of the Guidelines is the 2022 California Environmental Quality Act Air Quality Guidelines.[21]

BAAQMD Rules and Regulations

Combustion equipment associated with the proposed project that includes new diesel engines to power generators would establish new sources of particulate matter and gaseous emissions. Emissions would primarily result from the testing of the emergency backup generators. Certain emission sources, including generators, would be subject to BAAQMD Regulations and Rules. The District's rules and regulations that may apply to the project, namely its backup diesel generators, include:

Regulation 2 – Permits

Rule 2-1: General Requirements

Rule 2-2: New Source Review

Regulation 6 – Particulate Matter and Visible Emissions

Rule 6-3: Wood-Burning Devices

Regulation 9 – Inorganic Gaseous Pollutants

Rule 9-1: SO_2

Rule 9-7: NO_2 and CO from Industrial, Institutional, and Commercial Boilers, Steam Generators, And Process Heaters

Rule 9-8: NO_2 and CO from Stationary Internal Combustion Engines

[18] In general, a health risk assessment is required if BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

[19] The affected communities are Richmond/San Pablo; eastern San Francisco, including Treasure Island; San José; western Alameda County; Concord, Vallejo; and Pittsburg/Antioch.

[20] BAAQMD, March 2015, *Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area*. March. Available: https://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/ImpactCommunities_2_Methodology.ashx. Accessed: March 15, 2022.

[21] BAAQMD, April 2023, *2022 California Environmental Quality Act Air Quality Guidelines*.

Permits:

Rule 2-1-301 requires that any person installing, modifying, or replacing any equipment, the use of which may reduce or control the emission of air contaminants, shall first obtain an Authority to Construct (ATC).

Rule 2-1-302 requires that written authorization from BAAQMD in the form of a Permit to Operate (PTO) be secured before any such equipment is used or operated.

Rule 2-1 lists sources that are exempt from permitting.

New Source Review:

Rule 2-2, New Source Review (NSR), applies to all new and modified sources or facilities that are subject to the requirements of Rule 2-1-301. The purpose of the rule is to provide for review of such sources and to provide mechanisms by which no net increase in emissions will result.

Rule 2-2-301 requires that an applicant for an ATC or PTO apply Best Available Control Technology (BACT) to any new or modified source that results in an increase in emissions and has emissions of precursor organic compounds, non-precursor organic compounds, NO_X, SO_2, PM_{10}, or CO of 10.0 pounds or more per highest day.

- Based on the estimated emissions from the proposed project, BACT would be required for NO_X emissions from the diesel-fueled generator engines.

Stationary Diesel Airborne Toxic Control Measure:

BAAQMD administers the CARB's ATCM for Stationary Diesel engines (section 93115, title 17 CA Code of Regulations). The NOx, ROG, and particulate limits vary based on maximum engine power. All engines are limited to PM emission rates of 0.15 g/hp-hour, regardless of size. This ATCM limits engine operation to 50 hours per year for routine testing and maintenance.

- The project's stationary sources would be new stationary emergency standby diesel engines larger than 50 hp.

Offsets:

Rule 2-2-302 requires that offsets be provided for a new or modified source that emits more than 10 tons per year of NO_X or precursor organic compounds.

Prohibitory Rules:

Regulation 6 pertains to particulate matter and visible emissions.

- Although the engines would be fueled with diesel, they would be modern, low emission engines. Thus, the engines are expected to comply with Regulation 6.

Rule 6-3 applies to emissions from wood-burning devices. Effective November 1, 2016, no person or builder shall install a wood-burning device in a new building construction.

Rule 9-1 applies to SO_2.

- The engines would use ultra-low sulfur diesel fuel (less than 15 ppm sulfur) and would not be a significant source of SO_2 emissions and are expected to comply with the requirements of Rule 9-1.

Rule 9-7 limits the emissions of NO_X and CO from industrial, institutional and commercial boilers, steam generators and process heaters. This regulation typically applies to boilers with a heat rating of 2 million British Thermal Units (BTU) per hour.

Rule 9-8 prescribes NO_X and CO emission limits for stationary internal combustion engines.

- Since the proposed engines would be used with emergency standby generators, Regulation 9-8-110 exempts the engines from the requirements of this Rule, except for the recordkeeping requirements (9-8-530) and limitations on hours of operation for reliability-related operation (maintenance and testing). The engines would not operate more than 50 hours per year, which would satisfy the requirements of 9-8-111.

BACT for Diesel Generator Engines:

Since the generators would be used exclusively for emergency use during involuntary loss of power, the BACT levels listed for IC compression engines in BAAQMD's BACT Guidelines would apply. These are provided for two separate size ranges of diesel engines:

I.C. Engine – Compression Ignition >50hp and <1.000hp: BAAQMD applies BACT 2 emission limits based on the ATCM for stationary emergency standby diesel engines larger than 50 brake-horsepower (BHP). NO_X emission factor limit is subject to the CARB ACTM that ranges from 3.0 to 3.5 grams per horsepower hour (g/hp-hr). The PM (PM_{10} or $PM_{2.5}$) limit is 0.15 g/hp-hr per CARB's ATCM.

I.C. Engine – Compression Ignition <999hp: BAAQMD applies specific BACT emission limits for stationary emergency standby diesel engines equal to or larger than 1,000 BHP. NO_X emission factor limit is subject to the CARB ACTM that ranges from 0.5 g/hp-hr. The PM (PM_{10} or $PM_{2.5}$) limit is 0.02 g/hp-hr. POC (i.e., ROG) limits are 0.14 g/hp-hr.

Clean Air Plan

In 1991, BAAQMD, Metropolitan Transportation Commission (MTC), and the Association of Bay Area Governments (ABAG) prepared the Bay Area 1991 Clean Air Plan (CAP). This air quality plan addresses the CCAA. The plan was meant to demonstrate progress toward meeting the more stringent 1-hour ozone CAAQS. The latest update to the plan, which was adopted in April 2017, is referred to as the Bay Area 2017 CAP.[22] The 2017 CAP includes a multi-pollutant strategy represented by 85 control strategies to simultaneously reduce emissions and ambient concentrations of ozone, $PM_{2.5}$, and TACs, as well as GHG that contribute to climate change.

The 2017 CAP includes the Bay Area's first-ever comprehensive Regional Climate Protection Strategy, which identifies potential rules, control measures, and strategies that BAAQMD can pursue to reduce GHGs in the Bay Area. Measures of the 2017 CAP addressing the transportation sector are in direct support of Plan Bay Area, which was prepared by ABAG and MTC and includes the region's Sustainable Communities Strategy and the 2050 Regional Transportation Plan. Highlights of the 2017 CAP control strategy include:

- Reduce Exposure to Toxics: Reduce emissions of TACs by adopting more stringent limits and methods for evaluating toxic risks at existing and new facilities.
- Put a Price on Driving: Implement pricing measures to reduce travel demand.
- Advance Electric Vehicles: Accelerate the widespread adoption of electric vehicles.
- Promote Clean Fuels: Promote the use of clean fuels and low or zero carbon technologies in trucks and heavy-duty vehicles.
- Accelerate Low Carbon Buildings: Expand the production of low-carbon, renewable energy by promoting on-site technologies such as rooftop solar and ground-source heat pumps.

[22] BAAQMD, *Clean Air Plan 2017: Spare the Air, Cool the Climate*, Adopted April 2017.

- Support More Energy Choices: Support community choice energy programs throughout the Bay Area.
- Make Buildings More Efficient: Promote energy efficiency in both new and existing buildings.
- Make Space and Water Heating Cleaner: Promote the switch from natural gas to electricity for space and water heating in Bay Area buildings.

To achieve the goals of the CAP, it identifies 85 emissions control measures for implementation by BAAQMD in collaboration with local government agencies, the business community, and Bay Area residents. The control measures target the following emissions sources: stationary sources (40 measures); transportation (23 measures); energy (2 measures); buildings (4 measures); agriculture (4 measures); natural and working lands (3 measures); waste management (4 measures); water (2 measures); super-GHGs (3 measures); and further study (miscellaneous stationary, building, and agriculture sources) (11 measures).

The following measures are relevant to the project:

BL1: Green Buildings – Collaborate with partners such as KyotoUSA to identify energy-related improvements and opportunities for onsite renewable energy systems in school districts; investigate funding strategies to implement upgrades. Identify barriers to effective local implementation of the CALGreen (Title 24) statewide building energy code; develop solutions to improve implementation/enforcement. Work with ABAG's BayREN program to make additional funding available for energy-related projects in the buildings sector. Engage with additional partners to target reducing emissions from specific types of buildings.

BL2: Decarbonize Buildings – Explore potential Air District rulemaking options regarding the sale of fossil fuel-based space and water heating systems for both residential and commercial use. Explore incentives for property owners to replace their furnace, water heater or natural-gas powered appliances with zero-carbon alternatives. Update Air District guidance documents to recommend that commercial and multi-family developments install ground source heat pumps and solar hot water heaters.

EN1: Decarbonize Electricity Production – Engage with PG&E, municipal electric utilities and CCEs to maximize the amount of renewable energy contributing to the production of electricity within the Bay Area as well as electricity imported into the region. Work with local governments to implement local renewable energy programs. Engage with stakeholders including dairy farms, forest managers, water treatment facilities, food processors, public works agencies and waste management to increase use of biomass in electricity production.

TR1: Clean Air Teleworking Initiative – Develop teleworking best practices for employers and develop additional strategies to promote telecommuting. Promote teleworking on Spare the Air Days.

TR2: Trip Reduction Programs – Implement the regional Commuter Benefits Program (Rule 14-1) that requires employers with 50 or more Bay Area employees to provide commuter benefits. Encourage trip reduction policies and programs in local plans, e.g., general and specific plans while providing grants to support trip reduction efforts. Encourage local governments to require mitigation of vehicle travel as part of new development approval, to adopt transit benefits ordinances in order to reduce transit costs to employees, and to develop innovative ways to encourage rideshare, transit, cycling, and walking for work trips. Fund various employer-based trip reduction programs.

TR8: Ridesharing, Last-Mile Connection – Promote carpooling and vanpooling by providing funding to continue regional and local ridesharing programs, and support the expansion of carsharing programs. Provide incentive funding for pilot projects to evaluate the feasibility and cost-effectiveness of innovative ridesharing and other last-mile solution trip reduction strategies. Encourage employers to promote ridesharing and carsharing to their employees.

TR14: Cars and Light Trucks – Commit regional clean air funds toward qualifying vehicle purchases and infrastructure development. Partner with private, local, state and federal programs to promote the purchase and lease of battery-electric and plug-in hybrid electric vehicles.

WA3: Green Waste Diversion – Develop model policies to facilitate local adoption of ordinances and programs to reduce the amount of green waste going to landfills.

WA4: Recycling and Waste Reduction – Develop or identify and promote model ordinances on community-wide zero waste goals and recycling of construction and demolition materials in commercial and public construction projects.

WR2: Support Water Conservation – Develop a list of best practices that reduce water consumption and increase on-site water recycling in new and existing buildings; incorporate into local planning guidance.

LOCAL

San Carlos Municipal Code

SCMC 15.04.125 adopts Title 24, Part 11, California Green Building Standards Code, 2022 Edition.

City of San Carlos General Plan

The San Carlos 2030 General Plan's Environmental Management Element includes policies and actions to reduce exposure of the City's sensitive population to exposure of air pollution, TACs, and GHG emissions. The following policies and actions are applicable to the proposed project:

Goal EM-6: Support atmospheric conditions that are clean, healthful, provides maximum visibility and meets air quality standards.

Policies:

EM-6.1: Support and comply with the BAAQMD, State and federal standards and policies that improve air quality in the Bay Area.

EM-6.2: Support and encourage commercial uses to adopt environmentally friendly technologies and reduce the release of pollutants.

EM-6.3: Support the reduction of emissions of particulates from wood burning appliances, construction activity, automobiles, trucks and other sources.

EM-6.6: BAAQMD recommended measures to reduce PM_{10} and exhaust emissions associated with construction shall be applied to new development in San Carlos.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Under the CEQA Guidelines, Appendix G – Environmental Checklist Form, development of the project site as proposed would have a significant environmental impact if it were to result in the following:

1. Conflict with or obstruct implementation of the applicable air quality plan;
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
3. Expose sensitive receptors to substantial pollutant concentrations; or
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The CEQA Guidelines state that, where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. The analysis in this chapter is based on the thresholds presented in the latest BAAQMD Guidelines (2022), as detailed under each impact discussion below.

CONSISTENCY WITH AIR QUALITY PLAN

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

Impact Air-1: **Consistent with Bay Area 2017 Clean Air Plan.** The project would not obstruct or conflict with any of the primary goals of the Bay Area 2017 CAP and would support applicable control measures. This would be a ***less than significant*** impact.

BAAQMD recommends analyzing a project's consistency with current air quality plan primary goals and control measures. The impact would be significant if the project would conflict with or obstruct attainment of the primary goals or implementation of the control measures.

The primary goals of the Bay Area 2017 CAP are:

- Attain all state and national air quality standards
- Eliminate disparities among Bay Area communities in cancer health risk from TACs
- Reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. [This goal is addressed in Chapter 9: Greenhouse Gas Emissions of this EIR. As discussed in that chapter, the project would not impede the Bay Area region from reaching its GHG goals.]

As discussed under Impact Air-3, below, the project would not exceed established thresholds, and would therefore not impede the air district from attaining the NAAQS or CAAQS.

The project is consistent with all applicable rules and regulations related to emissions and health risk and, as detailed in this chapter, would not result in a new substantial source of emissions or TACs.

The project is not in an overburdened community area as identified by CalEnviroScreen.

Some of the 2017 CAP's control measures are targeted to government-driven area-wide improvements and large stationary source reductions that are not directly applicable to the proposed project. However, the project would be a large employer and the following control measures would be applicable:

- Energy Control Measure EN1 and Water Control Measure WR2: the project would meet current standards of energy and water efficiency, which support these control measures with those objectives.

- Building Control Measures BL1 and BL2: The project would meet the City's current "Green Building" requirements including all-electric buildings, which support these control measures to decarbonize and green buildings.
- Waste Management Control Measures WA3 and WA4: The project would meet all recycling and green waste requirements, which support these control measures to promote these activities.
- Transportation Control Measures TR1, TR2 and TR8: These control measures promote employer trip reduction and carpooling/vanpooling (see Chapter 15: Transportation).
- Transportation Control Measure TR14: The project includes electric vehicle charging stations, supporting this control measure for the promotion of electric vehicles.

As described above and under the below topics in this chapter, the project is consistent with all applicable control measures and with all applicable rules and regulations related to emissions and health risk. Therefore, there would be a *less than significant impact* in relation to inconsistency with the applicable air quality plan.

AIR QUALITY STANDARDS

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

The Bay Area air district is non-attainment for ozone and particulate matter. For the purpose of assessing impacts of a proposed project on air quality standards, the BAAQMD-recommended thresholds are:

- Average daily emissions of 54 pounds per day of NO_X, ROG or $PM_{2.5}$ (exhaust only), and 82 pounds per day of PM_{10} (exhaust only); compliance with best management practices (fugitive dust) during the construction period.
- Average daily emissions as listed above during the operational period (exhaust plus fugitive dust).
- Annual emissions of 10 tons per year of NO_X, ROG or $PM_{2.5}$, and 15 tons per year of PM_{10} during the operational period.

Construction Period

Impact Air-2: **Construction Period Dust and Emissions.** Construction activities would generate exhaust emissions from vehicles and equipment and fugitive dust particles that could affect local air quality. While the project emissions would be below threshold levels, the Bay Area Air Quality Management District (BAAQMD) considers dust generated by grading and construction activities to be a potentially significant impact associated with project development if uncontrolled and recommends implementation of construction management practices to reduce construction-related emissions and dust for all projects, regardless of comparison to their construction-period thresholds. The project's impact on air quality due to construction would be ***less than significant with mitigation*.**

Construction emissions for all stages of construction were estimated using version 2020.4.0 of the California Emission Estimator Model (CalEEMod), the land-use model recommended by BAAQMD

for CEQA analyses, as updated with the most recent emissions factors (EMFAC2021). The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic (see full report in Appendix B for detailed methodology, inputs, and results). This analysis was performed with an assumption of a construction start in 2021. With a later initiation, impacts would be the same or lessened (due to increasing emissions controls) from those analyzed here. The phases were analyzed based on the initial phasing plan, but that plan may change. The combinations of buildings may differ from those used for the analysis, or each phase could be broken down into subphases, resulting in the construction of one building at a time. The analysis is intended to be a worst-case analysis of potential construction-period emissions, with the minimum amount of phases and no delay in construction between phases.

As summarized in **Table 5.3** below, predicted construction period emissions would not exceed the applicable BAAQMD significance thresholds.

Table 5.3: Construction Period Emissions (unmitigated)

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Maximum Average Daily Construction Emissions (pounds/day)				
Phase 1	25.90	43.52	2.11	1.51
Phase 2	16.70	26.03	1.28	0.88
Phase 3	23.61	25.84	1.26	0.91
BAAQMD Thresholds (pounds per day)	*54 lbs./day*	*54 lbs./day*	*82 lbs./day*	*54 lbs./day*
Exceed Threshold?	No	No	No	No

Source: Illingworth & Rodkin, 2024, Table 6 (Appendix B)

The project site contains existing buildings that, due to age, may contain asbestos. The project would be required to assess the buildings for asbestos containing material and have any such materials abated before demolition (see Chapter 11: Hazards and Hazardous Materials).

Construction activities, particularly during site preparation and grading, would also temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils and vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. BAAQMD considers dust generated by grading and construction activities to be a significant impact associated with project development if uncontrolled and recommends implementation of construction mitigation measures to reduce construction-related emissions and dust for all projects, regardless of comparison to their construction-period thresholds. These basic construction best management practices are included as Mitigation Measure Air-2, below and would further reduce construction-period criteria pollutant impacts.

Mitigation Measure Air-2: **Basic Construction Best Management Practices.** The project shall demonstrate proposed compliance with all applicable regulations and operating procedures prior to issuance of demolition, building or grading permits, including implementation of the following BAAQMD "Basic Best Management Practices":

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
- Publicly visible signs shall be posted with the telephone number and name of the person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure Air-2 requires implementation of BAAQMD's recommended "best management practices" to control construction emissions, would achieve greater than an 80 percent reduction in on-site fugitive $PM_{2.5}$ emissions, and would reduce the potential impact related to construction period emissions to *less than significant with mitigation*.

Operation

Impact Air-3: **Operational Period Emissions.** Emissions from operation of the project, including site operations as well as mobile sources (e.g., employee vehicle trips) and stationary sources (e.g., emergency generators), could cumulatively contribute to air pollutant levels in the region. The project would have significant emissions of the ozone precursor pollutant reactive organic gasses (ROG) during operations. Mitigation Measure Air-3 would reduce ROG emissions such that the impact would be ***less than significant with mitigation*.**

Most operational air emissions from the project would be from vehicle miles traveled by future employees, and operation of the emergency generators. Other sources are cooling towers, evaporative emissions from architectural coatings and maintenance products (classified as consumer products) that are typically used in this type of project. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out, with a Transportation Demand Management plan in place (see Chapter 15: Transportation) reducing employee mileage by 20%. Reduction in employee mileage would assist with reduction in operational ROG emissions since emissions of ROG from vehicle travel are about 35% of the project's total ROG emissions.

Operational-period emissions for criteria pollutants and precursors have been calculated using CalEEMod as discussed above (full details are included in Appendix B), with results summarized in **Table 5.4**.

Table 5.4: Operational Period Emissions

Description	ROG	NO_X	PM_{10}	$PM_{2.5}$
Unmitigated Operational Emissions (tons/year)	12.92	4.26	11.02	2.82
Mitigated Operational Emission (tons/year)	11.48	4.26	11.02	2.82
Existing Use Emissions (tons/year)	1.67	0.90	1.19	0.31
Unmitigated Net Total (tons/year)	**11.24**	3.37	9.84	2.51
Mitigated Net Total (tons/year)	9.81	3.37	9.84	2.51
BAAQMD Thresholds (tons /year)	*10*	*10*	*15*	*10*
Exceed Threshold?	No	No	No	No
Unmitigated Net New (lbs./day)	**61.61**	18.44	53.90	13.76
Mitigated Net New (lbs./day)	53.73	18.44	53.90	13.76
BAAQMD Thresholds (lbs/day)	*54*	*54*	*82*	*54*
Exceed Threshold?	No	No	No	No

Source: Illingworth & Rodkin, 2024, Table 8a (Appendix B)

As indicated in the table above, predicted operational period emissions would exceed BAAQMD significance thresholds without mitigation.

Table 5.4 above presents the emissions once all phases are operational. Appendix B includes a further breakdown of emissions during operation of earlier phases overlapping with construction of later phases (Tables 8a, 8b, and 9c in Appendix B). ROG emissions would also exceed thresholds when Phase 1 is operating and Phase 2 is under construction and when Phase 3 is under construction while Phase 1 and 2 are operating.

Mitigation Measure

Air-3: **Require Use of Super-Compliant VOC Coatings to Reduce Operational ROG Emissions.** The project shall use super-compliant volatile organic compound (VOC, i.e., ROG) coatings that are below current BAAQMD requirements (i.e., Regulation 8, Rule 3: Architectural Coatings last amended in July 2009) for at least 90 percent of all interior and exterior paints for the lifetime of the project. At least 90 percent of coatings applied must meet a "super-compliant VOC standard of less than 10 grams of VOC per liter of paint, which achieves the required reduction. This mitigation measure applies to 90 percent of coatings since there may be some special coatings required for certain aspects of the project that cannot meet this requirement.

During operation, the implementation of Mitigation Measure Air-3 would reduce total ROG emissions by 11 percent or 1.43 tons per year, which equates to 7.8 pounds per day, per CalEEMod calculations. Construction ROG emissions would decrease by 80 percent or more during the years with the highest emissions. Consumer product and mobile sources would make up a majority of the ROG emissions. With implementation of Mitigation Measure Air-3, the impact would be ***less than significant with mitigation***.

As vehicular emissions have improved over the years, CO hotspots have become less of a concern. BAAQMD presents traffic-based criteria as screening criteria for CO impacts, as follows: the first threshold is whether the project is consistent with the Congestion Management Plan (CMP) of the San

Mateo City/County Association of Governments (C/CAG); whether the project would increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and the third threshold is whether the project would increase traffic volumes to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (such as a tunnel or underground parking garage). The project would implement a Transportation Demand Management Program per San Carlos Municipal Code to reduce project trips, and is therefore consistent with the CMP of the C/CAG. The hourly traffic volumes of the second threshold are very high and much higher than those in the vicinity. For example, El Camino Real is one of the highest volume roadways in the vicinity, which carries approximately 35,000 vehicles per day under existing conditions. Spread over a day, that would be substantially less than 44,000 vehicles per hour. The project's two parking garages would serve only project vehicles with expected parking for 3,200 vehicles combined, which is again substantially fewer than the threshold of 24,000 vehicles per hour. Therefore, conditions in and around the project would be well below screening levels and the project would not result in individually or cumulatively significant impacts from CO emissions.

The project is below significance thresholds established by BAAQMD after mitigation and meets localized CO screening criteria. As a result, the project's impact on regional air quality during the operational period would be *less than significant with mitigation*.

SENSITIVE RECEPTORS

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

Impact Air-4: **Exposure of Sensitive Receptors.** During construction activities, the project could expose sensitive receptors to substantial pollutant concentrations from construction-related emissions. Specifically, the project's construction emissions could cause an excess cancer risk level exceeding 10 in one million at the maximally exposed sensitive receptor. Impacts from operational activities also contribute to the cancer risk level exceeding 10 per million, but to a much smaller degree than the construction impacts. With implementation of construction-period exhaust emission reduction, the impact would be ***less than significant with mitigation.***

An HRA was conducted to evaluate potential health effects to nearby existing sensitive receptors from construction and operation of the project using emissions results from CalEEMod and BAAQMD-recommended U.S. EPA AERMOD dispersion model utilizing local meteorological data (full details are included in Appendix B), with results summarized in the text and table below.

Project-Specific Risk

Construction and operation of the project would result in emissions of DPM and other TACs that could expose sensitive receptors to increased health risks, including those from the following sources:

Construction and Hauling

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. The applicant provided a truck hauling route for heavy duty trucks coming to and leaving the construction site. In addition to on-site construction activity modeling, the analysis included modeling of emissions related to running exhaust, running evaporative losses, tire and brake wear, and fugitive road dust related to hauling trucks along the hauling route.

The primary health risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. DPM from diesel exhaust poses both a potential health and nuisance impact to nearby receptors.

Project Operations

Project Operational Traffic

Emissions from operational traffic includes running exhaust, running evaporative losses, tire and brake wear, and fugitive road dust. Operational traffic would include both the passenger vehicles trips largely associated with commuting workers as well as a mix of trucks associated with project operations.

Project Generators

It is anticipated that the project would include an emergency generator for each office/R&D building, with the option, pursuant to tenant need, of installing an additional 1,500-kW generator per building alongside the preinstalled generator for the building. The emissions analysis assumed that tenants in each building would install the optional 1,500-kW generator alongside the 2,000-kW base generator, for a total of 12 generators at the project site (six 2,000-kW and six 1,500-kW).

Operation of a diesel generator would be a source of TAC emissions. Emergency generators would be operated for testing and maintenance purposes, with a maximum of 50 hours per year of non-emergency operation assumed under normal conditions. During testing periods, the engine would typically be run for less than one hour under light engine loads. The generator engines would be required to meet EPA emission standards and consume commercially available low sulfur diesel fuel. Additionally, the generators would have to meet BAAQMD BACT requirements for IC Engine-Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump sources. Based on the size of the proposed generators, these include emission limits similar to U.S. EPA Tier 4 engines.

Project Laboratories

This type of project may include research and manufacturing type laboratories. Since a specific user or type of lab use is not known at this time, it is not possible to predict whether there would be any TAC emissions and, if so, the quantities that would be emitted. Typically, laboratory uses have fume hoods and would employ appropriate exhaust systems to control any emission of air pollutants. Emissions of air pollutants or TACs are subject to BAAQMD permitting requirements that would require the District to apply all applicable rules and regulations to limit or control these emissions. Regulation 2, Rule 1: General Requirements, and Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants would apply to any potential emissions from these sources. The District's risk policy is to not issue a permit to any source that would cause a cancer risk of greater than 10 chances per million.

Project Cooling Towers

The project is anticipated to include 22 rooftop cooling towers. Cooling towers can be a source of $PM_{2.5}$ and PM_{10} emissions as water droplets evaporate and leave dissolved solids in the air. The emissions analysis assumed that the cooling towers would be operating 24 hours a day 7 days a week for a conservative analysis.

Total Project Risk

Table 5.5 summarizes the results of the HRA analysis with respect to total project risks to off-site receptors.

Table 5.5: Project Risk Impacts at Off-site Receptors (Maximum)[1]

Source[2]	Unmitigated /Mitigated	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction and Hauling	Unmitigated	23.01	0.11	0.02
	Mitigated	6.06	0.04	<0.01
Project Operation	(no mitigation)	1.31	<0.2	<0.02
Total Project (Construction + Operation)	Unmitigated	**24.32**	<0.21	0.02
	Mitigated	7.37	<0.21	<0.01
BAAQMD Single-Source Threshold		*>10.0*	*>0.3*	*>1.0*
Exceed Threshold?	Unmitigated	**Yes**	No	No
	Mitigated	No	No	No

Source: Illingworth & Rodkin, 2024, from Table 10 in Appendix B
Notes:
[1] Risks in this table are reported for the theoretical maximally exposed individual, factoring in age-sensitivity.
[2] This table includes all phases of the project.

As indicated in Table 5.5, results of this community HRA indicate that the unmitigated maximum increased health risks would exceed BAAQMD significance thresholds and would therefore require mitigation.

Mitigation Measure

Air-4: **Construction Period Exhaust Emissions Reduction.** The project shall use construction equipment that has low diesel particulate matter (DPM) exhaust to minimize cancer risk and annual fine particulate matter ($PM_{2.5}$) concentrations, which shall include either A or B below:

A. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 emission standards. In rare cases where the use of Tier 4 equipment is not specifically available, alternatively:

   i. Use equipment that meets U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 70 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; and/or

   ii. Use electrical or non-diesel fueled equipment.

B. Alternatively, the applicant can develop a plan that reduces on- and near-site diesel particulate matter emissions by 70 percent or greater. Such a plan would have to be supported by an air quality analysis from a qualified air quality consultant and reviewed and approved by the City.

As shown in Table 5.5, with implementation of Mitigation Measures Air-4, requiring Construction Period Exhaust Emission Reduction, and the Standard Condition: Basic Construction Management Practices discussed under Impact Air-2 above, the project-specific risk impacts would be reduced below significance thresholds and the project-specific impact with respect to sensitive receptors would be *less than significant with mitigation*.

Cumulative Risk

Community HRAs typically also look at all substantial sources of TACs that can affect sensitive receptors and are located within 1,000 feet of the project site (i.e., influence area). These sources include

railroads, freeways or highways, high-volume surface streets, and stationary sources identified by BAAQMD. In the influence area of the project, these include the following:

Rail Lines

The Caltrain rail lines are about 80 feet southwest of the site. Rail activity on these lines currently generates TAC and $PM_{2.5}$ emissions from locomotive exhaust. These rail lines are used primarily for Caltrain passenger service; however, there is some freight service by trains using diesel-fueled locomotives.

Based on the current Caltrain schedule effective August 30, 2021 there are 104 trains that pass the project site during weekdays and 32 on weekends. In addition to the passenger trains there are about four freight trains that use the rail lines on a daily basis.[23]

Currently, all of Caltrain's trains use diesel locomotives. The Peninsula Corridor Electrification Project is a key component of the Caltrain Modernization Program that would electrify the Caltrain Corridor from San Francisco to the Tamien Caltrain station in San José. As part of the program to modernize operation of the Caltrain rail corridor between San José and San Francisco, Caltrain is planning to phase in the change from using diesel locomotives to use of electric trains.[24] This plan was formally adopted on January 8, 2015, and electrified service is anticipated to begin in late 2024.[25,26]

Caltrain plans are that initial service between San José and San Francisco would use a mixed fleet of electric and diesel locomotives, with approximately 75 percent of the service being electric and 25 percent being diesel. After the initial implementation period, diesel locomotives would be replaced with electric trains over time as they reach the end of their service life. Caltrain's diesel-powered locomotives would continue to be used to provide service between the San José Diridon Station and Gilroy. It is expected that all of the San José to San Francisco fleet would be electric trains about five to eight years after initial electric service begins.[27]

Starting in 2024 with Caltrain electrification, there would be 24 daily weekday trips and 4 daily weekend trips using trains with diesel locomotives.[28] On an annual average basis this would be a total of 18 daily trains using diesel locomotives. Use of these diesel trains by Caltrain between San Francisco and San Jose would be phased out over time and replaced by electric trains. All trains used for freight service were assumed to use diesel powered locomotives.

Highways and Local Roadways – U.S. Highway 101, El Camino Real, Brittan Ave, Industrial Road, Old County Road

The project influence area includes five high-volume roadways (with traffic exceeding 10,000 vehicles per day): U.S. 101, El Camino Real, Brittan Ave, Industrial Road, and Old County Road, with the following estimated Average Daily Traffic (ADT reported here as projected for 2026):

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[23] DOT, Federal Railroad Administration, September 2, 2019, *U.S. DOT Crossing Inventory Form for Crossing 754935A*.

[24] Caltrain, December 2014, *Peninsula Corridor Electrification Project. Final Environmental Impact Report.*

[25] Caltrain, May 2015, *Peninsula Corridor Electrification Fact Sheet.*

[26] Caltrain, June 2021, *Caltrain Electrification Delayed to 2024*. Available at: *www.caltrain.com/about/MediaRelations/news/Caltrain_Electrification_Delayed_to_2024.html*

[27] Caltrain, October 2015, *Short Range Transit Plan: FY2015-2024*. Available at: https://www.caltrain.com/media/25688/download

[28] Ibid.

U.S. 101: 197,000

El Camino Real: 36,423

Brittan Ave: 21,800

Industrial Road: 21,800

Old County Road: 11,550

BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources* GIS website, which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance.[29] The screening level risks and hazards provided by BAAQMD for the stationary source was adjusted for distance as applicable. Thirteen sources were identified using this tool. All stationary sources and their emissions are detailed in Appendix C; however, the following stationary source is mentioned due to the large contribution to area risk:

Stationary-Source: CEMEX Construction Materials Pacific, LLC (Plant #2939)

The project site is near a ready-mix concrete manufacturing plant, CEMEX Construction Materials Pacific, LLC, which is permitted to operate as Plant #2939. Concrete plants are a source of $PM_{2.5}$ emissions associated with the pulverization of raw material, kiln burning, clinker production and storage, and other processes at the facility. BAAQMD provides screening $PM_{2.5}$ risk predictions for this facility through their Source Risk & Hazards Screening Report. The screening annual $PM_{2.5}$ concentration at the facility was reported at 8.5 ug/m^3. However, this is an over-prediction because BAAQMD uses maximum permitted values rather than actual production values. Since screening projections indicated the annual $PM_{2.5}$ emissions would be above the single-source threshold, the next step in this evaluation was to conduct a more refined screening assessment of the facility based on additional tools. This involves obtaining actual emissions data for the facility reported by the California Air Resource Boards' California Emissions Inventory Data Analysis and Reporting System (CEIDARS) and conducting dispersion modeling.

The CEMEX facility contributes the following to cumulative stationary-source risks to those shown for stationary-sources in Table 5.6: cumulative cancer risk of 0.36 per million, annual $PM_{2.5}$ concentration of 0.64 µg/m^3, and hazard index of 0.01.

Total Cumulative Risk

Table 5.6 reports both the project and cumulative health risk impacts at the sensitive receptors within the influence area. Roadways risk impacts included in the Additional Sources in Table 5.6 are based on a "worst-case" scenario for conservatism.[30]

[29] BAAQMD, Permitted Stationary Sources GIS website, available at: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65

[30] Each roadway was modeled at the starting year for each phase (2021, 2024, and 2027). The year that led to the highest impacts were included in this worst-case scenario. For this project, that meant including impacts from year 2021 on all non-highways and 2024 on U.S. 101.

Table 5.6: Risk Impacts from Combined Sources at Off-site Receptors (Maximum) [1]

Source	Unmitigated /Mitigated	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Caltrain[2]		28.80	0.06	<0.01
Highways and Local Roadways		10.62	0.54	<0.05
Stationary Sources		4.11	<0.77	<0.17
Total Other Cumulative Sources		43.53	<1.37	<0.23
Total Project (Construction + Operation)[3]	Unmitigated	24.32	<0.21	0.02
	Mitigated	7.37	<0.21	<0.01
Total Other Cumulative + Total Project	Unmitigated	<67.85	**<1.58**	<0.25
	Mitigated	<50.90	**<1.58**	<0.24
BAAQMD Cumulative-Source Threshold		>100	>0.8	>10.0
Exceed Threshold?	Unmitigated	No	**Yes**	No
	Mitigated	No	**Yes**	No

Source: Illingworth & Rodkin, 2024, from Table 11 in Appendix B
Notes:
[1] Risks in this table are reported for the theoretical maximally exposed individual, factoring in age-sensitivity.
[2] Caltrain electrification is taken into account starting in 2025.
[3] Project risks include all phases of the project.

As mentioned above, with the implementation of Mitigation Measure Air-4, the project's cancer risk, $PM_{2.5}$ concentration, and hazard index would be lowered to a level below the single-source thresholds. The cumulative cancer risk, hazard index, and annual $PM_{2.5}$ concentrations are provided in Table 5.6. As shown, cumulative source thresholds at the nearest sensitive receptor are exceeded due to the maximally exposed individual's location near two significant sources of TAC emissions: El Camino Real and CEMEX Construction Materials Pacific, LLC, which cause an exceedance of the annual $PM_{2.5}$ threshold without the project. These existing sources of TAC emissions also are shown by BAAQMD to exceed the single source threshold individually. According to BAAQMD, because the project's community risk would not exceed the single source thresholds, the project would not make a cumulatively considerable contribution to a significant cumulative impact on the maximally exposed individual.

NON-CEQA: RISK ASSESSMENT FOR POTENTIAL DAYCARE

The project includes an amenity space that could potentially house a daycare facility. While not considered an impact to the environment under CEQA, the potential health risk to proposed new on-site sensitive receptors (the potential daycare) was included in Appendix B in full and a summary is presented here as an information item.

The health risk assessment determined that if a daycare were included in the project, and if it were operational prior to completion of all on-site construction activities, operations of the daycare should be suspended during heavy construction activities on-site, which includes demolition, rough grading, foundations, and structural steel framing of the new buildings. A ventilation system with MERV16 filtration, with proper installation and maintenance, was additionally recommended for a daycare facility if one were to be included to reduce risk from other nearby construction activities and existing area sources. With these two recommendations, health risk at the potential daycare, if it were to be constructed, would be below both single-source and cumulative health risk thresholds. (See the analysis in Appendix B for additional detail).

ODORS

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

As described by BAAQMD in its 2022 CEQA Guidelines, manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Odor impacts should be considered for any proposed new odor sources located near existing receptors, as well as any new sensitive receptors located near existing odor sources. Generally, increasing the distance between the receptor and the odor source will mitigate odor impacts.

BAAQMD has identified typical sources of odor, a few examples of which include manufacturing plants, rendering plants, coffee roasters, wastewater treatment plants, sanitary landfills, and solid waste transfer stations. The project would generate localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors. However, they would be localized and are not likely to adversely affect people off-site by resulting in confirmed odor complaints. The project would not include any sources of significant odors during operation that would cause complaints from surrounding uses. In addition, the typical wind flow in the area is from the west toward the east; therefore, any localized odors produced by the project would typically be transported away from sensitive uses. (*no impact*).

CUMULATIVE AIR QUALITY IMPACTS

As discussed above, air quality emissions are regional in nature and the impact discussion above is already cumulative. There are no projects planned in the project vicinity that would be a source of odors, therefore there would be no cumulative odor impact. As discussed under Sensitive Receptors above, the is a significant cumulative impact with respect to health risk to sensitive receptors from cumulative sources; however, the project would not have a cumulatively considerable contribution to that impact. There would be no significant cumulative air quality impacts to which the project would be a cumulatively considerable contributor.

6

BIOLOGICAL RESOURCES

INTRODUCTION

This chapter provides information on biological resources in the project area. The chapter also presents a discussion of federal, state, and local laws, policies, and regulations that influence the protection of such biological resources. The chapter identifies impacts on biological resources that may result from excavation/consolidation, and development and operation of an office/R&D campus at the project site. The chapter also identifies mitigation measures to avoid, minimize, or compensate for potential significant impacts to biological resources.

The discussion and analysis in this chapter is based on the following report unless otherwise noted:

- Alexandria District Phase Two Biological Letter Report for CEQA Review by WRA Environmental Consultants for the applicant dated September 2, 2020, with an addendum dated September 12, 2023, which was based upon literature and database searches and a field reconnaissance site visit on March 13, 2020. (The full Biological Letter Report is included in Appendix C. Note that this analysis covers all phases of the current project.)

REGULATORY SETTING

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects federally listed wildlife species from "take", which is broadly defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." Take in the form of "harm" can include significant habitat modification or degradation that actually kills or injures a listed wildlife species by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating feeding, or sheltering.[1] An activity can be defined as "take" even if it is unintentional or accidental. Listed plant species are legally protected from take under FESA only if they occur on federal lands.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have jurisdiction over federally listed species under FESA. The USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under FESA but may become listed in the near future and are often included in their review of a project.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), 16 U.S.C. Section 703, prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the

[1] Code of Federal Regulations, Title 50, Chapter II, Section 222.102, Definitions, accessed on 11/16/2023, at https://www.ecfr.gov/current/title-50/chapter-II/subchapter-C/part-222/subpart-A/section-222.102.

Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests, and it prohibits the possession of all nests of protected bird species whether they are active or inactive.

Clean Water Act

The Clean Water Act (CWA) functions to maintain and restore the physical, chemical, and biological integrity of waters of the U.S., which include, but are not limited to, tributaries to traditionally navigable waters currently or historically used for interstate or foreign commerce, and adjacent wetlands. Historically, in non-tidal waters, U.S. Army Corp of Engineers (USACE) jurisdiction extends to the ordinary high water (OHW) mark, which is defined in Title 33, Code of Federal Regulations (CFR), Part 328.3.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit would be effective in the absence of Section 401 Water Quality Certification. The State Water Resources Control Board (SWRCB) is the state agency (together with the RWQCBs) charged with implementing water quality certification in California.

Rivers and Harbors Act

The Rivers and Harbors Act Section 13 prohibits the discharge of refuse matter into navigable waters without a permit, and Section 10 prohibits the creation of any obstruction to the navigable capacity of waters of the United States, including through the alteration, filling or excavation of any ports, harbors, channels or other areas within the reach of the Rivera and Harbor Act without a permit. Navigable waters of the United States, defined in 33 CFR 329.4, include all waters that are subject to the ebb and flow of the tide and/or those that are presently or have historically been used in commerce. The shoreward jurisdictional limit of tidal waters is defined in 33 CFR 329.12 as "the line on the shore reached by the plane of the mean (average) high water." If a project proposes to discharge dredged or fill material into navigable waters of the United States or introduce other potential obstructions, a Letter of Permission that authorizes the impacts must be obtained from USACE under Section 10 of the Rivers and Harbors Act.

STATE

Clean Water Act Section 401/Porter-Cologne Water Quality Control Act

The SWRCB works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny permits, such as Waste Discharge Requirements necessary for projects that could affect waters of the State. Their authority comes from the CWA and the State's Porter-Cologne Water Quality Control Act (Porter-Cologne). Porter-Cologne broadly defines waters of the State as "any surface water or groundwater, including saline waters, within the boundaries of the state."

Because waters of the State are defined more broadly than waters of the United States, California's jurisdiction under Porter-Cologne overlaps with and sometimes exceeds the boundaries of waters of the United States. On April 2, 2019, the SWRCB adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State ("State Wetlands Procedures"). In these new guidelines, riparian habitats are not specifically described as waters of the state but instead as important buffer habitats to streams that do conform to the State Wetland Definition. The Procedures describe riparian habitat buffers as important resources that may both be included in required mitigation packages for permits for impacts to waters of the state, as well as areas requiring permit authorization from the RWQCBs if impacted.

Pursuant to the CWA, projects that require a Section 404 permit from the USACE must also obtain a Section 401 Water Quality Certification permit from the RWQCB. This certification ensures that the proposed project would uphold state water quality standards. As noted above, California's jurisdiction to regulate its water resources is much broader than that of the federal government, and impacts on waters of the State are regulated under Porter Cologne even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements even if the USACE does not. Under the Porter-Cologne, the SWRCB and the nine regional boards also have the responsibility of granting CWA National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for certain discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

California Endangered Species Act

The California Endangered Species Act (CESA; California Fish and Game Code, Chapter 1.5, Sections 2050-2116) prohibits the take of any CESA-listed species and those determined to be candidates for listing. In accordance with CESA, the California Department of Fish and Wildlife (CDFW) has jurisdiction over state-listed species (Fish and Game Code 2070). The CDFW regulates activities that may result in "take" of listed and candidate species (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill").

Fish and Game Code sections 3511, 4700, 5050, and 5515 designate several "fully protected" species. Under Fish and Game Code section 2801.5, permits authorizing the take of fully protected species may only be issued for certain infrastructure projects, including utility scale solar energy and wind energy projects, critical water agency infrastructure projects, and transportation projects. Take of these species is otherwise prohibited.

California Fish and Game Code

Pursuant to California Fish and Game Code Section 1603, the CDFW regulates certain activities in rivers, streams, or lakes that would substantially adversely affect existing fish and wildlife resources. A waterbody such as Pulgas Creek may fall under CDFW jurisdiction.

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on USGS maps, and watercourses with subsurface flows may fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A stream is defined in Title 14, California Code of Regulations Section 1.72, as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW often asserts jurisdiction over riparian habitats that function as part of a watercourse. California Fish and Game Code Section 2786 defines riparian habitat as "lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source."

California Fish and Game Code Section 1602 requires an entity to notify the CDFW of any proposed activity that may substantially divert or obstruct the natural flow or substantially change or use any material from the bed, channel, or bank of a river, stream, or lake. If the CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, a Lake and Streambed Alteration Agreement (LSAA) must be prepared. The LSAA sets reasonable conditions necessary to protect fish and wildlife, and CEQA compliance is required prior to entering into an LSAA. The applicant may proceed with the activity in accordance with the final signed LSAA.

Specific sections of the California Fish and Game Code describe regulations pertaining to protection of certain wildlife species. For example, Code Section 2000 prohibits take of any bird, mammal, fish, reptile, or amphibian except as provided by other sections of the code.

The California Fish and Game Code Sections 3503, 3513, and 3800 (and other sections and subsections) prohibit the take, possession, or needless destruction of the nest or eggs of any bird, the taking or possessing of any migratory nongame bird, or the taking of any nongame bird. Raptors (i.e., eagles, hawks, and owls) and their nests are specifically protected in California under Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

California Environmental Quality Act

Section 15380(b) of the State CEQA Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW or species that are locally or regionally rare.

The CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists". Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that the threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA Section 15380(b).

The California Native Plant Society (CNPS), a non-governmental conservation organization, has developed California Rare Plant Ranks (CRPRs) for plant species of concern in California in the Inventory of Rare and Endangered Plants (CNPS 2020). The CRPRs include lichens, vascular, and non-vascular plants, and are defined as follows:

- CRPR 1A Plants considered extinct.
- CRPR 1B Plants rare, threatened, or endangered in California and elsewhere.
- CRPR 2A Plants considered extinct in California but more common elsewhere.
- CRPR 2B Plants rare, threatened, or endangered in California but more common elsewhere.
- CRPR 3 Plants about which more information is needed - review list.
- CRPR 4 Plants of limited distribution-watch list.

The CRPRs are further described by the following threat code extensions:

- .1—seriously endangered in California;
- .2—fairly endangered in California;
- .3—not very endangered in California.

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing as CRPR 1B or 2 are, in general, considered to meet CEQA's Section 15380 criteria. Impacts on plants that are listed by the CNPS as CRPR 3 or 4 are also considered during CEQA review, although these species are typically not as rare as those of CRPR 1B or 2.

Compliance with CEQA Guidelines Section 15065(a) requires consideration of natural communities of special concern, in addition to plant and wildlife species. Vegetation types of "special concern" are tracked in Rarefind (CNDDB 2019). Further, the CDFW ranks sensitive vegetation alliances based on their global (G) and state (S) rankings analogous to those provided in the CNDDB. Global rankings (G1–G5) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas S rankings reflect the condition of a habitat within California. If an alliance is marked as a G1–G3, all the associations within it would also be of high priority. The CDFW provides the Vegetation Classification and Mapping Program's currently accepted list of vegetation alliances and associations (CDFW 2009).

LOCAL

City of San Carlos General Plan

The City of San Carlos General Plan includes goals and objectives relevant to the environmental factors potentially affected by the proposed project, including the following:

Goal EM-1: Protect natural habitat and other biological resources.

Policies:

- EM-1.1: Ensure that potential impacts to biological resources and sensitive habitat are carefully evaluated when considering development project applications.
- EM-1.2: Ensure that development is consistent with all federal, State and regional regulations for habitat and species protection.
- EM-1.5: Promote the preservation of native species, habitat and vegetation types and overall natural diversity.

Goal EM-2: Promote healthy streams and riparian corridors.

Policies:

- EM-2.1: Preserve and enhance riparian areas.
- EM-2.2: Continue to enforce the City's Riparian Ordinance for all four of the City's creeks (Pulgas, Brittan, Cordilleras and Belmont) and their tributaries.
- EM-2.3: Carefully evaluate the cumulative and compounding impacts of incremental creek encroachments.
- EM-2.4: Restore culverted or buried channels to their natural state wherever feasible.
- EM-2.5: Promote the establishment of native vegetation and the removal of non-native invasive plants in riparian areas.
- EM-2.7: Retain Pulgas, Brittan, Cordilleras and Belmont Creek channels and their 100-year floodplains wherever possible as natural open space areas. These areas are to function as storm drainage facilities and as open space greenbelts to support natural habitat.

Goal EM-3: Enhance the urban forest.

Policies:

- EM-3.1: Maintain and expand the urban canopy with special emphasis on protection of heritage trees.

City of San Carlos East Side Innovation District Vision Plan

In October 2021, the City of San Carlos approved the Vision Plan to shape the development of the East Side including the multiple proposed projects in the planning stages within that area. The goal of the Vision Plan is to help shape infrastructure, urban design, transportation circulation management and mobility, service provision, open space, community facilities, present and future land uses, economic development, and community benefits.

The Vision Plan is broken down into 10 "Big Moves," or categories with measurable actions to reach community goals. The Big Moves that are applicable to the biological resources discussion of this project are:

- "Establish Industrial Road as a Green Boulevard." Establish Industrial Road as a green boulevard, calling for consistent and generous tree-lined sidewalks along Industrial Road.
- "Establish an Open Space Network." Establish an open space network, requiring on-site community open-spaces for larger development projects that can facilitate a range of active and passive uses, and require non-vehicular connections, discovery paths (with a minimum width of 44 feet, with both circulation and landscaping elements), and mid-block connections.
- "Promote Environmental Stewardship." Promote environmental stewardship by establishing best practices to address flooding and environmental remediation, and increase the ecological value of the area with new connections to nature. More specifically, the following actions are applicable to the project site:
    - In the Stream Development and Maintenance Overlay District next to Pulgas Creek, increase the setback where possible and improve stormwater detention capacity, address flooding issues, provide a public multi-use trail, and restore the creek to a more naturalized condition.

San Carlos Municipal Code

The City of San Carlos Municipal Code contains all ordinances for San Carlos. Chapter 18, Zoning, includes regulations relevant to biological resources on the project site as discussed below.

Protected Trees. Chapter 18.18, Landscaping, establishes regulations for the preservation of significant or heritage trees, defined as:

i. An indigenous tree whose size at 48 inches above grade is defined as:
    - Coast live oak (*Quercus agrifolia*), greater than 30 inches in diameter
    - Interior live oak (*Quercus wislizneii*), greater than 24 inches in diameter
    - Valley oak (*Quercus lobata*), greater than 30 inches in diameter
    - Blue oak (*Quercus douglasii*), greater than 24 inches in diameter
    - Coast redwood (*Sequoia sempervirens*), greater than 72 inches in diameter
    - California bay (*Umbellularia californica*), 30 inches in diameter or greater
    - Madrone (*Arbutus meniesii*), 30 inches in diameter or greater
    - Buckeye (*Aesculus californica*), 30 inches in diameter or greater

ii. Community of trees, defined as a group of trees of any size which are ecologically related to each other.

iii. Tree so designated by the City Council, based upon findings that the particular tree is unique and of importance to the public due to its unusual age, appearance, location or other factors.

iv. Any tree that is thirty-six inches in circumference or more, outside of bark, measured at 48 inches above natural grade. The following trees shall not be classified as significant or heritage trees regardless of their size:

- Bailey, Green or Black Acacia: *A. baileyana, A. dedurrens or A. melanoxylon*
- Tree of Heaven: *Ailianthus altissima*
- Fruit trees of any kind
- Monterey Pine: *Pinus radiata*
- Eucalyptus

To protect significant and heritage trees, Chapter 18.18.070 requires a protected tree removal permit application if protected tree removal is proposed. When removal or pruning of a protected tree is proposed as part of or in conjunction with new development the application shall also include a site plan showing the location of buildings, structures and proposed site disturbances; the location of all protected trees on the site; and the protected trees on the site that would be removed or pruned.

Stream Setback Requirements. Chapter 18.14.030 establishes regulations for development within 25 feet of top of bank of Cordilleras, Belmont, Brittan and Pulgas Creeks within the City of San Carlos:

All new development shall be set back a minimum twenty-five feet from the top of bank line or such other distance as specified by the Planning and Transportation Commission.

Except in the case of emergency, all development, grading, restoration and maintenance shall be confined to the dry months (April 15th to October 15th) and all erodible slopes and surfaces exposed by such work will be hydromulched or secured by equally effective erosion control prior to October 15th to the satisfaction of the City Engineer. (Ord. 1443 § 4 (Exh. A (part)), 2012; Ord. 1438 § 4 (Exh. A (part)), 2011).

ENVIRONMENTAL SETTING

The project site consists almost entirely of developed land, with a portion of Pulgas Creek present along the southern boundary. With the exception of Pulgas Creek, which is channelized, the project site has been under industrial or commercial usage since the 1940s. It is situated within a heavily urbanized area and is surrounded on all sides by industrial, commercial, or residential uses. The developed portion of the site has little or no habitat value, consisting of buildings, paved and concrete areas, landscaped areas with small trees, grass, and shrubs typical of developed industrial land uses, or unpaved dirt with grassy or weedy areas in the lots where the Kelly Moore buildings were recently demolished. The banks of Pulgas Creek are a mixture of engineered armoring and ruderal vegetation growing on urban soil containing rubble from past development. Vegetation along the banks consists of species typical of nearshore urban creeks along the margins of San Francisco Bay (see below for specific species).

BIOTIC HABITATS

Pulgas Creek can be considered Perennial Stream habitat (0.36 acres on the project site).

Perennial Stream

Pulgas Creek flows along the entirety of the southeastern boundary of the project site, the property line for which is located in the center of Pulgas Creek. Large sections of Pulgas Creek within the project vicinity are hardscaped, including three bridges and associated box culverts, retaining walls, and Sakrete-lined banks.

SPECIAL STATUS SPECIES

For this assessment, special status species are defined as: those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS under FESA; those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act (CESA); plants occurring on Lists 1A, 1B, 2, 3 or 4 of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2011); animals designated as a California "Species of Special Concern" by the CDFW; and animals listed in the California Fish and Game Code as fully protected species (fully protected birds are provided in Section 3511, mammals in Section 4700, reptiles and amphibians in Section 5050, and fish in Section 5515).

The Biological Letter Report (Appendix C) includes the *Potential for Special Status Plant and Wildlife Species to Occur within the Project Area* table, which lists the details for determination of the potential for area special-status species to occur at the project site. A determination of "no potential" indicates that the listed species would not occur at the site and there would be no impact related to that species. A determination of "Unlikely" indicates that a species could occur in the area but that the site characteristics are such that the potential for the species to be present at the site is so low as to represent a less than significant impact. A determination of "Moderate Potential" indicates that there is a significant potential for the species to occur at the site and further analysis of the potential for impact to that species is discussed.

Plants

Vegetation along the banks of Pulgas Creek consists of ruderal (disturbance-associated) species typical of nearshore urban creek along the margins of San Francisco Bay, including fennel (*Foeniculum vulgare*), Bermuda buttercup (*Oxalis pescaprae*), iceplant (*Carpobrotus edulis*), creeping wildrye (*Elymus triticoides*), Italian ryegrass (*Festuca perennis*), and wild radish (*Raphanus sativus*). The creek does not support a woody riparian vegetation community. Some species occurring along the banks are wetland species typical of saline soils in the area, including saltgrass (*Distichlis spicata*) and gumplant (*Grindelia stricta*). These species are sparse and patchy, are not present in areas containing wetland hydrology at a cover sufficient to be mapped as a wetland according to the USACE wetland delineation procedures and also would not meet the wetland definition established by the State Water Resources Control Board 2021 Wetlands Procedures, which defined wetlands as an area that under normal circumstances (1) has continuous or recurrent saturation of the upper substrate caused by groundwater and/or shallow water, or both, (2) of a duration sufficient to cause anaerobic conditions in the upper substrate, and (3) with either no vegetation or with vegetation dominated by hydrophytes.[2]

The Biological Letter Report *Potential for Special Status Plant and Wildlife Species to Occur within the Project Area* table (included in Appendix C) reported that 52 special-status plant species have been documented in the vicinity of the project site, based upon their review of resource databases. All have no potential to occur within the project site due to the absence of suitable habitat or substrate at the project site, or are unlikely to occur, mostly due to the developed condition of the project site, or due to the

[2] State Water Resources Control Board, April 2021. *Implementation Guidance for the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*.

ruderal fill soil and domination by invasive species along the banks of Pulgas Creek. No special-status plant species were observed within the project site during the site reconnaissance (see Appendix C). Therefore, there would be no significant impact with respect to special-status plant species.

Animals

The Biological Letter Report *Potential for Special Status Plant and Wildlife Species to Occur within the Project Area* table (included in Appendix C) identified 43 special-status wildlife species that have been documented in the vicinity of the project site, based upon a review of literature resources, historic photos, and databases, including the CDFW's California Natural Diversity Database and California Natural Community List, and the California Native Plant Society's Inventory of Rare and Endangered Plants. Of these species, most are excluded based on a lack of habitat features (e.g., tidal marsh, old growth redwood or fir forest, grassland, sandy beaches or alkaline flats, and the presence of specific host plants), or a lack of appropriate roosting or nesting sites. Two special status mammals, the salt-marsh wandering shrew (*Sorex vagrans halicoetes*) and the salt marsh harvest mouse (*Reithrodontomys raviventris*), and two special status birds, California Ridgway's rail (*Rallus obsoletus obsoletus*) and California black rail (*Laterallus jamaicensis coturniculus*), have been documented in marsh habitat approximately one-half to two miles from the project site, however the engineered armoring and ruderal vegetation along the portion of Pulgas Creek in the vicinity of the project site would not support these species. Special status bats were determined to be unlikely to occur due to a lack of appropriate building features, manmade structures, or dense foliage suitable for roosting.

Two special-status bird species were indicated to have a moderate potential to occur in vegetated areas along Pulgas Creek at the project site: Alameda song sparrow (*Melospiza melodia pusillula*) and San Francisco (saltmarsh) common yellowthroat (*Geothlypis trichas sinuosa*). Additionally, non-status bird species protected by the MBTA as well as by California Fish and Game Codes have potential to nest in vegetation or on structures within or adjacent to the project site. These species are discussed further under Impact Bio-1 below.

The eastern section of Pulgas Creek is influenced by saltwater during tidal fluctuations, making most of the channel brackish and unsuitable for freshwater species while also not meeting the requirements of salt marsh-dependent species. The conditions of Pulgas Creek in the vicinity including channelization and culverting, tidal influence, and lack of suitable upstream habitat, make it unlikely any special-status fish species are present in this section of Pulgas Creek.

IMPACTS AND MITIGATION MEASURES

CRITERIA OF IMPACT SIGNIFICANCE

CEQA and the CEQA Guidelines provide guidance in evaluating project impacts and determining which impacts will be significant. CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." Under CEQA Guidelines section 15065(a)(1) and Appendix G, a project's effects on biotic resources may be significant when the project would:

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.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community (e.g., oak woodland) identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

3. 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.
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.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
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.

SPECIAL STATUS SPECIES

1. *Would the project 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?*

Special Status Plants and Animals

Impact Bio-1: **Disturbance of Nesting Birds.** The removal of trees and shrubs during the February 1 to August 31 breeding season could result in the destruction of active nests or cause a disturbance that leads to nest abandonment. This could include but is not limited to species of special concern. This impact is ***less than significant with mitigation*.**

As discussed under the Special Status Species heading above, based upon a review of the resource databases and a reconnaissance visit by qualified biologists on March 13, 2020, no special-status plant or wildlife species were observed on the project site and of the special-status species that have been documented in the vicinity of the project, all of the special-status plant species and most of the special-status wildlife species are either unlikely to occur or have no potential to occur on the project site because suitable conditions are lacking.

Two special-status bird species have a moderate potential to occur in vegetated areas along Pulgas Creek: Alameda song sparrow (*Melospiza melodia pusillula*) and San Francisco common yellowthroat (*Geothlypis trichas sinuosa*).

The federal MBTA and Fish and Game Code of California also protect other non-status bird species year-round, as well as their eggs and nests during the nesting season. The list of migratory birds includes almost every native bird in the United States.

These special-status and non-special-status nesting birds have the potential to nest in trees, shrubs, herbaceous vegetation, and on bare ground and man-made structures within and adjacent to the project site.

The project would remove approximately 92 mature trees on an urban site as part of construction activities, but proposes 520 new tree plantings, so would not result in a net reduction in urban nesting opportunities.

Project construction activities have the potential to impact nests in these areas if construction is initiated during the breeding bird season (February 1 through August 31). Potential impacts include direct

destruction of nests as well as indirect visual and acoustic disturbance to nesting birds from construction in adjacent areas that has the potential to result in nest abandonment.

Mitigation Measure

Bio-1: **Pre-Construction Nesting Bird Survey.** Initiation of construction activities during the avian nesting season (February 1 through August 31) shall be avoided to the extent feasible. If construction initiation during the nesting season cannot be avoided, pre-construction nesting bird surveys for each construction phase shall be conducted by a qualified biologist within 14 days before initial ground disturbance or vegetation removal for such construction phase to avoid disturbance to active nests, eggs, and/or young of nesting birds protected by the Migratory Bird Treaty Act (MBTA) and California Fish & Game Code. Surveys shall encompass the entire construction phase area and the surrounding 100 feet. An exclusion zone where no construction would be allowed shall be established around any active nests of any protected avian species found in the project site until a qualified biologist has determined that all young have fledged and are independent of the nest. Suggested exclusion zone distances differ depending on species, location, and placement of nest, and shall be at the discretion of the biologist (typically 300 feet for raptors and 100 feet for other species). These surveys would remain valid as long as construction activity is consistently occurring in a given area and shall be completed again if there is a lapse in construction activities of more than 14 consecutive days during the nesting bird season.

With implementation of Mitigation Measure Bio-1, which requires avoidance of nesting season for construction initiation, or a nesting survey close to initiation of construction activities, the impact related to special-status and non-status bird species would be *less than significant with mitigation*.

Bird Collisions

Impact Bio-2: **Bird Collisions.** While the proposed development would add structures that could present a risk of bird collisions as they travel across the site between surrounding habitats, the specific design of the proposed structures, including the lack of extensive glazing elements, would minimize this risk below levels where it could substantially impact sensitive species. This is a ***less than significant*** impact.

If the project would result in substantial increased risk of bird collisions, this could be an impact under CEQA. A discussion of proposed design features that reduce the project's avian collision risk was prepared by H.T. Harvey and Associates for the applicant in August 2020 and is available as part of the project application and informed this discussion.[3] A number of factors play a role in determining the risk of bird collisions with buildings, including the amount and type of glass used (which can attract birds by reflecting sky and landscaping or be seen as a clear path through corners or to indoor landscaping), lighting, properties of the building (e.g., size, design, and orientation), type and location of vegetation around the building, and building location. The project site is located in a highly urbanized area and is surrounded on all sides by high-intensity development. As a result, relatively low numbers of birds are expected to occur in the general vicinity of the site, particularly on the north, east, and south sides of the site (i.e., away from Pulgas Creek and the proposed new central green space). Proposed design features of the project that would reduce the potential for avian collisions include the following:

[3] H.T. Harvey and Associates, August 27, 2020, *Alexandria District Phase 2 – Summary of Project Design Features that Reduce Avian Collision Risk*, available as part of the project application.

- Predominantly opaque parking garage facades with only limited use of glazing.
- Low-reflectivity glazing (<15% reflectance) on all buildings.
- Features on all the buildings that reduce the extent of transparent glazing that can be seen as a clear path, including opaque wall panels, screens, spandrel glazing, and perforated metal panels.
- Features on all the buildings that help the buildings appear as solid structures from a distance such as mullions, shadow boxes, fins, and overhangs are present.
- Walled service areas adjacent to several of the buildings that separate landscape vegetation and trees from glazed facades.
- Minimal vegetation that could act as an attractant to birds along potentially dangerous flight paths including in between most buildings and adjacent to transparent glass corners. (This item included coordination to move or remove select trees from the original landscape plan.)

The risk of avian collision is already relatively low due to the site location and would be further minimized through the design details discussed above. Therefore, the project would not result in a significant impact on birds due to collisions with the new buildings (*less than significant*).

RIPARIAN OR OTHER SENSITIVE NATURAL COMMUNITY

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

Impact Bio-3: **No Loss of Valuable Riparian Habitat.** Current conditions along the banks of Pulgas Creek on the project site do not contain a sensitive vegetation community or high habitat value. This is a ***less than significant*** impact.

The project site includes riparian areas along Pulgas Creek. Riparian habitats are unique areas that surround river and stream banks and contribute disproportionately high habitat values and functions for their limited surface area. Specially-adapted plants that may tolerate repeated flooding or that rely on a high water table often occur in these areas, but even when it supports primarily upland species, this vegetation is important for stabilizing the banks, reducing soil erosion, and maintaining water quality within the stream channel, and the amount and type of vegetation present can have effects on water temperature and therefore aquatic habitat within the stream. Riparian corridor vegetation also provides specialized habitat for wildlife, including shade, breeding areas, and food sources. Riparian habitats are a relatively uncommon type of landscape. Riparian areas are considered sensitive habitats by the CDFW and the RWQCB.

According to the Biological Letter Report, which included site reconnaissance, vegetation along the banks of Pulgas Creek in the vicinity of the project site consists of ruderal (disturbance-associated) species typical of nearshore urban creek along the margins of San Francisco Bay, including fennel (*Foeniculum vulgare*), Bermuda buttercup (*Oxalis pescaprae*), iceplant (*Carpobrotus edulis*), creeping wildrye (*Elymus triticoides*), Italian ryegrass (*Festuca perennis*), and wild radish (*Raphanus sativus*). The creek does not support a woody riparian vegetation community. Some species occurring along the banks are wetland species typical of saline soils in the area, including saltgrass (*Distichlis spicata*) and gumplant (*Grindelia stricta*). These species are sparse and patchy and are not present in areas containing wetland hydrology at a cover sufficient to be mapped as a wetland according to the USACE wetland delineation procedures. Though Pulgas Creek likely qualifies as Waters of the United States and Waters

of the State, no portion of the project site would likely meet the Section 404 of the CWA's definition of wetlands, nor the State's definition.[4,5]

The opportunistic and weedy ruderal vegetation present along the creek does not constitute high-value riparian habitat and is not a sensitive vegetation community per community definitions the California Natural Community List (CDFW 2021) and A Manual of California Vegetation (CNPS 2020). Vegetation impacted during project construction would be replaced by native plant cover (as part of the proposed work within the creek, see Impact Bio-4, below), which may require a CDFW permit and would improve habitat value along the creek. The Biological Letter Report determined that potential disturbance of vegetation in this area would be a *less than significant* environmental impact.

WETLANDS AND WATERS OF THE U.S.

3. *Would the project 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?*

Impact Bio-4: **Indirect Impacts on Wetlands.** While no wetlands occur on the project site, project activities could result in temporary and permanent effects on a Perennial Stream and jurisdictional waters. This impact would be ***less than significant with mitigation*.**

The project site contains 0.36 acres of "Perennial Stream" habitat (Pulgas Creek), which are potentially regulated by state and/or federal law including under Section 404 of the CWA and Porter Cologne.

With respect to run-off from the site potentially impacting the quality of water in the creek, the project would result in a reduction in the amount of hardscape and an increase in the amount of vegetated areas, with impervious area proposed to be reduced from approximately 99% of the site to approximately 76% of the site and stormwater retention and infiltration areas added, thereby reducing and slowing surface run-off and increasing the amount of natural water filtration compared to existing conditions. These changes would improve the quality of water contributed to Pulgas Creek in the vicinity of the project, as well as improve the ecological conditions in the vicinity of the creek.

The project also proposes work within Pulgas Creek to address existing flooding issues and creek bank stability. All work would occur within the reach of Pulgas Creek between Old County Road and Industrial Road. Potential work along/within the creek includes the following:

- Installation of both an overflow weir and a box culvert in separate locations along the north bank of the creek to (a) route high flows into an onsite swale and landscaped depression capable of detaining water during high flow events and (b) convey return flows from the landscaped depression back to the creek. These features protect onsite development from flooding and prevent adverse changes in the depth or extent of flooding on off-site property and public rights-of-way.

[4] Wetlands are defined by the CWA as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. From: https://www.epa.gov/cwa-404/how-wetlands-are-defined-and-identified-under-cwa-section-404

[5] An area is defined as wetland by the State of California if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. From: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf

- Stability treatments along the north bank of the creek, potentially including installation of rock slope protection, vegetated retaining walls, or bioengineering treatments to repair or replace existing unstable streambanks comprised of various materials (generally roughly graded earthen slopes with non-native plants or sakrete walls).
- Stability treatments along the south bank of the creek, potentially including installation of rock slope protection, vegetated retaining walls, or bioengineering treatments to repair or replace existing unstable streambanks comprised of various materials (generally roughly graded earthen slopes with non-native plants or sakrete walls).[6]
- Integration of native plant species into creek stability treatments and replacement of existing invasive plant species with native plant cover along creek banks.
- Debris removal within the creek channel to remove existing obstacles to flow.
- Potential placement of streambed gravel/cobble at the transition from the existing upstream concrete apron to the natural channel bed (if needed to provide hydraulic protection to reduce the risk of stream flows causing erosion at the edge of the existing concrete apron).
- Repair and replacement of existing stormwater infrastructure (culverts) conveying water to the creek along the north bank from the project site.
- Temporary dewatering and/or bypassing of the waters of Pulgas Creek may be required to complete the above work within the creek.

The proposed work may have temporary impacts to jurisdictional waters, including temporary dewatering and or/bypassing of the waters of Pulgas Creek. Any dewatering or bypassing activities would comply with the requirements of all necessary regulatory permits and authorizations (e.g., RWQCB, CDFW, USFWS, and USACE).

Potentially significant temporary construction impacts to jurisdictional waters would include excavation, demolition, and replacement of existing armored stream banks currently comprised of various non-native materials, as well as replacement of any existing stormwater infrastructure.

Bank and bed stabilization work would result in the placement of permanent structures and materials within the bed and bank of Pulgas Creek. Though these activities are expected to result in long-term improvement of the creek's ecological function by providing a stabilized channel, removing invasive species, improving habitat value, and reducing erosion and siltation, they could result in fill of waters of the United States and Waters of the State, which could cause a potentially significant impact.

While work within Pulgas Creek is expected to result in a net increase in aquatic resource function and services, it is possible the work could result in a permanent loss of aquatic resources, thereby causing a significant impact. If work within Pulgas Creek is determined to result in a permanent net loss of aquatic resources, the applicant would be required to compensate for the loss by providing new aquatic habitat of the same type to offset this impact, either through the creation, enhancement, or restoration of stream and riparian habitat onsite or off-site in an appropriate location or through the purchase of mitigation credits from a USACE- or RWQCB approved mitigation bank, to reduce the impact to less than significant.

[6] This work would require the participation of the property owner to the south of the project site.

The applicant would also be required to submit to CDFW a notification of lake or streambed alteration pursuant to Fish and Game Code section 1602 and to ensure compliance with the Porter-Cologne Water Quality Control Act, Section 404 of the CWA, and Rivers and Harbors Act Section 10, as applicable. Any permits issued for the project by CDFW, the USACE or the San Francisco RWQBC would be expected to identify minimization, avoidance, and mitigation requirements similar to those set forth in Mitigation Measures Bio-4a, Bio-4b, and Bio-4c, below. The requirements of those mitigation measures would be superseded by any conflicting and more stringent requirements set forth in any LSAA, Rivers and Harbors Act Section 10 authorization, Section 404 permit, or Section 401 water quality certification issued for the project.

Mitigation Measures

Bio-4a: **Protect Pulgas Creek from Construction Debris and Runoff.** Applicant shall implement the following measures to reduce construction-related impacts to Pulgas Creek:

a. During construction above the top of bank, orange construction fencing backed by silt fencing and wildlife-friendly hay wattles (no monofilament netting) shall be installed along the banks of Pulgas Creek to prevent equipment from entering protected areas and to prevent fuels, lubricants, soils, de minimis fill, and other pollutants from impacting Pulgas Creek.

b. Construction below the top of bank shall be completed with equipment staged above the top of bank to the greatest extent feasible. If operation of small equipment below the top of bank is required, that work shall be completed in a dewatered condition and all construction debris and equipment shall be removed from the channel before returning flow to the dewatered area.

c. Pill control absorbent material, for use beneath stationary equipment, shall be present on-site and available at all times. Any hazardous chemical spills shall be cleaned immediately.

d. All stockpiling of construction materials, equipment, and supplies, including storage of chemicals such as fuel, oil or other substances that could adversely affect aquatic resources, shall occur outside Pulgas Creek and surrounding riparian areas. No equipment shall be washed where runoff could enter the channel.

e. All refueling and maintenance of equipment, other than stationary equipment, shall occur outside the channel's top-of-bank.

f. All construction debris shall be gathered on a regular basis and placed in a dumpster or other container that is emptied or removed at least on a weekly basis.

g. At the end of each workday, areas of the project site that are under construction must be inspected, cleaned and secured against potential erosion, dumping, or discharge to the creek, street, gutter, or storm drains.

h. The applicant shall comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2022-0057-DWQ) adopted by the SWRCB by preparing and implementing a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the requirements of the General Permit. The SWPPP must include best management practices (BMPs) specific to project construction and is subject to inspections by a Qualified Stormwater Practitioner (as defined in Order No.

2022-0057-DWQ). BMPs aim to control degradation of surface water by preventing soil erosion or pollution discharge from the project area.

These requirements shall be superseded by any conflicting and more stringent requirements set forth in any Lake or Streambed Alteration Agreement, Section 404 permit, or Section 401 water quality certification issued for the project.

Bio-4b: **Implement a Dewatering and Diversion Plan.** The project applicant shall submit a Dewatering and Diversion Plan for review and approval by the City Engineer to mitigate impacts to Pulgas Creek during dewatering, and shall implement the approved Plan. The Plan shall comply, at a minimum, with the following:

a. All dewatering and diversion activities shall comply with the requirements of all necessary regulatory permits and authorizations from other agencies (e.g., Regional Water Quality Control Board [RWQCB], California Department of Fish and Wildlife [CDFW], U.S. Fish and Wildlife Service [USFWS], and Army Corps of Engineers [USACE]).

b. All native aquatic life (e.g., fish, amphibians, and turtles) within areas to be dewatered shall be relocated by a qualified biologist prior to dewatering, in accordance with applicable regional, state, and federal requirements. The biologist shall check daily for stranded aquatic life until the area is dewatered. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets, and by hand. Captured aquatic life shall be released immediately in the nearest appropriate downstream site. This mitigation measure does not authorize the take or disturbance of any state or federally listed species unless the applicant obtains a project-specific authorization from the CDFW and/or the USFWS, as applicable.

c. If any temporary dam or other artificial obstruction is constructed to facilitate the proposed improvements, maintained, or placed in operation within the stream channel, the applicant shall ensure that sufficient water to maintain native aquatic life below the temporary dam or other artificial obstruction is allowed to pass down channel at all times.

d. Construction and operation of dewatering/diversion devices shall meet the standards contained in the latest edition of the Erosion and Sediment Control Field Manual published by the RWQCB.

e. Coffer dams and/or water diversion system shall be constructed of a non-erodible material that will cause little or no siltation, such as encased sandbags, gravel bags, or inflatable bladders. Coffer dams and the water diversion system shall be maintained in place and functional throughout construction in the channel. If the coffer dams or water diversion systems fail, they shall be repaired immediately based on the recommendations of a qualified civil engineer in consultation with a qualified biologist. The devices shall be removed after construction is complete and the site is stabilized.

f. Water pumped from the dewatered area shall be passed through a sediment settling device before returning to the stream channel. Velocity dissipation measures or devices are required at the outfall to prevent erosion.

These requirements shall be superseded by any conflicting and more stringent requirements set forth in any LSAA, Rivers and Harbors Act Section 10

authorization, Section 404 permit, or Section 401 water quality certification issued for the project.

Bio-4c: **No Net Loss of Ecological Conditions.** Prior to any work in or on the bed or bank of Pulgas Creek, the applicant shall submit to CDFW a Lake or Streambed Alteration (LSA) notification pursuant to Fish and Game Code section 1602. The Applicant shall comply with all requirements of any LSAA issued for the project, including any compensatory mitigation requirements. If CDFW issues an LSAA for the project, a copy of the fully executed LSAA shall be submitted to the City prior to initiation of any work impacting riparian habitats or Pulgas Creek.

For unavoidable placement of fill in jurisdictional waters, Applicant shall ensure compliance with the Porter-Cologne Water Quality Control Act, Section 404 of the CWA, and Rivers and Harbors Act Section 10, as applicable. Section 404 and Section 10 compliance may be accomplished by complying with the terms of any applicable Nationwide Permit, Regional General Permit, USACE-issued letter of permission or an individual permit. Applicant shall apply for a Section 401 water quality certification (permit) and waste discharge requirements (as applicable) from the San Francisco RWQCB as necessary and shall comply with any conditions or stipulations included in any Rivers and Harbors Act Section 10, Section 404 and 401 permits and waste discharge requirements and authorizations issued for the project.

If work within Pulgas Creek results in a permanent net loss of aquatic resources, the Applicant shall provide mitigation to offset this impact, either through (1) the creation, enhancement, or restoration of aquatic resources onsite or off-site in an appropriate location or (2) through the purchase of mitigation credits from a USACE, RWQCB, or CDFW approved mitigation bank. The purchase of such credits shall serve as full mitigation for impacts.

If project-specific creation, enhancement, or restoration of aquatic resources is implemented, these resources shall be restored, enhanced, or created at a minimum ratio of 1:1 (compensation: impact) on an acreage basis or such greater amount as otherwise required by any state or federal permitting agencies, and at a location approved by the City or as otherwise required by any state or federal permitting agencies. A qualified biologist shall develop a mitigation and monitoring plan that includes the following components (or as otherwise modified by regulatory agency permitting conditions):

- Summary of habitat impacts and mitigation acreage requirements to meet the required mitigation ratio;
- Goal of the restoration to achieve no net loss of habitat functions and values;
- Location of mitigation site(s) and description of existing site conditions;
- Mitigation design:
    - Existing and proposed site hydrology;
    - Grading plan, if appropriate, including bank stabilization or other site stabilization features;
    - Planting plan;
    - Remedial measures and adaptive management; and

- Monitoring plan, including success criteria, monitoring methods, data analysis, reporting requirements, and monitoring schedule. Success criteria shall include quantifiable measurements of riparian and aquatic vegetation type (e.g., dominance by natives), the appropriate extent for the restoration location, and the provision of ecological functions and values equal to or exceeding those in the affected by the project. At a minimum, success criteria shall include following:
    - At Year 5 post-mitigation, total cover or survivorship (as applicable based on mitigation design) by planted native vegetation shall be at least 75 percent.

The mitigation and monitoring plan must be approved by the City and other applicable agencies prior to the creek impacts and must be implemented within 1 year after the discharge of fill into the creek.

Prior to issuance of any City permits for construction, grading, or other site-disturbing activities with the potential to impact Pulgas Creek and surrounding riparian habitat, the Applicant shall provide proof to the City that any necessary permits and authorizations from the USACE, RWQCB, and CDFW have been obtained.

While creek restoration would require temporary disturbance and permanent placement of fill within jurisdictional features, improvement of the creek and riparian area is intended to improve aquatic conditions and functions of the creek. This overall benefit to the hydrological and ecological conditions of the project site and Pulgas Creek would occur concurrent with potential adverse effects of temporary disturbance to the restoration area and potential placement of minimal fill to achieve these objectives. Work to stabilize the bank and bed of the creek and increase the presence of native vegetation along creek banks would result in long-term improvement of the creek's ecological function by providing a stabilized channel, removing invasive species, improving habitat value, and reducing erosion and siltation. For this reason, work within Pulgas Creek is expected to result in a net increase in aquatic resource function and services. However, if work within Pulgas Creek is determined to result in a permanent net loss of aquatic resources, the applicant would be required to compensate for the loss by providing new aquatic habitat of the same type to offset this impact, either through the creation, enhancement, or restoration of stream and riparian habitat onsite or off-site in an appropriate location or through the purchase of mitigation credits from a USACE- or RWQCB approved mitigation bank, as described in Mitigation Measure Bio-4c. The proposed improvements and actions described in Mitigation Measures Bio-4a, Bio-4b, and Bio-4c would result in an improved stream bank condition both biologically and hydraulically, while minimizing any impacts that could result from construction debris, dewatering, or alteration of aquatic habitat, and the impact related to wetlands and waters of the U.S. would be *less than significant with mitigation*.

WILDLIFE MOVEMENT AND NURSERY SITES

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?

Reduced Wildlife Movement

Environmental corridors are segments of land that provide a link between different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller, disjunct pieces) can have a twofold impact on wildlife: first, as habitat patches become smaller, they are unable

to support as many individuals (patch size); and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

Movement and migratory corridors are segments of land that provide a link between core habitat areas. The majority of the project site is developed and is within a densely developed urban area. Pulgas Creek has limited vegetative cover and is disturbed and culverted in many sections. Pulgas Creek may facilitate movement of local wildlife adapted to high levels of anthropogenic disturbance but does not provide a connection between areas of core habitat in natural areas.

With the lower section of Pulgas Creek being influenced by saltwater during tidal fluctuations, the creek near the project site is brackish and unsuitable for freshwater species such as the California red-legged frog (*Rana draytonii*) or San Francisco garter snake (*Thannophis sirtalis tetrataenia*). Many species documented nearby are dependent on sensitive habitats close to San Francisco Bay, such as marine or tidal marsh habitat. There is no expansive salt marsh habitat with the project site area to support salt marsh dependent species. Anadromous fish species such as steelhead (*Onchorhyncus mykiss*) are unlikely to occur in Pulgas Creek, as there is no suitable spawning habitat and no suitable upstream habitat. While green sturgeon (*Acipenser medirostris*) can be found in tidally influenced waters, data collected through the San Francisco Bay Study since 2000 has shown zero detection of green sturgeon within 5 miles of the entrance to Pulgas Creek. Longfin smelt (*Spirinchus thaleichthys*) are generally found in deeper water and have an aversion to high temperatures. The water in Pulgas Creek is shallow and exposed, and between the light flow and limited tidal influence in the area of the project site, the water in that area of Pulgas Creek is likely to be a higher temperature than the adjacent water in the bay, making it unlikely to host longfin smelt. Therefore, there is no impact to movement or migratory corridors resulting from the project because the project would not adversely affect movement or migratory corridors. The project would have *no impact* on wildlife corridors.

CONFLICT WITH LOCAL BIOLOGICAL POLICIES

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

Impact Bio-5: **Tree Removal.** The proposed development as well as vegetation management activities would result in the removal of 92 trees, some of which qualify as "Significant Trees" under the City's Municipal Code. However, the applicant is required to comply with the City's regulations, including the need for permits and payment of fees as appropriate and would therefore not conflict with local policies. This is a ***less than significant*** impact.

The project would have a significant environmental impact if it were to conflict with any local policies or ordinances protecting biological resources.

The impact analyses above demonstrate that with mitigation the project would not result in significant impacts to biological resources or habitats, consistent with applicable regulations and the policies listed under Goal EM-1: Protect natural habitat and other biological resources.

The project may involve ground-disturbance within or near Pulgas Creek. Under the City of San Carlos Municipal Code, Chapter 18.14, such activity within Pulgas Creek or within 25 feet of the top of bank of Pulgas Creek would require a use/grading permit from the City. Compliance with applicable elements of the Municipal Code would ensure consistency with applicable City plans, policies, and regulations. The potential for other biological impacts of such activities is analyzed above. The project's proposed improvements of Pulgas Creek and the surrounding area would be compliant with the relevant policies under Goal EM-2: Promote healthy streams and riparian corridors.

The San Carlos Municipal Code sets forth regulations for "protected trees" (Sections 18.18.070 and 18.41.020) which are defined as "heritage" or "significant" trees. Removal of any protected tree requires approval by the City Arborist. In granting a tree removal permit, the City Arborist may attach reasonable conditions such as, but not limited to, requiring replacement of trees removed with plantings acceptable to the City Arborist.

The applicant has submitted arborist reports, which are included as part of the project application and inform the following discussion.[7] A total of 92 mature trees are proposed for removal from the development portion of the project site. This includes 26 trees fitting the definition of "significant" under the City's Municipal Code. No "heritage" trees were found on the site. A tree removal permit would be required per City standard conditions of approval, as detailed below:

> Standard Condition
> Protection of Trees. Pursuant to San Carlos Municipal Code Sections 18.18.070 and 18.41.020, the project proponent shall obtain a permit to remove any tree(s) protected under the City's Interim Protected Tree Ordinance, as determined by an arborist, and shall also prepare a tree protection plan that includes a map of the tree protection zone and is included in the construction drawings and bid package. Removed trees will be replaced in accordance with the ordinance at the discretion of the Community Development Director. If any removed trees are within the jurisdiction of California Department of Fish and Wildlife (CDFW), and CDFW issues a Lake and Streambed Agreement for the project, the tree replacement ratios shall comply with CDFW requirements.

An additional 24 mature trees are located outside the development area along Pulgas Creek either on or adjacent to the project site, including 7 off-site "significant trees" and 1 off-site "heritage tree", all of which are located near the Pep Boys auto store (1087 Old County Road) on the other side of Pulgas Creek from the project site. There are no trees within the riparian creek area, and therefore none are proposed for removal within the creek area.

A total of 520 trees are proposed to be planted as part of the project. The project would be consistent with the relevant policies listed under Goal EM-3.1: Enhance the urban forest and would comply with the Municipal Code requirements regarding tree removal and replacement.

The removal of trees at the site would not be considered an environmental impact because the trees proposed for removal are neither endangered nor special-status from a state and federal biological standpoint. Additionally, compliance with applicable elements of the Municipal Code with respect to tree removal would ensure consistency with applicable plans and policies. The impacts related to plan and policy conflicts would be *less than significant.*

Potential impacts related to disturbance of nesting birds as prohibited under the federal MBTA and Fish and Game Code of California – as opposed to local regulations – are addressed under Impact Bio-1 above.

[7] Walter Levison Consulting Arborist, three documents as follows: *Assessment of Trees at 960 Industrial Road* 5/13/2019, *Assessment of Trees between Industrial Road & Old County Road* 2/20/2020, and *Assessment of Creek Trees Between Industrial Road & Old County Road* 5/5/2020, all available as part of the project application.

CONFLICT WITH HABITAT CONSERVATION PLAN OR NATURAL COMMUNITY CONSERVATION PLAN

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 project site is not located within an area covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the project would not have the potential to conflict with any such plans. There would be *no impact* with respect to conflict with conservation plans.

CUMULATIVE BIOLOGICAL IMPACTS

The geographic context for cumulative impacts associated with biological resources considers existing development and growth projected in the city and the region. Development of past, current, and future projects within the city and region have the potential to result in development-related impacts on biological resources.

Biological resource impacts could be considered cumulatively significant if this project and the other recent, concurrent and planned development in this area were all to affect a common resource or type of resource. This project, as well as any other projects in the area, would be subject to applicable State, federal regulations as well as Municipal Code requirements, and requirements for environmental analysis under CEQA with implementation of identified mitigation measures, which would, to the maximum extent practicable, reduce cumulative development-related impacts on biological resources.

The San Carlos GPU EIR concluded that development under the General Plan would not significantly contribute to the ongoing loss of natural lands in San Mateo County because development would be predominantly within urbanized areas and established neighborhoods, where there is very little biological diversity remaining under existing conditions. It further concluded that policies in the General Plan would be sufficient to protect the remaining biological resources in the other parts of the city, including compliance with the federal MBTA (implemented for this project by Mitigation Measure Bio-1), and policies related to creeks (Policy EM-2.1 requiring riparian habitat to be preserved and enhanced, Policy EM-2.2 requiring enforcement of the City's Riparian Ordinance, Policy EM-2.7 requiring creek channels and their 100 year flood plans to be retained wherever possible as natural open space areas to allow their continued primary function as storm drainage facilities and open space greenbelt to support natural habitat).

The project site is currently developed except for Pulgas Creek, which would be hydrologically and ecologically improved under the project, as detailed in the analysis above. The area surrounding the site is likewise already developed, with little to no habitat value for special status plants or animals. The potential for this project to result in project-specific significant impacts related to biological resources was analyzed in this chapter and the referenced technical documentation. All project-specific impacts on biological resources would be less than significant or reduced to that level through implementation of identified mitigation. Therefore, the project would be consistent with the analysis and conclusions in the San Carlos GPU EIR, and there would be no significant cumulative biological resources impacts.

7

CULTURAL RESOURCES

INTRODUCTION

This chapter describes existing cultural resources setting at the project site and describes whether implementation of the project would cause a substantial adverse change in the significance of such resources.

This chapter utilizes information from the following reports prepared for this project or analysis:

- Preservation Architecture, Historic Resource Evaluations, Alexandria District 900-960 Industrial Rd., 961 Commercial St., San Carlos, February 7, 2024, prepared for this analysis (included in Appendix D).
- A records search was conducted at the Northwest Information Center (NWIC), at Sonoma State University, File No. 20-0887, dated November 13, 2020, for this analysis (included in Appendix D)
- A search of the Sacred Lands File was conducted by the Native American Heritage Commission (NAHC), dated November 12, 2020, for this analysis (included in Appendix D)
- Environmental Science Associates, Archaeological Monitoring and Testing Plan for the Alexandria Center for Life Science Project, August 9, 2021, prepared for the applicant (included in Appendix D).
- Environmental Science Associates, Archaeological Testing Results Report for the Alexandria Center for Life Science Project, September 24, 2022, prepared for the applicant (included in Appendix D).

ENVIRONMENTAL SETTING

The City of San Carlos is part of the greater San Francisco Bay Area. The areas surrounding San Francisco Bay were some of the most densely populated by the indigenous populations of North America.

The project site is located along the historic bayshore margins of San Francisco Bay and its associated wetland, and adjacent to Pulgas Creek. In addition, the western portion of the project site contains Holocene alluvial fan deposits, a soil type that is generally sensitive for prehistoric archaeological resources. Pre-historic (Native American) archaeological resources in this part of San Mateo County have been found in areas marginal to the San Francisco bayshore and inland near intermittent and perennial freshwater courses.

The project site was undeveloped until the late 1940s and early 1950s, when a variety of industrial and commercial facilities were developed and operated until the present.

REGULATORY SETTING

FEDERAL REGULATIONS

National Historic Preservation Act, Section 106

Although the project is not anticipated to require compliance with Section 106 of the National Historic Preservation Act, the National Register and federal guidelines related to the treatment of cultural resources are relevant for the purposes of determining whether significant cultural resources, as defined under CEQA, are present and guiding the treatment of such resources.

National Historic Preservation Act and National Register of Historic Places

Built-environment and archaeological resources are protected through the National Historic Preservation Act (16 United States Code 470f). The National Historic Preservation Act requires project review of effects on historic properties only when projects involve federal funding or permitting or occur on federal land; therefore, it is not applicable to discretionary actions at the municipal level. However, the National Historic Preservation Act establishes the National Register, which provides a framework for resource evaluation and informs the process for determining impacts on historical resources under CEQA.

The National Register is the nation's official comprehensive inventory of historic resources. Administered by the National Park Service, the National Register includes buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level. Typically, a resource that is more than 50 years of age is eligible for listing in the National Register if it meets any one of the four eligibility criteria *and* retains sufficient historical integrity. A resource less than 50 years old may be eligible if it can be demonstrated that it is of "exceptional importance" or a contributor to a historic district. National Register criteria are defined in *National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation*.

Properties that are listed in the National Register, as well as properties that are formally determined to be eligible for listing in the National Register, are automatically listed in the CRHR, described below, and therefore considered historical resources under CEQA.

STATE REGULATIONS

California Register of Historic Resources

The California Register of Historic Resources (CRHR) is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and indicating which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (Public Resources Code [PRC] Section 5024.1[a]). The CRHR criteria are based on the National Register criteria (PRC Section 5024.1[b]). Certain resources are automatically included in the CRHR, including California properties that were formally eligible for or listed in the National Register. To be eligible for the CRHR as a historical resource, a resource must be significant at the local, state, and/or federal level under one or more of the following evaluative criteria, as defined in PRC Section 5024.1(c):

1. The resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

2. The resource is associated with the lives of persons important in our past.

3. The resource 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.

4. The resource has yielded, or may be likely to yield, information important in prehistory or history.

As with the National Register, a significant historical resource must possess integrity in addition to meeting the significance criteria to be considered eligible for listing in the CRHR. Consideration of integrity for evaluation of CRHR eligibility follows the definitions and criteria from National Park Service *National Register Bulletin 15*.

California Environmental Quality Act

CEQA defines a historical resource as a property listed in, or eligible for listing in, the CRHR; included in a qualifying local register; or determined by a lead agency to be historically significant. In order to be considered a historical resource, a property must be old enough to allow an understanding of the historic importance of the resource and obtain a scholarly perspective on the events or individuals associated with the resource, which is generally at least 50 years. Section 21084.1 of the PRC and Section 15064.5 of the CEQA Guidelines define a historical resource for purposes of CEQA as the following:

1. A resource listed in or determined to be eligible by the State Historical Resources Commission for listing in, the CRHR (PRC Section 5024.1).

2. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g). Such resources will be presumed to be historically or culturally significant. Public agencies must treat such resources as significant, unless the preponderance of evidence demonstrates that they are not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript that 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 a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the CRHR (PRC Section 5024.1).

4. The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1[k]), or identified in a historical resources survey (meeting the criteria in PRC Section 5024.1[g]) does not preclude a lead agency from determining that the resource may be a historical resource, as defined in PRC Sections 5020.1(j) or 5024.1.

A resource included in a local register of historical resources or identified on a historical resource survey as being eligible for the CRHR is presumed to be historically or culturally significant unless a preponderance of evidence demonstrates otherwise.

Section 15064.5 of the CEQA Guidelines also addresses human remains and specifies procedures to be used when human remains, including Native American remains are discovered. Subdivision (e) of Section 15064.5 states:

In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the NAHC within 24 hours.

2. The NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American.

3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC section 5097.98, or

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The descendant identified fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

Impacts to "unique archaeological resources" are also considered under CEQA, as described under PRC Section 21083.2. A unique archaeological resource is an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge there is a high probability that it meets one of the following criteria:

(a) The archaeological artifact, object, or site contains information needed to answer important scientific questions, and there is a demonstrable public interest in that information;

(b) The archaeological artifact, object, or site has a special and particular quality, such as being the oldest of its type or the best available example of its type; or

(c) The archaeological artifact, object, or site is directly associated with a scientifically recognized important prehistoric or historic event or person.

A non-unique archaeological resource is an archaeological artifact, object, or site that does not meet the above criteria. Impacts to non-unique archaeological resources and resources that do not qualify for listing on the CRHR receive no further consideration under CEQA.

CEQA requires lead agencies to determine if a project would have a significant effect on historical resources or unique archaeological resources. If a resource is neither a unique archaeological resource nor a historical resource, the CEQA Guidelines note that the effects of a project on that resource shall

not be considered a significant effect on the environment (CEQA Guidelines Section 15064.5[c][4]). In addition, projects that comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties benefit from a regulatory presumption under CEQA that they would have a less-than-significant impact on a historical resource (14 California Code of Regulations 15126.4[b][1]). Projects that do not comply with the Secretary's standards may or may not cause a substantial adverse change in the significance of a historical resource and may be subject to further analysis to assess whether they would result in material impairment of a historical resource's significance.

Under CEQA, a substantial adverse change in the significance of a historical resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter the physical characteristics that convey the property's historical significance and qualify it for inclusion in the CRHR, the National Register, or in a local register or survey that meets the requirements of PRC Sections 5020.1(k) and 5024.1(g).

California Health and Safety Code Sections 7050.5, 7051, and 7054

These sections collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during and after evaluation, and reburial procedures.

Public Resources Code Section 5097.98

Section 5097.98 of the PRC stipulates that whenever the commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The decedents may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and recommend to the owner or the person responsible for the excavation work means for treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 24 hours of their notification by the NAHC. The recommendation may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Senate Bill (SB) 18 (Government Code Sections 65352.3, 65352.4, and 65562.5)

As approved into State law in 2004, this bill includes guidelines for consulting with California Native American tribes during the preparation of a General Plan for purposes of the preservation of, or the mitigation of impacts to specified Native American places, features, and objects. The bill addresses procedures for identifying the appropriate California Native American tribes, for continuing to protect the confidentiality of information concerning the specific identity, location, character, and use of those places, features, and objects, and for facilitating voluntary landowner participation to preserve and protect the specific identity, location, character, and use of those places, features, and objects. The bill also requires that, prior to the adoption or amendment of a city or county General Plan, the city or county conduct consultations with California Native American tribes for the purpose of protecting or developing treatment with appropriate dignity of specified places, features, and objects that are located within the city or county's jurisdiction. The project does not propose adoption or amendment of the San Carlos General Plan, and this regulation is therefore not applicable to the project.

LOCAL

City of San Carlos General Plan

The City of San Carlos General Plan includes goals and objectives relevant to the cultural resources potentially affected by the proposed project, including the following:

Goal LU-12: Protect San Carlos' historic and cultural resources to maintain and enhance a unique sense of place.

Policies:

LU-12.1: Evaluate historical and cultural resources in the development review process through consultation with interested parties.

LU-12.2: Foster the preservation, restoration, and compatible reuse of architecturally and/ or significant structures and sites.

LU-12.3: Ensure that modifications to identified historic resources are consistent with the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties.

LU-12.5: Treat with respect and dignity any human remains discovered during implementation of public and private projects within the city and fully comply with the California Native American Graves Protection and Repatriation Act and other appropriate laws.

IMPACTS AND MITIGATION MEASURES

CRITERIA OF IMPACT SIGNIFICANCE

Under the CEQA Guidelines, Appendix G – Environmental Checklist Form, a significant impact will occur if the proposed project would:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to Public Resources Code Section 15064.5;
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to PRC Section 15064.5;
3. Disturb any human remains, including those interred outside of formal cemeteries.
4. Cause 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, and that is:
    a. Listed or eligible for listing in the California Register of Historical Resources, or included in a local register of historical resources as defined in PRC section 5020.1(k), or
    b. A resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

HISTORICAL RESOURCES

1. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Public Resources Code Section 15064.5?

Impact Culture-1: Removal of Historic Age Structures. Construction activities include demolition of structures over 50 years old. However, historic assessment concluded that these structures would not be eligible for listing as historic resources and therefore the impact with respect to removal of historic age buildings would be ***less than significant.***

Some of the existing structures at the project site were constructed more than 50 years ago (or within 5 years of that age) and would therefore be considered to be historic age for purposes of this analysis, including the following:

- 900 Industrial Rd., a street-corner parcel with a mixed commercial-light industrial building constructed between c1954-c1958 (and with a c1993 addition).
- 960 Industrial Rd., a large parcel with an amalgamated industrial facility dating from c1955-1968 and with multiple adds (including a large 1982 addition).
- 961 Commercial St., a mid-block parcel with an office-warehouse building dating to c1976.

The development context of the subject and adjoining blocks is strictly post-war, as development in the immediate vicinity occurred only after World War II, when fill of the Bay allowed additional development eastward from the center of San Carlos including on the project site. This post-World War II, American suburbanization and transportation boom was far-ranging throughout the region, including the towns and cities of the San Francisco Peninsula, each of which then experienced extensive new industrial, commercial, and residential development.

To be eligible for listing on the CRHR, a resource must be historically significant at the local, state, or national level, under one or more of four criteria discussed individually below.

(a) It is 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.

An associated pattern of historic events that directly applies to existing development on the project site is mid-20th century military-related industrial development on the San Francisco Peninsula. In the U.S. during the combined post-World War II and Cold War period, military-industrial development surrounded and adjoined nodes of military-sponsored technological research and development. Such nodes included major research universities, U.S. military bases, and related institutions and installations. While the pattern was national and the San Francisco Bay Area was not alone, the San Francisco Peninsula had several such nodes, including Stanford University and Mather Air Force Base, both of which spun off and supported numerous research and manufacturing ventures that commercially exploited largely military sponsored technologies. By extension, such mid-20th century industries throughout the San Francisco Peninsula were participants at the outset of commercialization of digital technologies.

The one direct example of such ventures on the project site is the following corporation, which developed and manufactured specific military components. (Other buildings on that site that are not associated with identified patterns of local or regional history or cultural heritage outlined in this section are not listed here.)

960 Industrial Road: While the Charles Litton founded company can claim historic significance for their early contribution to electron tube manufacturing, those contributions pre-date "Litton Industries" and their 960 Industrial Rd. facilities. At the same time as they established this local industrial plant, Litton Industries became a highly dispersed corporation with headquarters in Southern California.

While this subject property has an association to this broad historic pattern of events, its individual associations were minor. There is no evidence of any major technological contributions with direct associations to the subject parcel, and none of the existing structures would qualify as historic resources under CRHR criterion 1.

(b) It is associated with the lives of persons important to local, California, or national history.

Historically identifiable individuals were directly associated with the origins of three of the subject properties as listed below. (Other buildings on that site that are not associated with historic individuals are not listed here.)

900 Industrial Road: In its potential historical period of 1954-1975, the property at 900 Industrial Rd. was directly associated with one individual, the property owner Eugene A. Mignacco. The c1954 building was evidently speculatively built for real estate investment purposes, not for specific uses for or associated with Mignacco, whose career and residence was elsewhere. As there is no evidence that Mignacco has historical importance, 900 Industrial Rd. is not directly associated with any individuals of identifiable historic importance.

960 Industrial Road: In its potential historical period of c1954-1975, the property and building at 960 Industrial Rd. is not directly associated with any specific individuals. While Charles Litton founded the company and is associated with historic events, he sold his interests to Litton Industries prior to their relocation to the subject site. Additionally, Litton Industries was a large corporate entity with whom many persons were associated, so 960 Industrial Rd. is not directly associated with individuals of identifiable historic importance.

961 Commercial Street: Two specific individuals directly associated with the 1976 building at 961 Commercial Street are Bernard and Marguerite Tanklage. While they, along with additional members of the Tanklage family, were responsible for developing and/or constructing numerous industrial facilities in eastern San Carlos, there is nothing unique about their developments, nor any other historic importance to the developments of Tanklage family.

As none of the identifiably associated persons have identifiable historic importance, none of the existing structures would qualify as historic resources under CRHR criterion 2.

(c) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.

The Post World War II period in which the existing structures were constructed is discussed under (a) above, with additional details of the characteristics of each building provided below.

900 Industrial Road: The 900 Industrial Rd. building is a utilitarian Modern design, as the building is a low, rectangular and non-descript container for light-industrial use that was built in the mid-20th century. A small strip (approx. 20 ft. deep) across its front is an architectural appendage to the bulk of the industrial building, which character is minimal, and which has been added to in recent decades.

960 Industrial Road: The 960 Industrial Rd. building is a large agglomeration of industrial facilities. The overall building lacks distinction in terms of its design and construction, as there are no inventive, unique or prototypical design forms or building systems. Rather, the industrial building parts exhibit utilitarian and expeditious design and construction. The original complex has also been extensively altered and added to, including with the large and central 1982 addition that interconnects the earlier buildings.

961 Commercial Street: The 961 Commercial St. building is a generic tilt-up warehouse building with no unique character or construction interest.

Relative to their mid-20th century period, each of these commercial and industrial buildings have, to varying extents, Modern design characteristics. Each of these buildings lack distinction in terms of their design and construction, as there are no inventive, unique, prototypical or distinctive design forms or building systems. Rather, the largely industrial buildings exhibit utilitarian and expeditious design and construction while the more commercial buildings are generic design and construction. Additionally, each of the properties and buildings has been altered and/or added to so have accrued building chronologies that extend forward into the recent and non-historic period (less than 45 years ago).

Further, no evidence has been found to identify any original engineers, architects or designers of these buildings. Several contractors are identifiable relative to 960 Industrial Rd., including William J. Moran, the builder of the 1950s structures, and Daley & Trudell Construction, the contractor for the 1968 addition. The contractor for the 961 Commercial St. building was Tanklage Construction. However, none of those contractors are identifiably important to history.

Lastly, while these built resources directly interrelate to their mid-20th century period of development, there is no evidence of any planning or design interrelationships. Rather, as is the case with much 20th century industrial development, the buildings and structures were expedient and utilitarian rather than planning or design oriented.

The existing structures have negligible design and material character so do not embody design or construction distinction in terms of type, period, region or methods. They are not the work of any identified architect, engineer or designer; nor are either of the identified builders identifiably important. They do not possess any artistic value. Therefore, none of the existing structures would qualify as historic resources under CRHR criterion 3.

(d) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

The existing structures have not yielded and do not appear to have the potential to yield any important historic information beyond the present historical record. As addressed herein, the subject resources do not present any historic information specific or unique to their context, setting or locale; each of the buildings are either plain, light-industrial structures of no identifiable design or construction interest, or commercial buildings of minor interest; none of their uses are of identifiable importance and there are no associated individuals of historical interest. Therefore, none of the existing structures would qualify as historic resources under CRHR criterion 4.

The Historical Assessment (included in full in Appendix D) concludes that based on empirical as well as historical evidence, the designs of the existing structures are without identifiable design or construction distinction. No important persons been identified as individually associated with these individual buildings, nor are they directly associated with any events of historic significance because no individual discoveries, innovations or inventions of importance are identifiably associated. The existing structures have therefore been determined not to be historic resources.

Therefore, the proposed project, including demolition of existing structures at the site, would have a *less than significant* impact related to built historic resources.

ARCHAEOLOGICAL RESOURCES

2. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Public Resources Code Section 15064.5?

Impact Culture-2: Unanticipated Discovery of Archaeologic Resources. During ground disturbing activities associated within the project site, it is possible that currently unidentified historic- or pre-historic-period archaeological resources could be discovered and disturbed. This impact is ***less than significant with mitigation***.

The project site has been previously developed and is fully covered by paving and structures. There are only a few known archaeological sites in the city, however, these have been located primarily near the banks of Pulgas Creek, and in the broader area and near the historic bay margins, both of which describe the project site. A records search of the NWIC (included in Appendix D) confirmed the lack of known resources at the site but indicated that the potential for unrecorded archaeological resources is considered moderately high due to these site characteristics.

Since the Initial Study was released, the previously recommended Mitigation Measure Culture-1: Further Site Assessment was completed. Environmental Science Associates completed further archival research and archaeological testing at 50-meter horizontal intervals throughout the project site, with a depth of approximately 10 feet below ground surface, which is the estimated depth of excavation for the portions of the project requiring excavation. Archival research determined that based on the site location and history of site development, the potential to encounter historic archaeological resources was low across the entire site and the potential to encounter prehistoric archaeological resources was low on the eastern portion of the site but moderately high on the western portion of the site, west of the former bay shore line. Further archaeological testing found no evidence of prehistoric or historical archaeological resources during testing anywhere on the site. Based on the absence of previously-identified buried archaeological resources in the project site, combined with the negative findings during the tests, further archaeological identification efforts for buried archaeological resources, including construction monitoring, is no longer recommended, and this previously identified Mitigation Measure Culture-1 has been fully satisfied and is no longer applicable to the project.

Given that the possibility for unrecorded archaeological resources to be discovered cannot be entirely discounted, the following Mitigation Measures Culture-2a, and -2b (renumbered from the Initial Study) shall be applicable.

Mitigation Measures

Culture -2a: **Worker Training.** Project supervisors, contractors, and equipment operators shall participate in an Archaeological and Tribal Cultural Resource Awareness Training, conducted by a Secretary of Interior-qualified archaeologist, to become familiar with the type of artifacts and features that could be encountered during project-related ground disturbing activities, as well as the procedures to follow if cultural resources are unearthed during construction.

Culture-2b: **Halt Construction Activity, Evaluate Find and Implement Mitigation.** If archaeological or tribal cultural resources are encountered during excavation or construction, construction personnel shall immediately suspend all activity within 50 feet of the suspected resources and the City and a licensed archaeologist shall be contacted to evaluate the situation, including determine the significance of the find.

If the find is potentially significant, the find shall be avoided if feasible. If avoidance is infeasible, then specific and appropriate measures that can be implemented to protect the find, in accordance with section 21083.2 of the California Public Resources Code, such as preservation in place, capping, planned open space, or data recovery, shall be required. Work near the find can resume when a licensed archeologist, in conjunction with the City, has determined that such work no longer could adversely affect the find.

Implementation of Mitigation Measures Culture-2a and -2b would reduce the impacts associated with possible disturbance of unidentified archaeological resources as a result of the project to a level of *less than significant with mitigation*.

HUMAN REMAINS

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

Impact Culture-3: Unanticipated Discovery of Human Remains. During ground disturbing activities associated within the project site, it is possible that currently unidentified human remains could be discovered and disturbed. The project would be required to comply with applicable regulations of the California Health and Safety Code specifying appropriate handling of human remains and this impact is ***less than significant***.

There are no known human remains that would be disturbed by the proposed project, but accidental discovery could occur during any earth-moving activities, including those associated with the project. As detailed in the Regulatory Setting above, the California Health and Safety Code includes provisions requiring the appropriate handling of human remains (Sections 7050.5, 7051, and 7054), which are adequate to prevent significant impacts related to accidental discovery of human remains. The City of San Carlos considers consistency with these requirements to be a standard condition of any project, as detailed below.

Standard Condition
Protection of Human Remains. If human remains are unearthed during ground-disturbing activities, Section 7050.5(b) and (c) of the California Health and Safety code will be implemented. Section 7050.5(b) and (c) states:

(b) In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the PRC. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains.

(c) If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that

they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC. [In which case, section 5097.98 of the California PRC would apply.]

CUMULATIVE CULTURAL RESOURCES IMPACTS

The geographic context for cumulative impacts associated with cultural resources considers existing development and growth projected in the City and the region. Development of past, current, and future projects within the City and region have the potential to result in development-related impacts on cultural resources. However, new development would be subject to existing federal, State, and local regulations as well as general plan goals, policies, and programs concerning the discovery and subsequent handling of any cultural or historical resources discovered during construction activities, which would reduce cumulative development-related impacts on cultural resources.

Cultural resource impacts could be considered cumulatively significant if this project and the other recent, concurrent and planned development in this area were all to affect a common resource or type of resource. This project, as well as any other projects in the area, would be subject to applicable State, federal, County, and local regulations.

The San Carlos GPU EIR concluded that future development in areas both within and outside the City would be subject to federal and state laws protecting cultural resources. The goals and polices of the City's General Plan Land Use Element protecting historic architectural resources, archaeological resources, and human remains – in combination with the actions put forth in the Land Use Element and mitigation in subsequent analyses for future projects to address site specific conditions and records for known resources – would result in less-than-significant cumulative impacts to cultural resources.

The potential for this project to result in project-specific significant impacts related to cultural resources was analyzed in this chapter and the referenced technical documentation. There are no known cultural resources at the project site, and all project-specific impacts related to accidental discovery of unknown cultural resources would be less than significant or reduced to that level through implementation of required standards or identified mitigation. Therefore, the project would not combine with past, present, and reasonably foreseeable future projects to create a significant cumulative cultural resources impact. In addition, the project is consistent with the General Plan and the analysis and conclusions in the San Carlos GPU EIR, which found that with mandatory assessment of potential historical and archaeological resources and appropriate project-specific mitigation of potentially significant impacts per required regulations, such as provided in the analysis above, the development anticipated by the General Plan would not create a significant cumulative impact on cultural resources.

8

ENERGY

INTRODUCTION

This chapter provides information on the existing environmental energy setting and presents a discussion of federal, state, and local laws, policies, and regulations that govern the use of energy. The chapter also evaluates the project's potential energy impacts.

This chapter utilizes information from the following document prepared for this project or analysis:

- Lamphier-Gregory, Alexandria Center for Life Science Energy Calculations (included as Appendix E).

SETTING

ENERGY RESOURCES

Environmental Setting

Energy resources in California include natural gas, electric, water, wind, oil, coal, solar, geothermal, and nuclear resources. Energy production and energy use both result in the depletion of nonrenewable resources, such as oil, natural gas, and coal, and emissions of pollutants.

State Energy Resources and Use

California's diverse portfolio of energy resources produced approximately 2,152 trillion British thermal units (BTUs) in 2021.[1] According to the California Energy Commission (CEC), total net electricity generation for California in 2020 (the most recent year for which data are available) was approximately 272,576 gigawatt hours. California's non-carbon-dioxide-emitting electric generation categories, including nuclear, hydroelectric, and renewable generation, accounted for more than 51 percent of total in-state generation in 2020, compared to 57 percent in 2019, with the reduction directly attributable to dry conditions reducing hydroelectric generation. California's in-state electric generation was approximately 190,913 gigawatt hours.[2] Excluding offshore areas, the state ranked seventh in the nation in crude oil production in 2022 (the most recent year for which data are available), producing the equivalent of approximately 724 trillion BTUs.[3] Other energy sources in the state in 2021 (the latest year

[1] U.S. Energy Information Administration, 2023, *California State Profile and Energy Estimates*. Available: https://www.eia.gov/state/data.php?sid=CA#EnergyIndicators. Accessed: September 16, 2023.

[2] California Energy Commission, 2021, *2020 Total System Electric Generation*. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation/2020. Accessed: September 16, 2023.

[3] U.S. Energy Information Administration, 2023, *California State Energy Profile*. Available: https://www.eia.gov/beta/states/states/ca/overview. Accessed: September 16, 2023.

that full data is available) include natural gas (160.8 trillion BTUs), nuclear (172.1 trillion BTUs), and biofuel (36.7 trillion BTUs).[4,5,6]

With a relatively mild Mediterranean climate and strict energy-efficiency requirements, California has lower energy consumption rates than other parts of the United States. According to the U.S. Energy Information Administration, California consumed approximately 7,387.9 trillion BTUs of energy in 2021.[7,8] California's per capita energy consumption of approximately 188.7 million BTUs was ranked fourth lowest in the nation as of 2021.[9]

In 2021, the transportation sector consumed the greatest amount of energy (2,785.1 trillion BTUs, or 38 percent), followed by the industrial (1,704.4 trillion BTUs, or 23 percent), residential (1,473.2 trillion BTUs, or 20 percent), and commercial (1,396.7 trillion BTUs, or 19 percent) sectors.[10] Natural gas accounted for the majority of energy consumption (2,172.8 trillion BTUs, or 30 percent), followed by renewable energy, including nuclear electric power, hydroelectric power, biomass, and other renewables (1,506.2 trillion BTUs, or 20 percent); gasoline (1,494.9 trillion BTUs, or 20 percent); distillates and jet fuel (950.2 trillion BTUs, or 13 percent); and interstate electricity (698.6 trillion BTUs, or 9 percent), with the remaining 8 percent coming from a variety of other sources.[11] Of the natural gas consumed, industrial uses consumed approximately 34 percent, followed by residential uses (22 percent) and commercial uses (12 percent), among many other uses.[12]

Per capita energy consumption, in general, is declining because of improvements in energy efficiency and designs. However, despite this reduction in per capita energy use, the state's total overall energy consumption (i.e., non-per capita energy consumption) is expected to grow over the next several decades as a result of increases in population, jobs, and vehicle miles traveled (VMT).

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[4] No coal production occurs in California.

[5] U.S. Energy Information Administration, 2021, *Table P5B—Primary Energy Production Estimates, Renewable and Total Energy, in Trillion BTU, Ranked by State*. Available at: https://www.eia.gov/state/seds/sep_prod/pdf/P5B.pdf

[6] U.S. Energy Information Administration, 2021, *Table P5A—Primary Energy Production Estimates, Fossil Fuels and Nuclear Energy, in Trillion BTU, Ranked by State*. Available at: https://www.eia.gov/state/seds/sep_prod/pdf/P5A.pdf

[7] One BTU is the amount of energy required to heat 1 pound of water by 1°F at sea level. BTU is the standard unit of energy used in the United States and based on the English system of units (foot-pound-second system).

[8] U.S. Energy Information Administration, 2021, *Table P3— Total Primary Energy Production and Total Energy Consumption Estimates in Trillion Btu*. Available: https://www.eia.gov/state/seds/sep_prod/pdf/P3.pdf.

[9] U.S. Energy Information Administration, 2021, *Table C14—Energy Consumption Estimates per Capita by End-Use Sector, Ranked by State.* Available: https://www3.eia.gov/state/seds/sep_sum/html/pdf/rank_use_capita.pdf.

[10] U.S. Energy Information Administration, 2021, *Table C11—Energy Consumption Estimates by End-Use Sector, Ranked by State*. Available at: https://www.eia.gov/state/seds/sep_sum/html/pdf/rank_use.pdf.

[11] U.S. Energy Information Administration, 2021, *California State Energy Profile*. Available: https://www.eia.gov/state/print.php?sid=CA. Accessed: September 16, 2023.

[12] U.S. Energy Information Administration, 2021, *Natural Gas Consumption by End Use—California*. Available: https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm. Accessed: September 16, 2023.

REGIONAL ENERGY RESOURCES AND USE

Gas and Electric Service

Electricity

Electricity is currently provided within San Carlos by the Pacific Gas and Electric Company (PG&E) and Peninsula Clean Energy (PCE). Electric lines are available for connection to the project site.

PG&E, incorporated in California in 1905, provides natural gas and electric service to approximately 16 million people throughout a 70,000-square-mile service area in northern and central California. PG&E's, electricity is generated from a combination of traditional sources, such as nuclear power plants and hydroelectric dams, as well as newer sources of energy, such as wind turbines and photovoltaic plants, or "solar farms," with a capacity of 7.684 megawatts.[13] "The grid," or bulk electric grid, is a network of high-voltage transmission lines that link power plants to the PG&E system. San Carlos is served by the Belmont substation, approximately 1.5 miles from the project site. The distribution system, comprising lower-voltage secondary lines, is at the street and neighborhood level. It consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to individual customers. In addition to its base plan, PG&E has two plan options, known as Solar Choice options, which give customers the option of purchasing energy from solar resources. The first Solar Choice option provides up to 50 percent of a customer's energy from solar resources, while the other option provides up to 100 percent of a customer's energy from solar resources.

Peninsula Clean Energy is a community-controlled, not-for-profit, joint powers agency formed as a Community Choice Aggregation (CCA) program by San Mateo County and all 20 of its cities and towns in 2016, and joined by the City of Los Banos in 2020. PCE's power comes from a mix of clean energy sources, including solar, wind, geothermal, biomass and biowaste, and hydroelectric generation resources. PCE offers its customers 100 percent GHG-free electricity with a higher percentage of energy from renewable sources. Although PG&E customers in San Carlos are automatically enrolled in PCE, customers may opt out and continue to purchase electricity from PG&E. However, in 2021 more than 97 percent of eligible residents and businesses remained enrolled with PCE.[14] Furthermore, PCE allows customers to choose between two different electricity product operations: ECOplus (approximately 50 percent renewable electricity sources and 100 percent carbon-free sources) and ECO100 (100 percent renewable electricity).[15] Although PCE provides electricity to most residents and businesses in San

[13] Pacific Gas and Electric Company, 2023, *About PG&E*. Available at: https://www.pgecorp.com/corp_responsibility/reports/2015/bu01_pge_overview.jsp#:~:text=7%2C684%20MW%20of%20owned%20hydroelectric%2C%20nuclear%2C%20natural%20gas%2C,approximately%2018%2C100%20circuit%20miles%20of%20electric%20transmission%20lines. Accessed September 16, 2023.

[14] City of San Carlos, September 27, 2021, *City of San Carlos Climate Mitigation and Adaptation Plan*, p.26.

[15] Peninsula Clean Energy, 2021, *What Are My Rates?* Available: https://www.peninsulacleanenergy.com/ for-businesses/. Accessed: March 14, 2023. Renewable energy is produced from resources that are naturally replenished as they are used, while carbon-free energy is produced from resources that do not emit GHGs into the atmosphere. Many resources are both renewable and carbon free (such as wind and solar), some resources are renewable but not carbon free (such as biomass), and others are carbon free but not renewable (such as nuclear).

Carlos, it uses PG&E's distribution system and infrastructure to serve city customers.[16] PCE provides approximately 3,600 million kilowatt hours to its customers annually.[17]

Energy companies in California are regulated by the California Public Utilities Commission.

In 2021, San Mateo County consumed approximately 4,177 million kilowatt hours of electricity.[18] In San Mateo County, electricity was consumed primarily by the non-residential sector (60 percent), followed by the residential sector (40 percent). Electricity usage for different land uses varies substantially by the types of uses in a building, the types of construction materials used, and the efficiency of the electricity-consuming devices.

Table 8.1 outlines PG&E's and PCE's power mix in 2021, compared to the power mix for the state.

Table 8.1: PG&E, PCE, and the State of California Power Mix in 2021

Energy Resources	PG&E Option: Base	PG&E Option: 50% Solar Choice	PG&E Option: 100% Solar	PCE Option: ECOplus	PCE Option: ECO100	California Power Mix 2021
Eligible Renewable	**48%**	**71%**	**94%**	**49%**	**100%**	**34%**
Biomass and waste	4%	2%	0%	9%	0%	2%
Geothermal	5%	3%	0%	0%	0%	5%
Small hydroelectric	2%	1%	0%	1%	0%	1%
Solar	26%	60%	94%	20%	50%	14%
Wind	11%	6%	0%	19%	50%	11%
Non-Renewable	**52%**	**29%**	**6%**	**51%**	**0%**	**66%**
Coal	0%	0%	0%	0%	0%	3%
Large hydroelectric	4%	2%	0%	51%	0%	9%
Natural gas	9%	7%	0%	0%	0%	38%
Nuclear	40%	20%	0%	0%	0%	9%
Other	0%	0%	0%	0%	0%	0%
Unspecified[1]	0%	0%	6%	10%	0%	7%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: PG&E. 2021. *Where Your Electricity Comes From*. Available: https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2022/1022-Power-Content-Label.pdf.

California Energy Commission. 2021. *2021 Power Content Label—Peninsula Clean Energy*. Available: https://www.energy.ca.gov/filebrowser/download/4652 Accessed: September 17, 2023.

Note:

[1] Electricity from transactions that are not traceable to specific generation sources are classified as unspecified sources of power.

[16] PCE charges each of its customers a delivery charge for maintenance of PG&E's wires and infrastructure and the delivery of electricity to customers.

[17] Peninsula Clean Energy website, *FAQ*. Accessed December 15, 2023. Available at: https://www.peninsulacleanenergy.com/faq/

[18] California Energy Commission, *Electricity Consumption by County*. Available at: https://ecdms.energy.ca.gov/elecbycounty.aspx

Natural Gas

PG&E's natural gas (i.e., methane) delivery system includes 43,300 miles of natural gas distribution pipelines and 6,600 miles of transmission pipelines. PG&E's gas transmission system serves approximately 15 million energy customers in California. The system is operated under an inspection and monitoring program in real time on a 24-hour basis, with leak inspections, surveys, and patrols continuously taking place along the pipelines. Gas delivered by PG&E originates in gas fields in California, the Southwest, the Rocky Mountains, and Canada. Transmission pipelines send natural gas from the fields and storage facilities. The smaller distribution pipelines deliver gas to individual businesses or residences.[19]

In San Mateo County, approximately 205.1 million therms of natural gas were consumed in 2021 (the most recent year for which data are available). In 2021, natural gas in San Mateo County was consumed primarily by the residential sector (57 percent), followed by the non-residential sector (43 percent).[20]

The project would not have a natural gas pipeline and does not propose use of natural gas for appliances, but may use point of source (tenant would bring in the source) natural gas for R&D purposes, such as Bunsen burners.

REGULATORY SETTING

FEDERAL

National Energy Conservation Policy Act

The National Energy Conservation Policy Act serves as the underlying authority for federal energy management goals and requirements. Signed into law in 1978, it has been regularly updated and amended by subsequent laws and regulations. This act is the foundation of most federal energy requirements.

Energy Policy Act of 2005

The Energy Policy Act of 2005 sets equipment energy efficiency standards and seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. Under the act, consumers and businesses can attain federal tax credits for purchasing fuel efficient appliances and products, including hybrid vehicles; constructing energy-efficient buildings; and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary micro-turbine power plants, and solar power equipment.

Energy and Independence Security Act of 2007

The Energy Independence and Security Act of 2007 were intended to move the U.S. toward greater energy independence and security. It sets federal energy management requirements in several areas, including performance standards for new buildings and major renovations, high-performance buildings, energy savings performance contracts, metering, energy-efficient product procurement, and reduction in

[19] Pacific Gas and Electric Company, 2021, *Learn About the PG&E Natural Gas System*. Available: https://www.pgecorp.com/corp_responsibility/reports/2020/bu05_gas_operations.html#:~:text=As%20the%20owner%20and%20operator%20of%20one%20of,local%20transmission%20pipeline%20and%20three%20gas%20storage%20facilities. Accessed: September 17, 2023.

[20] California Energy Commission, *Gas Consumption by County—San Mateo County 2021*. Available: https://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed: September 17, 2023

petroleum use and increase in alternative fuel use. This act also amends portions of the National Energy Policy Conservation Act.

Corporate Average Fuel Economy Standards

The NHTSA sets CAFE standards to improve average fuel economy (i.e., reduce fuel consumption) and reduce GHG emissions generated by cars and light-duty trucks. On March 31, 2020, NHTSA and the EPA finalized the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, which set fuel economy and carbon dioxide standards that would increase 1.5 percent in stringency each year from MYs 2021 through 2026. These standards applied to both passenger cars and light trucks. On December 21, 2021, NHTSA published its CAFE Preemption rule, which repeals 2019's SAFE Vehicles Rule Part One: One National Program. That rule had codified the preemption of state and local laws related to fuel economy standards. Specifically, the 2019 rule had targeted California's preemption waiver as applied to the greenhouse gas emissions standards and zero-emission vehicle mandate. NHTSA's 2021 rule thus reopens pathways for state and local fuel economy laws.

On March 31, 2022, NHTSA finalized CAFE Standards for MYs 2024 through 2026. The final rule establishes standards that require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in MY 2026, by increasing fuel efficiency by 8% annually for MYs 2024 and 2025, and 10% annually for MY 2026. NHTSA projects the final standards will save consumers nearly $1,400 in total fuel expenses over the lifetimes of vehicles produced in these MYs and avoid the consumption of about 234 billion gallons of gas between MYs 2030 to 2050. NHTSA also projects the standards will cut greenhouse gases from the atmosphere, reduce air pollution, and reduce the country's dependence on oil.

NHTSA is currently working on an Environmental Impact Statement to analyze its proposed CAFE Standards for MYs 2027 and beyond and its requirements for heavy-duty pickup trucks and vans for MYs 2029 and beyond.[21]

STATE LAWS AND REGULATIONS

California Energy Commission

The CEC was created in 1974 under the Warren-Alquist Act as the State's principal energy planning organization in order to meet the energy challenges facing the state in response to the 1973 oil embargo. The CEC is charged with six basic responsibilities when designing state energy policy:

- Forecast statewide electricity needs.
- License power plants to meet those needs.
- Promote energy conservation and efficiency measures.
- Develop renewable energy resources and alternative energy technologies.
- Promote research, development and demonstration.
- Plan for and direct the state's response to energy emergencies.

[21] National Highway Traffic Safety Administration, July 28, 2023, *NHTSA Announces New Proposal for CAFE and HDPUV Standards*. Available at: https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy#:~:text=NHTSA's%20Corporate%20Average%20Fuel%20Economy,heavy%2Dduty%20trucks%20and%20engines

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates investor-owned electric and natural gas utilities, ensures the reliability and safety of electric and natural gas systems, and works to advance renewable energy and climate goals. In September 2008, CPUC adopted the Long-Term Energy Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision, as well as goals for each economic sector, identifying specific near-term, mid-term, and long-term strategies to assist in achieving these goals. This Plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020;
- All new commercial construction in California will be zero net energy by 2030;
- Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate; and
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

CPUC works with industry and organizations like BAAQMD to make changes towards these goals. When investor-owned utilities file applications asking for CPUC approval for new energy efficiency programs, the CPUC directs that the programs must be consistent with the Strategic Plan.

The CPUC and CEC have adopted the following goals to achieve zero net energy levels by 2030 in the commercial sector:

- Goal 1: New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.
- Goal 2: 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.
- Goal 3: Transform the commercial lighting market through technological advancement and innovative utility initiatives.

State Regulatory Actions Related to Energy Use

California has adopted statewide legislation to address various aspects of climate change and GHGs, which often pertain directly or indirectly to energy resources and uses. This section focuses on state legislation that specifically mentions energy use or energy resources. For other state legislation that focuses mainly on GHG reductions and climate change, refer to Chapter 10: Greenhouse Gas Emissions, of this Draft EIR.

Assembly Bill 1493, Pavley Rules (2002, amendments 2009)/Advanced Clean Cars (2011)

Known as Pavley I, AB 1493 provided the nation's first GHG standards for automobiles. AB 1493 required CARB to adopt vehicle standards to lower GHG emissions from automobiles and light-duty trucks to the maximum extent feasible beginning in 2009. In 2012, strengthening of the Pavley standards (referred to previously as Pavley II but now referred to as the Advanced Clean Cars measures) was adopted for vehicle MYs 2017 through 2025. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon in 2025. The increase in fuel economy will help lower the demand for fossil fuels.

State of California Building Codes

CALGreen is part of the California Building Standards Code under Title 24, Part 11.[22] CALGreen encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2022 California Building Standard Code) was effective as of January 1, 2023. The code is updated every three years.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the CEC. This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. Under the 2019 standards, single-family homes were predicted to be 53 percent more efficient than homes built under the 2016 standard due to more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[23] The current energy efficiency standards (2023 Energy Code) replaced the 2019 Energy Code as of January 1, 2023.

Title 13

Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9 was adopted on May 2, 2008, and limits non-essential idling of fleets to no more than five consecutive minutes at any location. This idling restriction applies to all vehicles in California with a diesel-fueled or alternative diesel-fueled off-road engine, unless a waiver provides sufficient justification that such idling is necessary. The airborne toxic control measure helps reduce public exposure to NOx, DPM, and other criteria pollutant emissions from off-road diesel-fueled vehicles.

Advanced Clean Cars II

CARB adopted ACC II regulations in 2022, which require all new passenger cars, trucks and SUVs sold in California to be zero emissions by 2035. ACC II establishes a year-by-year process, starting in 2026, so all new cars and light trucks sold in California will be zero-emission vehicles by 2035, including plug-in hybrid electric vehicles. The regulation codifies the light-duty vehicle goals set out in Governor Newsom's EO N-79-20. Currently, 16 percent of new light-duty vehicles sold in California are zero emissions or plug-in hybrids. By 2030, 68 percent of new vehicles sold in California would be zero emissions and 100 percent by 2035.

Advance Clean Trucks

CARB adopted the ACT regulation in 2021, targeting medium- and heavy-duty vehicles through both manufacture sales requirements and reporting requirements for large entities and fleets that operate or dispatch more than 50 trucks in California. A certain percentage of trucks sold, varying by vehicle class,

[22]California Department of General Services, Building Standards Commission, CalGreen. See: https://www.dgs.ca.gov/BSC/CALGreen.

[23] California Energy Commission, March 2018, *2019 Building Energy Efficiency Standards*. Available at: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

must be zero-emission vehicles starting in 2024. Fleets and entities must report information about their fleet operations, including vehicle types, annual miles traveled, and fuel usage.[24]

Advanced Clean Fleets

CARB adopted the Advanced Clean Fleets (ACF) regulations in October 2023, which is expected to go into effect on January 1, 2024. The goal of the ACF is to transition California's entire fleet of medium and heavy-duty trucks to zero-emission vehicles by 2045, where feasible. The ACF aims to achieve a zero-emission truck and bus fleet in the state by 2045, with an earlier target for certain market segments such as last mile delivery and short-distance shipping applications.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and creating policies/programs that would meet this goal.

Executive Order B-16-12 (2012)

EO B-16-12 orders state entities, under the direction of the governor, including CARB, the CEC, and the CPUC, to support rapid commercialization of zero-emission vehicles. It also directs these entities to achieve various benchmarks related to zero-emission vehicles.

Senate Bill 350 - Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Senate Bill 100 – Current Renewable Portfolio Standards

In September 2018, SB 100 was signed by Governor Brown to revise California's RPS program goals, furthering California's focus on using renewable energy and carbon-free power sources for its energy needs. The bill would require all California utilities to supply a specific percentage of their retail sales from renewable resources by certain target years. By December 31, 2024, 44 percent of the retails sales would need to be from renewable energy sources, by December 31, 2026, the target would be 40 percent, by December 31, 2017, the target would be 52 percent, and by December 31, 2030, the target would be 60 percent. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resources to all California end-use customers.

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (California Code of

[24] California Air Resources Board, Advanced Clean Truck webpage, available at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks. Accessed November 22, 2023.

Regulations Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy efficiency technologies and methods.[25]

LOCAL REGULATIONS

San Carlos 2030 General Plan

The San Carlos 2030 General Plan outlines various goals, policies, and actions relevant to energy in San Carlos in the Land Use Element.

Goal EM-9: Reduce energy consumed citywide.

Policies:

EM-9.1: Provide assistance and support efforts for increased energy efficiency for businesses and residences through a combination of incentives and regulations.

EM-9.2: Support on-site generation of energy through alternative forms of energy production such as solar panels, wind turbines and biomass facilities.

EM-9.6: Encourage new private construction and major remodels to be designed to meet or exceed Green Uniform Building Code requirements.

Actions:

EM-9.1: Implement measures in the Climate Action Plan intended to reduce energy consumption.

EM-9.2: Adopt a Green Building Code as called for in the Climate Action Plan.

Policies:

LU-8.18: Encourage "green building" practices in new development and redevelopment, such as those that make a building more energy efficient and reduces its effect on human health and the environment through better siting, design, construction, maintenance and operation.

San Carlos Municipal Code

SCMC 15.04.125 adopts Title 24, Part 11, California Green Building Standards Code, 2022 Edition.

San Carlos Climate Mitigation and Adaptation Plan

The City of San Carlos adopted its Climate Mitigation and Adaptation Plan (CMAP) on September 27, 2021, as an update to the San Carlos 2009 Climate Action Plan. The CMAP sets forth 23 measures to guide the City in meeting reduction goals in energy use, transportation, off-road equipment, water, wastewater, land use, and solid waste.

The following CMAP strategies for energy use reduction are relevant to the proposed project:

Strategy 1: Regional Energy Conservation and Efficiency Programs. Promote available energy efficiency and conservation opportunities, incentives, and technical assistance for businesses and residents.

[25] California Energy Commission, 2017, *2016 Appliance Efficiency Regulations*, https://pdf4pro.com/cdn/2016-applianceefficiency-regulations-5104f7.pdf. Accessed February 20, 2022.

Strategy 4: Electrification. Transition to electricity as the primary energy source citywide.

Strategy 6: Rooftop Solar. Continue to support and increase participation in rooftop and onsite solar energy systems in the community and at City facilities.

Strategy 7: Peninsula Clean Energy. Continue to support and promote PCE as the community's official electricity provider with a goal to provide 100 percent carbon-free, renewable energy by 2025.

Strategy 11: Transit-Oriented Development. Encourage development of mixed-use projects, higher-density housing, and job growth within the General Plan's recognized Transit-Oriented Development (TOD) corridor (Planning Areas 1, 2, and 3) while being mindful of surrounding uses.

Strategy 12: Active Transportation. Prioritize bicycling and walking as safe, practical, and attractive travel options citywide, as directed by the Bicycle and Pedestrian Master Plan.

Strategy 17: Vehicle Miles Traveled. Reduce community-wide transportation-related emissions per resident and employee, with an emphasis on reductions from existing and new development in the city's core commercial, office, and industrial areas, including development on the east side.

Strategy 32: Water-wise Landscaping. Promote drought-tolerant and firewise landscaping.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Under the CEQA Guidelines, Appendix G – Environmental Checklist Form, development of the project site as proposed would have a significant environmental impact if it were to result in the following:

1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
2. Conflict with or obstruct state or local plan for renewable energy or energy efficiency.

CONSUMPTION OF ENERGY RESOURCES

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

Impact Energy-1: Increased Energy Consumption. The project would have an incremental increase in the demand for energy given the increase in development on the project site compared to existing conditions. However, the project would be more energy efficient than the existing buildings and would not violate applicable federal, state and local statutes and regulations relating to energy standards. Additionally, development at the project site is required to meet or exceed applicable energy efficiency standards. The project would have a ***less than significant*** impact related to energy.

The project would include short-term demolition and construction activities that would consume energy, primarily in the form of diesel fuel (e.g., mobile construction equipment), gasoline (e.g., vehicle trips by construction workers), and electricity (e.g., power tools). Energy would also be used for conveyance of water used in dust control, transportation and disposal of construction waste, and energy used in production and transport of construction materials.

Table 8.2 summarizes the anticipated energy consumption from construction equipment and vehicles, including construction worker trips to and from the project site.

Table 8.2: Proposed Project Construction Energy Usage

Source	Energy Consumption	
	Amount and Units	**Converted to MMBtu**
Construction Worker Vehicle Trips (Gasoline)[1]	302,142 gallons	33,171 MMBtu
Construction Equipment and Vendor/Hauling Trips (Diesel)[2,3]	876,027 gallons	120,350 MMBtu
Total Construction Energy Use[4]		**153,520 MMBtu**

Source: Energy Calculations included as Appendix E

Notes:

[1] Worker vehicle trips were averaged at 10.8 miles, with a fuel efficiency of 24 miles per gallon.

[2] Vendor trips were averaged at 7.3 miles, with a fuel efficiency of 7.4 miles per gallon. Hauling trips were averaged at 20 miles, with a fuel efficiency of 24 miles per gallon.

[3] These calculations assume all diesel construction equipment for a conservative analysis. Electrical energy would be available for use during construction from existing power lines and connections, minimizing the use of less efficient diesel generators and/or other smaller handheld non-electric powered construction tools.

[4] Note that construction activities would involve some water use. Indirect energy from water use is not reflected in the table above but would be less than operational use under both existing and proposed conditions and de minimis given the energy use from diesel-powered construction equipment.

As shown in Table 8.2, the demolition and construction portions of the project would require what equates to 153,520 MMBtu[26] of energy use.

Use of construction equipment would cease upon completion of the construction of the project. Thus, impacts related to transportation energy use during construction would be temporary and would not require expanded energy supplies or the construction of new infrastructure. Furthermore, to limit wasteful and unnecessary energy consumption, the construction contractors are anticipated to minimize nonessential idling of construction equipment during construction, in accordance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9. The project also would implement construction best management practices as recommended by BAAQMD (See Chapter 5: Air Quality). While focused on emissions and dust reduction, the construction management practices would also reduce energy consumption through anti-idling measures and proper maintenance of equipment.

Construction trips would also not result in unnecessary use of energy since the project site is centrally located and is served by numerous regional roadways (e.g., Interstate 280 and U.S. 101) that provide direct routes from various areas of the region. Moreover, electrical energy would be available for use during construction from existing power lines and connections, either precluding or minimizing the use of less efficient diesel fueled generators and/or other construction equipment. The project also would comply with SCMC requirements to divert a minimum of 60 percent of construction and demolition

[26] MMBtu stands for Metric Million British Thermal Unit. For comparison purposes in this analysis, all forms of energy usage have been converted to MMBtu even though different types of energy would originally be measured in different units. See the energy Calculations in Appendix E for additional details.

debris. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and the project's construction energy impact would be ***less than significant***.

During operation, energy demand from the project would include fuel consumed by employees' and delivery vehicles and electricity consumed by the proposed structures, including lighting, research equipment, water conveyance, heating and air conditioning. **Table 8.3** shows the project's estimated total annual gasoline and diesel fuel consumption, as well as electricity and natural gas use.

Table 8.3: Proposed Project Operational Energy Usage for Year 2030

Source	Energy Consumption	
	Amount and Units	**Converted to MMBtu**
Operational Vehicle Fuel Use (Gross Annual)		
Gasoline	1,164278 gallons	127,821 MMBtu
Diesel	196,121 gallons	26,943 MMBtu
Operational Built Environment (Gross Annual)		
Electricity	15.6 GWh	53,325 MMBtu
Natural Gas Usage	0 U.S Therms	0 MMBtu
Total Gross Annual Operational Energy Use		**208,090 MMBtu**

Source: Energy Calculations included as Appendix E

Notes: The energy use reported in this table is gross operational energy use for the proposed project with no reduction to account for energy use of existing uses and no reduction for on-site solar generation as estimates were not available at the time of this analysis.

Operational energy use includes landscaping equipment and the assumption of 12 generators, operated primarily for testing and maintenance. Modeling for energy use assumed the earliest operational year for full buildout would be 2030. As noted in Chapter 3, Project Description, this assumption was based on a preliminary schedule when the analysis for this EIR began. If full buildout occurs later than 2030, energy use would be the same or decrease as additional emission control technology requirements would be in place.

EMFAC2021 vehicle type was adjusted based on the requirements of ACC II, adopted November 2022. See Appendix B for more information.

As shown in Table 8.3, a conservative estimate of the project's gross annual energy consumption equates to 208,090 MMBtu. When subtracting existing operational fuel (16,552 MMBtu) and built environment energy use of the currently existing buildings (12,289 MMBtu) from the project totals above, the total net increase in annual operational energy use would be 179,249 MMBtu (see Appendix E for additional detail). The project's operational electricity consumption represents approximately 0.37 percent of the electricity consumption in San Mateo County and 0.43 percent of the annual output of PCE. This incremental increase is within the capacity of current electrical facilities.

Consistent with Green Building guidelines and to reduce GHG emissions, the project has proposed all-electric buildings with no natural gas use for appliances and infrastructure. The project's required TDM plan (see Chapter 15: Transportation) will also include various measures designed to reduce total vehicle trips. The TDM plan would reduce at least 20 percent of the trips, which would help prevent unnecessary use of vehicle fuel. The project also would include wiring for photovoltaic solar panels on the parking structures to produce energy from a renewable source. The parking garages would include 10% of

parking spaces installed with EVCS, 10% EV ready and 30% EV capable. Along with not relying on fossil fuels, most EV vehicles are at least 4.4 times more energy efficient than gasoline vehicles.[27]

As detailed in Chapter 5: Air Quality and Chapter 10: Greenhouse Gas Emissions, the project would also be consistent with regional and local climate actions plans. The project would incorporate energy and energy-related efficiency measures meeting all applicable requirements, including water and waste efficiency. The project would be required to comply with all applicable standards of Title 24 of the California Code of Regulations, including CALGreen, that require new buildings to be energy efficient and encourages use of electricity as the primary building energy supply. The project also incorporates energy-conserving design and construction, including water efficient landscaping, water conserving plumbing fixtures, and diverting construction waste from landfills. The project also incorporates features that reduce reliance on fossil fuels, including all electric buildings, electric vehicle parking, and the use of solar panels.

While representing a change from the former uses at the site, the project would be consistent with the type of development in the area and allowed under the land use designation and zoning. The use of energy to construct the project is necessary because it responds to demand and replaces an outdated, lower intensity employment center with a higher density of jobs in a transit priority area (TPA) consistent with the City's East Side Innovation District Vision Plan. Putting jobs in a TPA reduces the overall energy consumption related to commuting compared to putting jobs far from residences and transit.

Operation of the project would increase energy usage compared to existing conditions on the site, however the energy use would be in conformance with the latest applicable SCMC, CALGreen, and Building Energy Efficiency Standards. The project would replace older, less energy efficient buildings with energy efficient buildings designed to meet all applicable energy-saving codes and regulations. The project also introduces TDM measures to reduce employee vehicle use from what would be expected without such measures. Therefore, project operations would not consume energy in a wasteful, inefficient, or unnecessary manner and impacts to energy resources would be *less than significant*.

CONFLICT WITH ENERGY PLANS

2. *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Impact Energy-2: Consistency with Plans for Renewable Energy and Energy Efficiency. The project would not conflict with a State or local plan for renewable energy or energy efficiency. The project would have a ***less than significant*** impact relating to consistency with energy-related plans.

California Renewable Portfolio Standard Program

Electrical needs to the project site would be provided by PCE. The statewide RPS requirements do not directly apply to individual development projects, but to utilities and energy providers such as PCE, whose compliance with RPS requirements would contribute to the state objective of transitioning to renewable energy. PCE obtains electricity from conventional and renewable sources throughout California. In 2021, 50.5 percent of PCE's electricity was projected to be generated from renewable energy sources; and 49.5 percent from large hydroelectric generators. The project would be required to adhere to applicable energy efficiency code requirements, and would include photovoltaic solar panels

[27] National Renewable Energy Laboratory, June 2023, *Efficiency Ratios for Light-Duty All-Electric Vehicles in the United States*. Available at: https://afdc.energy.gov/data/10963. Accessed December 5, 2023.

on the parking structures to produce on-site energy from a renewable source. Provision of additional solar panels or other on-site renewable energy is expected to be limited by challenges due to rooftop equipment necessary for building heating and cooling and proposed R&D uses. The project would not impede PCE's ability to implement California's renewable energy goals. Therefore, the proposed project would not obstruct implementation of the California RPS Program.

San Carlos CMAP

A consistency analysis with the proposed project to the relevant policies in the CMAP is shown in **Table 8.4**. As identified in the table below, the proposed project would be consistent with the strategies in the City of San Carlos CMAP. The proposed project would minimize energy-related impacts from the commercial building sector by utilizing PCE as a 100-percent electric project, implementing a TDM plan to reduce trip generation, installing wiring for solar panels on parking garages for on-site renewable energy production, and other strategies listed below.

Table 8.4: Consistency with the City of San Carlos Climate Mitigation Adaptation Plan

Strategy	Project Consistency
1: Regional Energy Conservation and Efficiency Programs. Promote available energy efficiency and conservation opportunities, incentives, and technical assistance for businesses and residents	Project would meet all local code requitements
4: Electrification. Transition to electricity as the primary energy source citywide.	Project would be all electric and does not propose natural gas appliances
6: Rooftop Solar. Continue to support and increase participation in rooftop and onsite solar energy systems in the community and at City facilities.	Project includes wiring for rooftop solar on both parking garages
7: PCE. Continue to support and promote PCE as the community's official electricity provider with a goal to provide 100 percent carbon-free, renewable energy by 2025.	PCE will provide electricity to the project
12: Active Transportation. Prioritize bicycling and walking as safe, practical, and attractive travel options citywide, as directed by the Bicycle and Pedestrian Master Plan.	Project is adding sidewalks and bike lanes to frontage
15: Public Transportation. Support improvements to public transit routes, services, and facilities to facilitate longer distance travel.	Project proposes to develop a Transportation Management Association Plan for the East Side Innovation District as a community benefit
16: Public Spaces. Create and maintain accessible public spaces, including the full spectrum of the public realm: sidewalks, alleys, pedestrian paseos, pedestrian and bicycle paths, plazas, squares, and public gathering spaces.	Project would install street furniture and trees, pedestrian and bicycle paths, and accessible public spaces
17: VMT. Reduce community-wide transportation-related emissions per resident and employee, with an emphasis on reductions from existing and new development in the city's core commercial, office, and industrial areas, including development on the east side.	Project TDM plan will reduce VMT (see Chapter 15: Transportation.)

18: Electric Vehicles. Support residents and business owners to transition to electric and plug-in hybrid vehicles.	Project includes EV chargers and parking spaces wired for the addition of EV chargers.
32: Waterwise Landscaping	Landscaping is designed to conform

Source: Applicant

The project would not conflict with plans for renewable energy or energy efficiency and the impact in this regard would be *less than significant*.

CUMULATIVE ENERGY IMPACTS

Cumulative projects considered in this analysis include projects evaluated under the City's General Plan 2030 buildout and the East Side Innovation District Vision Plan. The EIR for the General Plan 2030 determined that there would be no significant cumulative energy impact with implementation of the General Plan goals and policies and the Climate Action Plan, and compliance with State regulations. All cumulative development projects within the PCE and PG&E service areas would be required to comply with the Building Energy Efficiency Standards and CALGreen, which would contribute to minimizing wasteful energy consumption and promoting renewable energy sources, consistent with the goals and policies of General Plan 2030 and the updated CMAP. The project also would be subject to state and local requirements that limit wasteful, inefficient, and unnecessary energy use and do not hinder the goal to increase renewable energy resources. The project, when considered with past, present, and probable future projects would not cause a significant cumulative impact related to energy resources or renewable energy goals. There would not be a significant cumulative impact in regard to energy.

9

GEOLOGY AND SOILS

INTRODUCTION

This chapter utilizes information from the following report prepared for the applicant, which is available as part of project application materials:

- Langan Engineering and Environmental Services, Geotechnical Investigation – Alexandria Center for Life Science, dated September 2, 2020, and revised on June 18, 2021.

SETTING

REGIONAL SETTING

The City of San Carlos is within the Coast Ranges geomorphic province, which consists of northwest-trending mountain ranges and valleys and extends from Ventura County in southern California to the Oregon border. The northern and southern Coast Ranges are separated by a depression containing the San Francisco Bay.[1] The San Francisco Peninsula at the northern end of the Santa Cruz Mountains, separating the Pacific Ocean from the San Francisco Bay, represents one mountain range within this province. Within the San Francisco Bay Area, most of the Coast Ranges province developed on a basement of tectonically mixed Cretaceous- and Jurassic-age (70 to 200 million years old) rocks of the Franciscan Complex. These subsurface rocks are overlain by younger sedimentary and volcanic rocks that reflect geologic conditions for the last million years. Due to the lateral and vertical movement on the splays of the San Andreas Fault system and other secondary faults, the Coast Ranges exhibit a dominant northwest-oriented structural and topographic trend. This trend reflects the boundary between the North American plate to the east and the Pacific plate to the west. Nearly spanning the length of California, the San Andreas Fault is the dominant structure in the regional fault system and can produce the highest magnitude earthquakes, although many sub-parallel or branch faults are equally active and are capable of generating large earthquakes. These faults are dominated by right-lateral movement, but an increasingly large amount of thrust faulting resulting from compression across the system has been identified.[2]

REGIONAL SEISMICITY

The major active earthquake faults in the Bay Area are the San Andreas, Monte Vista-Shannon, San Gregorio, and Hayward faults. The closest fault traces are located almost 4 miles from the project site, as shown in **Table 9.1**.

However, the San Francisco Bay Area is a seismically active region, and the site is likely to encounter strong seismic ground shaking during the lifetime of the project, which can cause seismic-related ground failure including liquefaction depending on the characteristics of the site and development.

[1] California Geological Survey, 2002, *Note 36: California Geomorphic Provinces*, https://www.conservation.ca.gov/cgs/Documents/Publications/CGS-Notes/CGS-Note-36.pdf

[2] Cornerstone Earth Group, 2017, *Geotechnical and Geologic Feasibility Review for the Proposed 800, 804, and 806 Alameda de las Pulgas Site, San Carlos, California*

Table 9.1: Regional Faults and Seismicity

Fault Segment	Approx. Distance of Project Site from Fault (miles)	Direction from Site	Mean Characteristic Moment Magnitude
N. San Andreas – Peninsula	3.7	W	7.2
N. San Andreas – (1906 event)	3.7	W	8.05
Monte Vista Connected	4	S	6.5
San Gregorio Connected	12	W	7.5
Total Hayward	15	NE	7.0
Total Hayward – Rodgers Creek	15	NE	7.3
Total Calaveras	21	E	7.0
N. San Andreas – North Coast	26	NW	7.5
N. San Andreas – Santa Cruz	27	SE	7.1
Mount Diablo Thrust	27	NE	6.7
Greenville Connected	31	NE	6.8
Zayante-Vergeles	33	SE	7.0
Greenville Connected	34	NE	7.0

Source: Langan Engineering and Environmental Services, 2021

REGIONAL GEOLOGY

The geology within the city limit is mainly unconsolidated sedimentary deposits underlain by sedimentary rock and Franciscan bedrock west of Alameda de las Pulgas. The western border area of the city is underlain by the Cretaceous age Franciscan Complex consisting mainly of greywacke sandstone, conglomerate, and shale bedrock. The lowland deposits, which underlie most of San Carlos, consist mostly of the deposits of Holocene age alluvium (less than 11,000 years old) consisting of a mix of clay, silt, sand, and gravel.[3]

SITE SOILS AND GEOLOGY

The site is underlain by alluvial deposits generally consisting of clays with interbedded lenses of sands. The upper approximately 30 feet of the clay is generally medium stiff to very stiff, with localized very soft to soft clays deposits, and includes varying amounts of sand. The clays below a depth of approximately 30 feet are generally stiff to hard and include varying amounts of sand. The interbedded sand layers vary in thickness between 1 and 14 feet. The stabilized groundwater level is likely to be 11.7 to 4.5 feet below ground surface, with minimum depths to groundwater at 1 to 5 feet below ground surface.

PRIMARY SEISMIC HAZARDS

Considering the distance from the San Andreas Fault Zone or any other fault traces, there is a low potential for fault-related surface ground rupture to occur in the project site area during an earthquake on the San Andreas Fault. The project site is not located in an Alquist-Priolo Earthquake Fault Zone and no known active or potentially active faults exist on the site.

[3] City of San Carlos, October 2022, *City of San Carlos Draft Focused General Plan Update EIR, Chapter 4.6: Geology and Soils*.

SECONDARY SEISMIC HAZARDS

Secondary seismic effects such as soil liquefaction, ground shaking, seismic induced landsliding, lurch cracking and ground fissuring may occur during strong ground shaking events associated with large scale regional seismic events.

Ground Shaking

The San Francisco Bay Area is a seismically active region. The project site and region will likely be subjected to strong seismically induced ground shaking within the design life of the proposed project. The energy released by an earthquake is measured as moment magnitude (Mw). The Mw scale is logarithmic; therefore, each one-point increase in magnitude represents a ten-fold increase in amplitude of the waves as measured at a specific location and a 32-fold increase in energy. That is, a magnitude 7 earthquake produces 100 times (10 x 10) the ground motion amplitude of a magnitude 5 earthquake. The site is subject to a Maximum Magnitude Event – that is, the maximum earthquake that appears capable of occurring based on current geological understanding of the region – of 7.9 Magnitude along the San Andreas Fault.

The most recent (3rd addition) of the Uniform California Earthquake Rupture Forecast (UCERF3) estimates the magnitude, location, and likelihood of earthquake rupture throughout California. According to this model, which has assessed the probability of earthquakes in the San Francisco Bay Area, there is a 72-percent probability that an earthquake of Richter Magnitude 6.7 or greater will strike the region between 2014 and 2044.[4] Earthquakes of Mw 6.7+ magnitude can create ground accelerations in bedrock and in stiff unconsolidated sediments severe enough to cause major damage to structures and foundations that are not designed specifically with earthquake reinforcements and to underground utility lines without sufficient flexibility to accommodate seismic ground motion.

Notable historic earthquakes on the active faults within 50 kilometers of the project site include the following:[5]

- San Andreas Fault
  - San Francisco, 1906, magnitude 8.25
  - Loma Prieta (near Santa Cruz), 1989, magnitude 7.1
- Calaveras Fault
  - Morgan Hill (Santa Clara County), 1911, magnitude 6.5
  - Morgan Hill, 1984, magnitude 6.1
  - San Jose, 2007, magnitude 5.6

According to the Geotechnical Investigation Report, the project site, as is the case for most sites within the Bay Area, is at risk of moderate to severe (design-level) earthquakes that can cause very strong ground shaking during a major earthquake. The estimated maximum parameters for nearby faults to be felt in the City are a Maximum Intensity of VI to VIII on the Modified Mercalli Intensity Scale, with potential damage to buildings ranging from cracked plaster and broken windows to considerable damage in ordinary substantial buildings, with some partial collapse, and slight damage in brick structures built especially to withstand earthquakes.[6]

[4] Field, E.H. and 2014 Working Group on California Earthquake Probabilities, 2015, *UCERF3: A New Earthquake Forecast for California's complex Fault System: U.S. Geological Survey 2015-3009*, 6 p., https://dx.doi.org/10.3133/fs20153009.

[5] San Joaquin Valley Geology, 2021, *Historic Earthquakes of California*, http://www.sjvgeology.org/geology/earthquakes.html

[6] City of San Carlos, June 25, 2009, *City of San Carlos 2030 General Plan EIR*, Table 4.5-2.

Landsliding and Slope Stability

Landslides are downward and outward movements of slope-forming materials such as rock, soil, and artificial fill. Landslides occur on some of the upper hilly slopes, more commonly in the western area of the city. The northwest bank of Pulgas Creek was tested for slope stability at both existing and proposed conditions in seismic conditions and passed the screening analysis test and is therefore considered stable against the possibility of landslides.

Seismically Induced Liquefaction

Liquefaction generally occurs as a result of strong ground shaking during earthquakes in areas where granular sediment or fill material occur with high moisture content in or immediately below it. Liquefaction is the temporary transformation of saturated, cohesionless soil into a viscous liquid as a result of seismically induced ground shaking. Liquefaction-induced ground failure has been a cause of major earthquake damage in northern California. For example, during the 1989 Loma Prieta and 1906 San Francisco earthquakes, significant damage to roads, buildings, and other structures in the San Francisco Bay Area were caused by liquefaction-induced ground displacement. Geologic units that are generally susceptible to liquefaction include late Quaternary alluvial sedimentary deposits and deposits that contain saturated loose and sandy and silty soils.

Liquefaction potential within San Carlos ranges from very low to very high. Liquefaction potential in the western hill areas is low, while the flatlands and bay margins area have high liquefaction potential. The San Carlos General Plan shows the liquefaction potential of the project site as mostly medium, with low potential near Old County Road and very high potential near Industrial Road.[7] The project site is in a state-designated liquefaction zone.[8]

The site is on the western edge of the Redwood Point Quadrangle and the eastern edge of the San Mateo Quadrangle, which is within a seismic hazard zone as designated by the maps prepared for the two quadrangles titled State of California Seismic Hazard Zones, Redwood Point Quadrangle and State of California Seismic Hazard Zones, San Mateo Quadrangle by the California Geological Survey. According to the Geotechnical Investigation Report, because the potentially liquefiable layers at the project site are discontinuous, up to 3.5 inches of differential settlement over a horizontal distance of 30 feet may occur during an earthquake.

With potentially liquefiable sand layers with a thickness of approximately 1 to 14 feet located at depths of approximately 5 to 11 feet below ground surface, there is a possibility of surface manifestations of the effects of liquefaction, such as sand boils and ground fissures. Such manifestations could increase liquefaction induced settlements significantly, from several inches to several feet.

Lateral Spreading

Lateral spreading refers to fracturing and extension of the ground surface due to liquefaction of material in the subsurface. This occurs on slopes underlain by loose sands and a shallow water table. If liquefaction occurs in the subsurface material, the overburden soil can slide over the lower liquefied deposit, proceeding down slope and forming fissures, scarps and depressed areas. This often takes place along streams in young alluvial deposits. While the project site does have liquefiable soil layers with the potential for lateral spreading, because those layers are at varying depths and laterally discontinuous, the potential for lateral spreading at the project site is low.

[7] City of San Carlos, *San Carlos General Plan 2030*, Figure 8.3, p.189.

[8] California Department of Conservation, *Earthquake Zones of Required Investigation*, https://maps.conservation.ca.gov/cgs/EQZApp/app/

Seismic Densification

During a seismic event, loose to medium dense soils such as sand can differentially settle due to dynamic densification of the sand layers. This can result in damage to overlying improvements such as structures, pavements, walls and utility lines. The tests at the project site indicate that the materials above the water table are sufficiently dense or clayey, and therefore the potential for seismic densification is low.

OTHER GEOLOGIC CONCERNS

Expansive Soil and Settlement

The existing near-surface soil at the site has moderate to very high expansion potential. Moisture fluctuations in near-surface expansive soils could cause the soil to expand or contract resulting in movement and potential damage to improvements that overlie them. Potential causes of moisture fluctuations include drying during construction, and subsequent wetting from rain, capillary rise, landscape irrigation, and type of plant selection. For improvements at-grade, the volume changes from expansive soil can cause cracking of foundations, floor slabs and exterior flatwork. These effects can be abated by moisture conditioning the expansive soil, providing select, non-expansive fill below interior and exterior slabs, and supporting foundations below the zone of seasonal moisture change.

Settlement can also occur due to ground subsidence or collapsible soils. The underlying alluvial deposits at the project site could consolidate under the weight of new fill and building loads. The Geotechnical Investigation estimated that where the site grades are raised, for every foot of new fill up to 5 feet, settlement of 1/3 inch would occur. For areas where the grade is raised more than 5 feet, the estimate is approximately 1¼ inch of long-term consolidation per new foot of fill up to 13 feet. The use of lightweight fill could reduce the amount of settlement.

Where building loads are supported by a mat foundation, settlement due to the weight of the buildings plus new fill is estimated to be 19–20 inches. Buildings supported on footings would have a settlement of approximately 11-13 inches. Due to the deeper excavation for the parking garages, their potential settlement is estimated to be 16-17 inches.

Differential ground movement due to expansive soil and settlement will tend to distort and crack pavements and exterior improvements such as courtyards and sidewalks. Mastic joints or other positive separations permit differential movements between exterior slabs and the buildings, reducing the potential for damage.

PALEONTOLOGICAL RESOURCES

Paleontological resources (fossils) are the remains and/or traces of prehistoric plant and animal life exclusive of human remains or artifacts. Fossil remains such as bones, teeth, shells, and wood are found in the geologic deposits (rock formations) in which they were originally buried. Paleontological resources represent a limited, non-renewable, sensitive scientific and educational resource. The potential for fossil remains at a location can be predicted through previous correlations that have been established between the fossil occurrence and the geologic formations within which they are buried. For this reason, knowledge of the geology of a particular area and the paleontological resource sensitivity of rock formations makes it possible to predict where fossils will or will not be encountered. To identify any known paleontological resources within or in the vicinity of the project site, a record search of the online database maintained by the University of California Museum of Paleontology (UCMP), was conducted on August 20, 2023. The UCMP online locality user records search did not indicate the presence of

paleontological resources based on the geological features located at the project site.[9] The nearest known paleontological sites are located near the community of Kings Mountain, approximately 7 miles northwest.

REGULATORY SETTING

FEDERAL REGULATIONS

National Earthquake Hazards Reduction Program

Federal laws codified in the United States Code Title 42, Chapter 86, were enacted to reduce risks to life and property from earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program. Implementation of these requirements is regulated, monitored, and enforced at the state and local level. Key regulations and standards are summarized below.

Paleontological Resources Preservation Act

The federal Paleontological Resources Preservation Act of 2002 limits the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers who have obtained a permit from the appropriate state or federal agency. Additionally, it specifies that these researchers must agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and other researchers. The Paleontological Resources Preservation Act incorporates key findings of a report, Fossils on Federal Land and Indian Lands, issued by the Secretary of Interior in 2000, which establishes that most vertebrate fossils and some invertebrate and plant fossils are considered rare resources.[10]

STATE LAWS AND REGULATIONS

Alquist-Priolo Earthquake Fault Zoning Act

The California Legislature passed the Alquist-Priolo Earthquake Fault Zoning Act in 1972 to mitigate the hazard of surface faulting to structures for human occupancy.[11] The Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. Local agencies must regulate most development in fault zones established by the State Geologist. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, the city or county with jurisdiction must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active or potentially active faults.

California Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act of 1990 (California PRC Sections 2690-2699.6) addresses seismic hazards other than surface rupture, such as liquefaction and seismically induced landslides. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold development

[9] University of California Museum of Paleontology Locality Search, performed on 8/20/2023, available at: https://ucmpdb.berkeley.edu/loc.html

[10] U.S. Department of the Interior, 2000, *Fossils on Federal & Indian Lands*, https://www.blm.gov/sites/blm.gov/files/programs_paleontology_quick%20links_Assessment%20of%20Fossil%20Management%20on%20Federal%20&%20Indian%20Lands,%20May%202000.pdf.

[11] California Division of Mines and Geology, 1997 revision, *Fault-Rupture Hazard Zones in California, DMG Special Publication 42*.

permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

California Building Code

Title 24 of the California Code of Regulations, also known as the California Building Standards Codes, sets minimum requirements for building design and construction and includes the California Building Code. The 2019 version of the California Building Code is effective as of January 1, 2020, and the 2022 version is effective as of January 1, 2023. The California Building Standards Code is a compilation of three types of building standards from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in national and international model codes;
- Building standards that have been adopted and adapted from the national and international model code standards to meet California conditions; and
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.[12]

In the context of earthquake hazards, the California Building Code's design standards have a primary objective of assuring public safety and a secondary goal of minimizing property damage and maintaining function during and following seismic events.

National Pollutant Discharge Elimination System Construction General Permit

Under the Authority of the federal CWA, Section 402 (NPDES), the State Water Resources Control Board (State Water Board) permits all regulated activities under Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006- DWQ (adopted September 2, 2009), which requires, prior to beginning any construction activities, the permit applicant to obtain coverage under the Construction General Permit by preparing and submitting a Notice of Intent to the State Water Board and preparing and implementing an SWPPP, in accordance with Construction General Permit requirements, for all construction activities that disturb 1 acre of land or more. Construction activities that are subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least 1 acre of the total land area. The SWPPP has two major objectives, (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges. For a complete discussion on soil erosion prevention as it relates to water quality and hydrology, see Chapter 12: Hydrology and Water Quality, of this Draft EIR.

California Code of Regulations 14, Section 15064.5

California Code of Regulations 14, Section 15064.5, sets forth criteria for determining whether a project would change the significance of a historical resource, including a resource that "has yielded, or may be likely to yield, information important in prehistory," including paleontological resources. This section also describes what constitutes an impact on historical resources, including "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings" such that its historical significance is materially impaired. If a significant adverse change in the significance of a resource would

[12] California Building Standards Commission website at http://www.bsc.ca.gov/title_24/default.htm.

result from project implementation, the lead agency must identify and implement feasible mitigation to mitigate or avoid that significant adverse change.

California Public Resources Code, Section 5097.5

California Public Resources Code, Section 5097.5, Archaeological, Paleontological, and Historic Sites, prohibits the purposeful excavation or destruction of "any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature" on public lands, and establishes that State agencies may perform operations as necessary on public lands to preserve or record paleontological resources.

LOCAL REGULATIONS AND POLICIES

San Carlos General Plan

The San Carlos General Plan Environmental Safety and Public Services Element goals and policies relevant to geology and seismic hazards are:

Goal ESPS-1: Reduce the potential loss of life, injury, and property damage due to seismic and geologic hazards.

Policies:

ESPS-1.1: The City Building Official shall verify geotechnical and soils reports for development in areas where potentially serious geologic risks exist. These reports shall address the degree of hazard, design parameters for the project based on the hazard, and appropriate mitigation measures. Based on the findings of these reports, the City shall require that new structures are designed and built to withstand the effects of seismically-induced ground failure.

ESPS-1.2: Prohibit structural development in known areas where seismic and geological hazards cannot be mitigated.

ESPS-1.3: Continue to monitor and enforce mitigation measures to reduce risk for projects where geological and seismic hazards can be mitigated.

ESPS-1.4: Enforce requirements of the Alquist-Priolo Special Studies Zones Act should any fault traces in San Carlos be discovered and prove to be active or potentially active.

ESPS-1.5: Continue to incorporate seismic risk analysis into the City's ongoing building inspection program through thorough review of projects by plan check and field inspections.

San Carlos Municipal Code

The City of San Carlos Municipal Code contains all ordinances for the city. The Municipal Code is organized by Title, Chapter, and Section.

Chapter 15.04, *Technical Building Code*, of Title 15, Buildings and Construction, adopts the CBC by reference with specified modifications. Chapter 15.04 recognizes that the city is located in a seismically active area very close to the San Andreas Fault, one of the most significant earthquake fault zones in the State of California. This chapter also recognizes that there is the moderate potential for erosion and slope instability/landslides in approximately fifty percent of the city and that expansive soils or bedrock varies in significance in over two-thirds of the entire city.

Chapter 12.08, *Grading and Excavations*, of Title 12, Streets, Sidewalks, and Public Places, provides the minimum standards to protect property, preserve natural beauty and enhance water quality, and control erosion, sedimentation, increases in surface runoff and related environmental damage caused by construction-related activities, by regulating and controlling the design, construction, quality of materials, use, location and maintenance of grading, excavating and fill, land disturbances, land fill and soil storage in connection with the clearing and grading of land for construction, within the city.

Chapter 17.24, *Tentative Maps and Tentative Parcel Maps*, of Title 17, Subdivisions, provides the requirement of a preliminary soils or geologic report when a tentative map or tentative parcel map is submitted. Any recommended corrective actions to address potential hazards due to soils or geologic problems that are approved by the City Geologic Consultant shall be required as a condition of approval for the construction of each structure.

Chapter 18.14, *Stream Development and Maintenance (SDM) Overlay District*, of Title 18, Zoning, provides the requirement that except in the case of emergency, all development, grading, restoration and maintenance shall be confined to the dry months (April 15th to October 15th) and all erodible slopes and surfaces exposed by such work will be hydromulched or secured by equally effective erosion control prior to October 15th to the satisfaction of the City Engineer.

Chapter 18.18, *Landscaping*, of Title 18, Zoning, provides the requirements for landscape plans, including the requirement for a grading plan that indicates existing and proposed contours, height of graded slopes, drainage patterns, pad elevations, finish grade, and stormwater retention improvements.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The following thresholds for measuring the project's impacts are based upon CEQA Guidelines thresholds:

1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    a) 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?
    b) Strong seismic ground shaking?
    c) Seismic-related ground failure, including liquefaction?
    d) Landslides?
2. Would the project result in substantial soil erosion or the loss of topsoil?
3. Would the project 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?
4. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?
5. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?

6. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The main geologic hazards around the proposed project are the presence of near surface expansive soil, moderately compressible alluvial deposits, and shallow groundwater; slope stability of the northwest bank of Pulgas Creek; and the potential for liquefaction-induced settlement and associated surface manifestations. The basic criterion applied to the analysis of geological impacts is whether construction of the project would cause or exacerbate unstable or adverse geologic conditions or adversely impact unique paleontological resources. The analysis of geological hazards is primarily based on the degree to which the project could cause or exacerbate hazards to the environment (people, structures, etc.), from earthquakes, fault rupture, landslides, soil creep, expansion and settlement or other geologic events.

SURFACE FAULT RUPTURE

1.a. Would the project 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?

The major active earthquake faults in the Bay Area are the San Andreas, Monte Vista-Shannon, San Gregorio, and Hayward faults. The closest fault traces are located almost 4 miles from the project site. There are no faults traces across the site and therefore, the project has *no impact* related to rupture along a fault.

EXPOSURE TO STRONG SEISMIC GROUND SHAKING

1.b. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Impact Geo-1: **Seismic Ground Shaking.** There is a high probability that the proposed development would be subjected to strong ground shaking from an earthquake during its design life. The project would be required to comply with a Design-level Geotechnical Investigation and Structural Design Plans per standard conditions and the impact of the project with respect to strong seismic ground shaking would be ***less than significant***.

The project would not alter or exacerbate impacts from seismic ground shaking. The site is almost fully covered by the existing buildings and asphalt surface parking, or rough grading after the demolition of the former Kelly Moore buildings, and is known to be underlain by alluvial deposits generally consisting of clays with interbedded lenses of sands. There is high groundwater at the site, with minimum depths to groundwater as little as 1 foot below existing ground surface. Given the characteristics of the soils, the site was concluded to have the following characteristics:

- liquefaction with potential for differential settlements of 1.5 to 3.5 inches and surface manifestations with potential for differential settlements of several inches to several feet
- low potential for lateral spreading to affect the site
- low potential for cyclic densification/compaction
- moderate to very high expansion potential of existing near surface soils
- settlement caused by the weight of new site fill and buildings of up to 20 inches

Expansion or settlement of soils can cause cracking of foundations, floor slabs and exterior flatwork; distortion and cracking of pavements and exterior improvements such as courtyards and sidewalks; or damage to underground utilities. The Geotechnical Investigation Report concluded that the site can be safely developed as proposed if it meets the recommendations in that report, with proper foundation engineering and construction as specified in the Design-Level Geotechnical Investigation prepared by a Registered Geotechnical Engineer and Structural Design Plans as prepared by a Licensed Professional Engineer and incorporated into the design and contract documents. Seismic construction standards are detailed in building codes, and specifics of site preparation, foundation design, and building construction are specified through structural engineering design formalized in the Design-Level Geotechnical Investigation Report. These are standard conditions of approval in the construction permitting process to comply with the General Plan Environmental Safety and Public Element goals and policies, as detailed below.

> Standard Condition
> Compliance with Design-level Geotechnical Investigation and Structural Design Plans. Consistent with plan check procedures for Building Permit consideration and Section 12.80.060 of the San Carlos Municipal Code, proper foundation engineering and construction shall be performed in accordance with the recommendations of a Registered Geotechnical Engineer and a Licensed Professional Engineer. The structural engineering design, with supporting Geotechnical Investigation, shall incorporate seismic parameters compliant with the California Building Code.

In satisfaction of the standard condition, the site design is expected to include the following elements, per recommendation of the Geotechnical Investigation Report:

Before construction begins:

- Site preparation – Existing pavement and underground obstructions should be removed. Vegetation and organic topsoil should be stripped and existing underground utilities should be moved or abandoned in place in areas where new site improvements will be located. The appropriate engineered fill should be used to backfill.
- Subgrade preparation – Exposed subgrade and any placed engineered fill should be scarified, moisture-conditioned and compacted. Heavy construction equipment should not be allowed directly on final subgrade.
- Fill placement – Existing site soil or select fill should be free of organic material, have low expansion and corrosion potential, and meet specified particle size requirements. Fills must be approved by the geotechnical engineer, and should be moisture conditioned, compacted, and placed in horizontal lifts not exceeding eight inches in loose thickness.
- Lime treatment – Near surface soil may be treated with lime to reduce expansion potential within the building pad. Any lime treatment process should be designed by a contractor specializing in its use.
- Lightweight fill – Lightweight fill should be used where settlement from the weight of added fill is to be reduced.

During construction:

- Any shallow foundations should follow the specifications for: spread footings, mat foundation, and lateral resistance; ground improvement, which could include rigid inclusions and stone columns; and appropriate piles and pile installation.

- Excavations should be shored if space does not permit a sloped excavation or if it extends deeper than five feet.
- A site dewatering system should be designed to draw the groundwater level to at least three feet below the bottom of any excavation.
- Below grade walls should be waterproof and designed to resist lateral pressures, including seismic considerations.
- Floor slabs should be placed on appropriate soil or fill, or supported by piles and/or grade beams or rigid inclusions. They should be waterproofed where necessary. Entrances to the building should be designed to transition from areas of structural support to areas of no support where up to 3 inches of static settlement and an additional 3½ inches of liquefaction-induced settlement could occur. As the magnitude of ground surface manifestation settlement is difficult to estimate, there should be plans in place to repair the building entrances after a large earthquake.
- Any concrete, asphalt, or utilities should be designed and installed per recommendations to accommodate predicted settlement.

The ground improvement measures would reduce the potential differential settlement due to expansive soil, or settlement due to liquefaction or fill compression. The construction measures would lessen the effect that any remaining differential settlement would have on the project structures and improvements. With compliance with recommendations of the Langan Geotechnical Investigation Report and Design-Level Geotechnical Investigation and Structural Design Plans, as required by the standard condition of approval "Compliance with Design-level Geotechnical Investigation and Structural Design Plans", the potential impact of seismic hazards including from strong seismic ground shaking would be *less than significant.*

SEISMICALLY-INDUCED GROUND FAILURE

1.c. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Impact Geo-2: **Seismic Ground Failure, including Liquefaction, Densification, and Differential Settlement.** Site-specific analysis has determined that soils at the site have potential for liquefaction, and there is a low potential for densification (seismic settlement/saturated sand shaking) or lateral spreading to occur at the site. The project would be required to comply with a Design-level Geotechnical Investigation and Structural Design Plans per standard conditions and the impact of the project in this context would be ***less than significant***.

As discussed in Setting, based on regional soils characteristics, the San Carlos General Plan indicates that the site could be susceptible to liquefaction of underlying soils in some areas. Based on borings and analysis of the soils at the site, the Geotechnical Investigation Report concluded that due to the characteristics of the soils at the site, there is potential for liquefaction with differential settlements of 1.5 to 3.5 inches possible, and low potential for either densification or lateral spreading.

Differential settlement can cause cracking of foundations, floor slabs, and exterior flatwork; distortion and cracking of pavements and exterior improvements such as courtyards and sidewalks; or damage to underground utilities. The Geotechnical Investigation Report recommended ground improvement steps and specific design and construction considerations to reduce both the potential for differential settlement and the potential impact of differential settlement on surface improvements.

With compliance with the Langan Geotechnical Investigation Report detailed in Section 1.b. above, and the Design-Level Geotechnical Investigation Report(s) measures and Structural Design Plans, as required by the standard condition of approval "Design-level Geotechnical Investigation and Structural Design Plans" as detailed until topic 1.b. above, the project's impact with respect to seismically-induced ground failure would be *less than significant*.

EXPOSURE TO SEISMICALLY-INDUCED LANDSLIDES

1.d. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including landslides?

Impact Geo-3: **Seismically-induced Landslides.** Site-specific analysis has determined that the slope of Pulgas Creek at the project site is stable. The impact of the project with respect to seismically induced landslides would be a ***less than significant*** impact.

Except for the creek bank, the project site is flat, with no potential for landslides. The Geotechnical Investigation Report analyzed the stability of the northwest bank of Pulgas Creek and found that the slopes are stable to seismically-induced landsliding. As discussed in more detail in Chapter 6: Biological Resources, the project proposes work within Pulgas Creek to address existing flooding issues and ongoing creek bank surface stability. The stability treatments would repair or replace existing unstable streambanks on both sides of the creek. The project would improve bank stability above existing conditions and therefore would remain stable to seismically-induced landsliding. Therefore, the impact of the project with respect to seismically-induced landslides would be *less than significant*.

SOIL EROSION AND LOSS OF TOPSOIL

2. Would the project result in substantial soil erosion or the loss of topsoil?

Impact Geo-4: **Soil Erosion.** Grading and other construction activities would be required to comply with local regulations, and soil erosion after construction would be controlled with approved landscape plans. This would be a ***less than significant*** impact.

The project site is generally flat, with elevations ranging from about 9 to 11 feet above mean sea level that would be generally raised to 14 to 23 feet above sea level. The project would be subject to an NPDES permit from the RWQCB. The construction contractors would be required to prepare a SWPPP and an Erosion Control Plan. The SWPPP must describe the site, the project, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, control of post-construction sediment and erosion control measures, maintenance responsibilities, and management controls. All construction activities would be required to comply with Chapters 18 and 33 and Appendix J of the California Building Code, which regulate excavation activities, the construction of foundations and retaining walls, and grading activities, including drainage and erosion control. Soil erosion during operations would be controlled by implementation of approved landscape and irrigation plans in compliance with SCMC Chapter 18.18. As discussed in more detail in Chapter 6: Biological Resources, the project proposes work within Pulgas Creek to address existing flooding issues and creek bank surface stability. The stability treatments would repair or replace existing unstable streambanks and reduce the potential for erosion.

With required implementation of a SWPPP and Erosion Control Plan to prevent erosion, sedimentation, and loss of topsoil during and following construction, and work in Pulgas Creek to stabilize the banks, the soil erosion impacts of the project would be *less than significant*.

UNSTABLE GEOLOGIC UNIT

3. Would the project 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?

Impact Geo-5: **Unstable Geologic Unit.** The project site was found to have settlement potential of several inches to several feet under the weight of new fill and project buildings. The project would be required to comply with a Design-level Geotechnical Investigation and Structural Design Plans per standard conditions and the project's impact would be ***less than significant***.

Due to the potential settlement of underlying alluvial deposits under the weight of new fill and the load of the buildings, and potential settlement due to liquefaction, the project site could see settlement of several inches or potentially up to several feet if not appropriately addressed. The Geotechnical Investigation Report includes recommendations for ground improvements and additional supports to allow the use of shallow foundations, and reduce the potential geological hazards related to unstable soil, as detailed under topic 1.b. above. With implementation of geotechnical recommendations, unstable conditions would be addressed on-site. The project site is entirely surrounded by urban development and there are no adjacent slopes or other off-site geological features that could be impacted by the proposed development, which would have no off-site effects with respect to unstable geologic units.

With compliance with the Langan Geotechnical Investigation Report and the Design-Level Geotechnical Investigation Report(s) measures as detailed in Section 1.b. above, as required by the standard condition of approval "Design-level Geotechnical Investigation and Structural Design Plans" as detailed until topic 1.b. above, the project's impact related to an unstable geologic unit would be *less than significant*.

EXPANSIVE SOILS

4. Would the project 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?

Impact Geo-6: **Potentially Expansive Soils.** The project site was found to have moderate to high expansion potential of existing near surface soils that can be susceptible to substantial differential movement resulting in damage to structures, concrete slabs, retaining walls, pavements, sidewalks and other improvements. The project's impact with respect to expansive soils would be ***less than significant***.

As discussed in Setting, the soils characteristics at the site were analyzed in the Geotechnical Investigation Report. This site-specific assessment determined that near-surface soils at the site have moderate to very high expansion potential, subject to shrinking and swelling due to changes in water content, which are seasonal or can be the result of drainage or irrigation measures. Based on this assessment, the project would need to be constructed to reduce the risk from expansive soils, including ground improvement before the start of construction and proper foundation and surface improvement design and construction, as recommended in the Geotechnical Investigation Report and detailed in the Design-Level Geotechnical Investigation Report(s) and Structural Design Plans.

With compliance with the Geotechnical Investigation Report and the Design-Level Geotechnical Investigation Report(s) measures, as required by the standard condition of approval "Design-level Geotechnical Investigation and Structural Design Plans" as detailed until topic 1.b. above, the project's impact related to expansive soils would be *less than significant*.

SEPTIC SYSTEMS

5. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?

The project would not include the use of septic tanks and associated disposal facilities. Therefore, the project would have *no impact* in this regard.

UNIQUE GEOLOGIC FEATURE OR PALEONTOLOGICAL RESOURCE

6. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact Geo-7: **Paleontological Resources.** During ground disturbing activities associated within the project site, it is possible that currently unidentified paleontological resources could be discovered and disturbed. This impact would be ***less than significant with mitigation*.**

The site is generally flat and currently developed and there are no unique geologic features at the site. There are no known paleontological resources associated with the project site. As detailed in Chapter 7: Cultural Resources, to satisfy Mitigation Measure Culture-1: Further Site Assessment from the project's Initial Study, Environmental Science Associates conducted archival research and archaeological testing throughout the project site to determine the potential to encounter historic, archaeological, paleontological, or Native American resources. The Archeological Testing Results Report (included in Appendix D) reported no evidence of prehistoric soils, and concluded that construction monitoring is not needed. However, because construction of the project involves ground disturbance, if unknown and unexpected paleontological resources are encountered, the following measure would mitigate impacts to those resources.

Mitigation Measure

Geo-7: **Halt Excavation, Evaluate Find and Implement Mitigation.** Should any unknown fossils or fossil-bearing deposits be discovered during grading, trenching, or other on-site excavation(s), earthwork within 50 ft of these materials shall be stopped until a qualified paleontologist has an opportunity to document the find as needed (in accordance with Society of Vertebrate Paleontology standards [Society of Vertebrate Paleontology 1995]), evaluate the potential significance of the resource under the criteria set forth in CEQA Guidelines Section 15064.5, and notify the appropriate agencies to determine the procedures that would be followed before construction activities would be allowed to resume at the location of the find. If avoidance is not feasible, the paleontologist shall prepare an appropriate excavation plan to mitigate the effect of project construction on the find, subject to review and approval by the City prior to implementation, and all construction activity shall adhere to the recommendations in the excavation plan.

Compliance with the protection procedures specified in Mitigation Measure Geo-7 would assure that if any previously-unknown paleontological resources are inadvertently discovered, these would be handled appropriately, and the impact of the project would be *less than significant with mitigation*.

CUMULATIVE GEOLOGY AND SOILS IMPACTS

The geographic context for cumulative impacts associated with geology and soils considers existing development and growth projected in the immediate vicinity of the project. Geology and soil-related impacts are generally specific to each development project site and the immediate vicinity.

Geology and soils impacts could be considered cumulatively significant if this project and the other past, concurrent and planned development in this area were constructed in a way that would exacerbate adverse effects associated with a seismic event, or create or exacerbate soil erosion, unstable geologic units or soil, or expansive soils, including damage to persons or property. However, all modern past, current, and probable future projects in the area would need to meet California Building Code and C.3 permit requirements, which would ensure a level of structural safety in a seismic event and prevent soil erosion, as well as the City's Grading and Excavations Ordinance (SCMC, Chapter 12.08), which also have requirements to minimize erosion and to safeguard people and property. This project and other City projects also must adhere to the City's requirement for a soil and/or geologic report for projects involving subdivisions (SCMC, § 17.24.060) and in areas with mapped geologic and seismic hazards (*id*., § 15.04.170), a geotechnical investigation report, and follow the recommendations in those reports. With adherence to existing laws and construction and design regulations, past projects, this project, and probable future projects would be built to withstand predicted seismic events and potential expansive soils or unstable geologic units, and to minimize erosion and there would be no cumulative significant impact due to geology and soils.

Cumulative impacts associated with paleontological resources could be considered cumulatively significant if this project and the other past, recent, concurrent and planned development were all to affect a common resource or type of resource in any geographical area. There are no known geologic features or paleontological resources in the vicinity of the project and no record of any paleontological resources being discovered in the vicinity from any past projects. This project and any future project in the vicinity would be required to protect any potential paleontological find until examination and analysis by a trained paleontologist has occurred and to treat finds in a way that prevents significant impacts. There would be no cumulative significant impact to paleontological resources.

10

GREENHOUSE GAS EMISSIONS

INTRODUCTION

This chapter discusses the potential impacts of the implementation of the proposed project on the local and regional air quality. Residential development projects generally contribute to air quality pollutants through construction-phase emissions and dust and operational emissions including vehicle emissions.

The discussion of criteria pollutants and toxic air contaminants (TACs) in this chapter is based on the following report prepared for this analysis:

- Illingworth & Rodkin, Alexandria District for Science and Technology Air Quality and Greenhouse Gas Assessment, dated February 18, 2022, and revised April 4, 2024 (included in Appendix B).

SETTING

GLOBAL CLIMATE CHANGE

The process known as the *greenhouse effect* keeps the atmosphere near Earth's surface warm enough for the successful habitation of humans and other life forms. The greenhouse effect is created by sunlight that passes through the atmosphere. Some of the sunlight striking Earth is absorbed and converted to heat, which warms the surface. The surface emits a portion of this heat as infrared radiation, some of which is re-emitted toward the surface by GHGs. Human activities that generate GHGs increase the amount of infrared radiation absorbed by the atmosphere, thereby enhancing the greenhouse effect and amplifying the warming of Earth.

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution.[1] Rising atmospheric concentrations of GHGs, in excess of natural levels, have resulted in increasing global surface temperatures—a process commonly referred to as *global warming*. Higher global surface temperatures have, in turn, resulted in changes to Earth's climate system, including increases in ocean temperature and acidity, reduced sea ice, variable precipitation, and increases in the frequency and intensity of extreme weather events.[2] Large-scale changes to Earth's system are collectively referred to as *climate change.*

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environments Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC estimates that human-induced warming reached

[1] Intergovernmental Panel on Climate Change, 2007, *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Available: https://www.ipcc.ch/site/assets/uploads/2018/05/ar4_wg1_full_report-1.pdf.

[2] Intergovernmental Panel on Climate Change, 2018, *Global Warming of 1.5°C.* Contribution of Working Group I, II, and III (Summary for Policy Makers). Available: https://www.ipcc.ch/sr15/.

approximately 1 degree Celsius (°C) above pre-industrial levels in 2017 and is increasing at a rate of 0.2°C per decade. Under the current nationally determined contributions of mitigation from each country until 2030, global warming is expected to rise to 3°C by 2100 and continue afterward.[3] Large increases in global temperatures could have substantial adverse effects on the natural and human environments in California and worldwide.

GREENHOUSE GASES

Gases that trap heat in the Earth's atmosphere are called greenhouse gases, or GHGs. These gases play a critical role in determining the Earth's surface temperature. Part of the solar radiation that would have been reflected back into space is absorbed by these gases, resulting in a warming of the atmosphere. Without natural GHGs, the Earth's surface would be about 61 degrees cooler.[4] This phenomenon is known as the greenhouse effect. However, scientists have proven that emissions from human activities such as electricity generation, vehicle emissions and even farming and forestry practices have elevated the concentration of GHGs in the atmosphere beyond naturally occurring concentrations, enhancing the greenhouse effect that contributes to the larger process of global climate change. The six primary GHGs are:

- Carbon dioxide (CO_2), emitted when solid waste, fossil fuels (oil, natural gas, and coal), and wood and wood products are burned;
- Methane (CH_4), produced through the anaerobic decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, incomplete fossil fuel combustion, and water and wastewater treatment;
- Nitrous oxide (N_2O), typically generated as a result of soil cultivation practices, particularly the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning;
- Hydrofluorocarbons (HFCs), primarily used as refrigerants;
- Perfluorocarbons (PFCs), originally introduced as alternatives to ozone depleting substances and typically emitted as by-products of industrial and manufacturing processes; and
- Sulfur hexafluoride (SF_6), primarily used in electrical transmission and distribution.

Though there are other contributors to global warming, these six GHGs are identified explicitly by the EPA as threatening the public health and welfare of current and future generations, and other contributors make up a relatively small portion of the overall GHGs.[5]

The Global Warming Potential (GWP) concept is used to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2, which, after water vapor, is the most abundant GHG. CO_2 has a GWP of 1, expressed as CO_2 equivalent (CO_2e). Other GHGs, such as CH_4 and N_2O are commonly found in the atmosphere at much lower concentrations, but with higher warming potentials, having CO_2e ratings of 21 and 310, respectively. Trace gases such as chlorofluorocarbons and hydro chlorofluorocarbons, which are halocarbons that contain chlorine, have much greater warming potential. Fortunately, these gases are found at much lower concentrations and many are being phased out as a result of global efforts to reduce destruction of stratospheric ozone. In the United States in 2019, CO_2 emissions account for

[3] Ibid.

[4] California Climate Action Team, April 2006, *Report to Governor Schwarzenegger and the California Legislature.*

[5] US EPA, *Overview of Greenhouse Gases*, accessed at https://www.epa.gov/ghgemissions/overview-greenhouse-gases

over 80 percent of the GHG emissions, followed by CH_4 at about 10 percent, N_2O at about 7 percent, with trace GHGs making up the remainder.[6]

IMPLICATIONS OF CLIMATE CHANGE

According to the CARB, some of the potential impacts in California of global warming may include loss in snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.[7] Several recent studies have attempted to explore the possible negative consequences that climate change, left unchecked, could have in California.

Below is a summary of some of the potential effects reported in an array of studies that could be experienced in California as a result of global warming and climate change:

Air Quality – Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. For other pollutants, the effects of climate change and/or weather are less well studied, and even less well understood.[8] If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat related deaths, illnesses, and asthma attacks throughout the State.[9]

Water Supply – Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. For example, models that predict drier conditions (i.e., parallel climate model [PCM]) suggest decreased reservoir inflows and storage and decreased river flows, relative to current conditions. By comparison, models that predict wetter conditions (i.e., HadCM2) project increased reservoir inflows and storage, and increased river flows.[10]

Hydrology – As discussed above, climate change could potentially affect the amount of snowfall, rainfall and snowpack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for saltwater intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could also jeopardize California's water supply. In particular, saltwater intrusion would threaten the quality and reliability of the state's major fresh water supply that is pumped from the southern portion of the Sacramento/San Joaquin River Delta. Increased storm intensity and frequency could affect the ability of flood-control facilities (including levees) to

[6] U.S. EPA, April 14, 2021, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2019*. Table 2-1: Recent Trends in U.S. Greenhouse Gas Emissions and Sinks.

[7] CARB, December 1, 2006c, *Public Workshop to Discuss Establishing the 1990 Emissions Level and the California 2020 Limit and Developing Regulations to Require Reporting of Greenhouse Gas Emissions*, Sacramento, CA.

[8] U.S. EPA, 2007, op. cit.

[9] California Climate Change Center (CCCC), July 2006, *Our Changing Climate: Assessing the Risks to California,* CEC- 500-2006-077.

[10] Brekke, L.D., et al, 2004, "Climate Change Impacts Uncertainty for Water Resources in the San Joaquin River Basin, California." *Journal of the American Water Resources Association*. 40(2): 149–164. Malden, MA, Blackwell Synergy for AWRA.

handle storm events. Sea levels are projected to rise in the Bay up to an additional 55 inches by the end of the century as global climate change continues. Sea level rise of this magnitude would increasingly threaten California's coastal regions with more intense coastal storms, accelerated coastal erosion, threats to vital levees, and disruption of inland water systems, wetlands, and natural habitats. Residents may also be affected if wastewater treatment is compromised by inundation from rising sea levels, given that a number of treatment plants discharge to the Bay.[11]

Agriculture – California has a $30 billion agricultural industry that produces half the country's fruits and vegetables. The California Climate Change Center (CCCC) notes that higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year that certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.[12]

Ecosystems and Wildlife – Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. In 2004, the Pew Center on Global Climate Change released a report examining the possible impacts of climate change on ecosystems and wildlife.[13] The report outlines four major ways in which it is thought that climate change could affect plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage.

GREENHOUSE GAS INVENTORY

As mentioned above, the primary GHG generated by human activity is CO_2. Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions (and thus substantial increases in atmospheric concentrations).

- U.S. Emissions: In 2019, the United States emitted about 6,558.3 million metric tons of CO_{2e}.[14]
- State of California Emissions: The 2020 GHG target of 431 million metric tons of CO_{2e} was met in 2016 and has continued to go down since. In 2018, California emitted approximately 425 million metric tons of CO_{2e}, amounting to approximately 10.7 metric tons per person. Transportation was the source of 40 percent of the state's GHG emissions, followed by industrial sources at 21 percent, electricity generation at 15 percent, and all other sources making up the remaining 24 percent. Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend.[15]
- Bay Area Emissions: BAAQMD most recently updated the GHG emission inventory (based on 2015 emissions), as presented in the 2017 CAP, with total emissions of 85 million metric tons of CO_{2e}. In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of the Bay Area's GHG emissions, accounting for 41% of the Bay Area's emissions in 2015. Stationary sources were the second largest contributors of GHG emissions with about 26% of total emissions.

[11] ABAG/MTC, *Plan Bay Area 2040*. Adopted July 18, 2013.

[12] California Climate Change Center (CCCC), 2006, op. cit.

[13] Parmesan, C. and H. Galbraith, November 2004, *Observed Impacts of Global Climate Change in the U.S.*, Arlington, VA: Pew Center on Global Climate Change.

[14] U.S. EPA, 2000, op. cit.

[15] CARB, *California Greenhouse Gas Emissions for 2000 to 2018: Trends of Emissions and Other Indicators*, 2020 Edition.

Buildings account for about 10% of the Bay Area's GHG emissions primarily through heating and cooking activities, and energy production accounted for 14% percent. Emissions related to fugitive gasses, waste, and agriculture make us the remainder with approximately 4%, 3%, and 1% of the total Bay Area 2015 GHG emissions, respectively.[16]

REGULATORY SETTING

FEDERAL

Global Change Research Act (1990)

In 1990, Congress passed, and President George H.W. Bush signed, Public Law 101-606, the Global Change Research Act. The purpose of the legislation was to:

". . . Require the establishment of a United States Global Change Research Program aimed at understanding and responding to global change, including the cumulative effects of human activities and natural processes on the environment, to promote discussions towards international protocols in global change research, and for other purposes."

To that end, the Global Change Research Information Office was established in 1991 (it began formal operation in 1993) to serve as a clearinghouse of information. The Act requires a report to Congress every four years on the environmental, economic, health and safety consequences of climate change; however, the first and only one of these reports to date, the National Assessment on Climate Change, was not published until 2000. In February 2004, operational responsibility for the Global Change Research Information Office shifted to the U.S. Climate Change Science Program.

GHG Emissions pursuant to the Clean Air Act (2007)

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497, the Supreme Court found that GHGs are air pollutants covered by the CAA. The Court held that the Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, Administrator Lisa Jackson signed a final action, under Section 202(a) of the CAA, finding that six key well-mixed GHGs constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to the climate change problem.

This action was a prerequisite for implementing GHG emissions standards. Current efforts include issuing GHG emission standards for new motor vehicles, developing and implementing renewable fuel standard program regulations, proposing carbon pollution standards for new power plants, setting GHG emissions thresholds to define when permits are required for new and existing industrial facilities under the CAA, and establishing a GHG reporting program.

Energy Independence and Security Act (2007)

The Energy Independence and Security Act of 2007 were intended to move the U.S. toward greater energy independence and security. This energy bill increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022. It also tightens the Corporate Average Fuel Economy standards that regulate the average fuel economy in the vehicles produced by each major automaker.

[16] BAAQMD, *Clean Air Plan 2017: Spare the Air, Cool the Climate*, Adopted April 2017.

National Fuel Efficiency Policy Standards

On May 7, 2010, DOT and EPA jointly issued national fuel efficiency and GHG emissions standards for MY 2012-2016 passenger vehicles and light duty trucks. The NHTSA issued CAFÉ standards for MY 2012-2016 passenger cars and light trucks under the Energy Policy and Conservation Act and Energy Independence and Security Act and EPA issued national GHG emissions standards under the federal CAA. These joint GHG and fuel economy standards represented the first phase of the national program to improve fuel economy and reduce GHG emissions from U.S. light-duty vehicles. Starting with 2012 MY vehicles, the rules require automakers to improve fleet-wide fuel economy and reduce fleet-wide GHG emissions by approximately five percent every year. When adopted, these regulations were expected to result in a 2016 fleet average of 35.5 mpg, conserve about 1.8 billion barrels of oil and reduce nearly 1 billion tons of GHG emissions over the lives of the vehicles covered.

In 2012, NHTSA established final passenger car and light truck CAFE standards for MY 2017 through MY 2021. Those CAFE standards required, on an average industry fleet-wide basis for cars and trucks combined, 40.3 to 41 mpg in MY 2021. EPA's GHG standards, which were consistent with NHTSA's CAFE standards, were projected to require 163 grams/mile of CO_2 in MY 2025.

On August 28, 2014, EPA and NHTSA finalized the new national program that would reduce GHG emissions and improve fuel economy for all new cars and trucks sold in the U.S. EPA proposed the first-ever national GHG emissions standards under the CAA, and NHTSA proposed CAFE standards under the Energy Policy and Conservation Act. This national program allows automobile manufacturers to build a single light-duty national fleet that satisfies all requirements under both federal programs and the standards of California and other states. This program is expected to increase fuel economy to the equivalent of 54.5 miles per gallon for cars and light-duty trucks by MY 2025.

In October 2016, the EPA and NHTSA, on behalf of the Department of Transportation, established rules for a comprehensive Phase 2, Heavy-Duty (HD) national program to reduce GHG emissions and fuel consumption from new on-road medium- and heavy-duty vehicles and engines. This Phase 2 program is expected to result in fuel reductions of between 71 and 83 billion gallons and achieve GHG reductions of between 959 and 1,098 MMT, CO_2e.[17]

On March 31, 2022, NHTSA finalized CAFE Standards for MYs 2024 through 2026.[18] The final rule establishes standards that require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in MY 2026, by increasing fuel efficiency by 8% annually for MYs 2024 and 2025, and 10% annually for MY 2026. NHTSA projects the final standards will save consumers nearly $1,400 in total fuel expenses over the lifetimes of vehicles produced in these MYs and avoid the consumption of about 234 billion gallons of gas between MYs 2030 to 2050. NHTSA also projects the standards will cut GHG from the atmosphere, reduce air pollution, and reduce the country's dependence on oil.

STATE OF CALIFORNIA

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California. There are currently no state regulations in California that establish ambient air quality standards for GHGs. However, California has passed laws directing CARB to develop actions to reduce GHG emissions, and several state legislative actions related to climate change and GHG emissions

[17] Federal Register / Vol. 81, No. 206 / Tuesday, October 25, 2016 / Rules and Regulations

[18] United Stated Department of Transportation NHTSA, *Corporate Average Fuel Economy*, web: https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy#:~:text=NHTSA's%20Corporate%20Average%20Fuel%20Economy,heavy%2Dduty%20trucks%20and%20engines.

have come into play in the past decade. Indeed, GHG emissions in California have been the focus of the state government for approximately two decades. As discussed in more detail below, GHG emission targets established by the state legislature include reducing statewide GHG emissions to 1990 levels by 2020 (AB 32 of 2006) and then reducing them to 40 percent below 1990 levels by 2030 (SB 32 of 2016). EO S-3-05 set a goal for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. These targets are in line with the scientifically established levels needed in the United States to limit the rise in global temperature to no more than 2°C, the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected.

Recent State Regulatory Actions Related to GHG Emissions

Executive Order S-3-05 – California GHG Reduction Targets

EO S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050.

Assembly Bill 32 – California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, CPUC, and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and EO S-3-05, which has a goal of reducing GHG emissions 80 percent below 1990 levels.

The first Scoping Plan for AB 32 was adopted by CARB in December 2008. Its most recent update was completed in December of 2022.[19] It contains the State's main strategies to achieve carbon neutrality by 2045. This plan extends and expands upon the earlier versions with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. It also takes the step of adding carbon neutrality as a science-based guide and touchstone for California's climate work. Measures to achieve carbon neutrality include rapidly moving to zero emission vehicles (ZEV), removing natural gas as an option for space conditioning, increasing the number of solar arrays and wind turbines, and scaling up renewable hydrogen for hard-to-electrify end uses.

Executive Order B-30-15 & Senate Bill 32 GHG Reduction Targets – 2030 GHG Reduction Target

In April 2015, Governor Brown signed EO B-30-15, which extended the targets of AB 32, setting a GHG emissions goal of 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*.[20] While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

[19] CARB, 2022, *Final 2022 Scoping Plan Update and Appendices*. Web: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents

[20] CARB, November 2017, *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Targets*. Web: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction goal of 40 percent below 1990 levels. CARB has drafted a 2022 Scoping Plan Update to reflect the 2030 goal set by EO B-30-15 and target codified by SB 32. The 2022 draft plan:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 or earlier.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as a driving principle.
- Incorporates the contribution of natural and working lands to the state's GHG emissions, as well as its role in achieving carbon neutrality.
- Relies on the most up to date science, including the need to deploy all viable tools, including carbon capture and sequestration as well a direct air capture.
- Evaluates multiple options for achieving our GHG and carbon neutrality targets, as well as the public health benefits and economic impacts associated with each.

The Scoping Plan was updated in 2022 and lays out how the state can get to carbon neutrality by 2045 or earlier. It is the first Scoping Plan that adds carbon neutrality as a science-based guide and touchstone beyond statutorily established emission reduction targets.[21]

The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in EO S-3-05. The 2022 Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and to not only obtain the statewide goals, but cost-effectively achieve carbon-neutrality by 2045 or earlier. In the 2022 Scoping Plan, CARB recommends:

- VMT per capita reduced 12% below 2019 levels by 2030 and 22% below 2019 levels by 2045.
- 100% of Light-duty vehicle sales are ZEV by 2035.
- 100% of medium duty/heavy duty vehicle sales are ZEV by 2040.
- 100% of passenger and other locomotive sales are ZEV by 2030.
- 100% of line haul locomotive sales are ZEV by 2035.
- All electric appliances in new residential and commercial buildings beginning 2026 (residential) and 2029 (commercial).
- 80% of residential appliance sales are electric by 2030 and 100% of residential appliance sales are electric by 2035.
- 80% of commercial appliance sales are electric by 2030 and 100% of commercial appliance sales are electric by 2045.

[21] CARB, 2022, *Final 2022 Scoping Plan Update and Appendices*. Web: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents

Transportation-related Standards and Regulations

As part of its Advanced Clean Cars program, CARB established more stringent GHG emissions standards and fuel efficiency standards for fossil fuel–powered on-road vehicles. These regulations are projected to reduce GHG emissions from new vehicles by approximately 40 percent in 2025 relative to 2012 MY vehicles. In addition, the program's ZEV regulation requires battery, fuel cell, and plug-in hybrid electric vehicles to make up a growing percentage of California's new vehicle sales. By 2025, when the rules are fully implemented, the statewide fleet of new cars and light-duty trucks will emit 75 percent less smog-forming pollution than the statewide fleet in 2012.

EO B-48-18, signed into law in January 2018, requires all state entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, 200 hydrogen fueling stations available, and 250,000 EVCS installed by 2025. Furthermore, it specifies that 10,000 of these charging stations must be direct-current fast chargers.

EO N-79-20 states that 100 percent of new passenger cars and trucks sold in the state are to be ZEV by 2035, 100 percent of medium- and heavy-duty trucks and buses for all operations are to be ZEV by 2045 (by 2035 for drayage trucks, where feasible), and 100 percent of off-road vehicles, as well as equipment, are to be ZEV by 2035, where feasible. California EO N-79-20 also directed CARB to partner with the Governor's Office of Business and Economic Development and other agencies to develop the Zero-Emissions Vehicle Market Development Strategy, which was released in February 2022. To meet the goals in EO N-79-20, CARB adopted ACC II Regulations in 2022, which require all new passenger cars, trucks and SUVs sold in California to be zero emissions by 2035. The Advanced Clean Cars II Regulations are two-pronged. First, it amends the Zero-Emission Vehicle Regulation to require an increasing number of ZEV, relying on currently available advanced vehicle technologies, including battery-electric, hydrogen fuel cell electric and plug-in hybrid electric-vehicles, to meet air quality and climate change emissions standards. Second, the Low-emission Vehicle Regulations were amended to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions.

Executive Order B-55-18 – Carbon Neutrality

EO B-55-18 further recognizes the climate stabilization goal adopted by 194 states and the European Union under the Paris Agreement. Based on the worldwide scientific agreement that carbon neutrality must be achieved by midcentury, EO B-55-18 establishes a state goal to achieve carbon neutrality as soon as possible but no later than 2045 and achieve and maintain net negative emissions thereafter. EO B-55-18 charges CARB with developing a framework for implementing and tracking progress toward these goals. This executive order extends EO S-3-05 and acknowledges the role of increased carbon sequestration on natural and working lands for the state to achieve carbon neutrality and become net carbon negative.

Senate Bill 375 – California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB

works with the metropolitan planning organizations (e.g., ABAG/MTC) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

Senate Bill 350 - Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the state's RPS for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Senate Bill 100 – Current Renewable Portfolio Standards

In September 2018, SB 100 was signed by Governor Brown to revise California's RPS program goals, furthering California's focus on using renewable energy and carbon-free power sources for its energy needs. The bill would require all California utilities to supply a specific percentage of their retail sales from renewable resources by certain target years. By December 31, 2024, 44 percent of the retails sales would need to be from renewable energy sources, by December 31, 2026, the target would be 40 percent, by December 31, 2017, the target would be 52 percent, and by December 31, 2030, the target would be 60 percent. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resources to all California end-use customers.

State of California Building Codes

The CALGreen Code is part of the California Building Standards Code under Title 24, Part 11.[22] The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The building permits for Phase 1 of the project were submitted in 2022, when the 2019 CALGreen Code (2019 California Building Standard Code) was in effect. Note that later project phases may be subject to newer CALGreen Codes depending on their submittal date.

The California Energy Code is under Title 24, Part 6 and is overseen by the CEC. This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The applicable energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1, 2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due to more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[23]

Solid Waste Diversion Regulations

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,

[22] California Department of General Services, Building Standards Commission, CalGreen. See: https://www.dgs.ca.gov/BSC/CALGreen.

[23] California Energy Commission, March 2018, *2019 Building Energy Efficiency Standards*. Available at: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

this 50 percent diversion rate also applies to state agencies. In order of priority, waste reduction efforts must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal.

In 2011, AB 341 modified the California Integrated Waste Management Act and directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. As of July 1, 2012, the resulting mandatory commercial recycling required certain businesses that generate 4 cubic yards or more of commercial solid waste per week to arrange recycling services. To comply with this requirement, businesses could either separate recyclables and self-haul them or subscribe to a recycling service with mixed-waste processing. AB 341 also established a statewide recycling goal of 75 percent; under AB 939, the 50 percent disposal reduction mandate still applied to cities and counties.

Cap-and-Trade Program

CARB administers the state's cap-and-trade program, which covers GHG sources that emit more than 25,000 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/year), such as refineries, power plants, and industrial facilities. This market-based approach to reducing GHG emissions provides economic incentives for achieving GHG emission reductions.

Short-Lived Climate Pollutant Reduction Strategy

In 2014, SB 605 directed CARB, in coordination with other state agencies and local air districts, to develop a comprehensive SLCP Reduction Strategy. In 2016, SB 1383 directed CARB to approve and implement the SLCP Reduction Strategy to achieve the following reductions in SLCPs:

- 40 percent reduction in CH4 relative to 2013 levels by 2030,
- 40 percent reduction in HFC gases relative to 2013 levels by 2030, and
- 50 percent reduction in anthropogenic black carbon relative to 2013 levels by 2030.

SB 1383 also establishes the following targets for reducing organic waste in landfills as well as CH_4 emissions from dairy and livestock operations, as follows:

- 50 percent reduction in organic waste disposal relative to 2014 levels by 2020,
- 75 percent reduction in organic waste disposal relative to 2014 levels by 2025, and
- 40 percent reduction in CH4 emissions from livestock and dairy manure management operations relative to the livestock and dairy sectors' 2013 levels by 2030.

CARB and CalRecycle are currently developing regulations to achieve the organic waste reduction goals under SB 1383. In January 2019 and June 2019, CalRecycle proposed new and amended regulations to CCR Title 14 and Title 27. Among other things, the regulations set forth minimum standards for organic waste collection, hauling, and composting. The final regulations will take effect on or after January 1, 2022; the final regulations are not currently in effect.

CARB adopted the SLCP Reduction Strategy in March 2017 as a framework for achieving the CH_4, HFC, and anthropogenic black carbon reduction targets set by SB 1383. The SLCP Reduction Strategy includes 10 measures to reduce SLCPs, which fit within a wide range of ongoing planning efforts throughout the state, including CARB's and CalRecycle's proposed rulemaking on organic waste diversion (discussed above).

Water Conservation Act of 2009

The overall goal of SB X7-7, the Water Conservation Act of 2009, was to reduce per capita urban water use by 20 percent as of December 31, 2020. The state was required to make incremental progress toward this goal by reducing per capita water use by at least 10 percent by December 31, 2015. This act is an implementing measure of the 2017 Scoping Plan that will continue to be implemented beyond 2020. Reductions in water consumption reduce the amount of energy, as well as the emissions, associated with conveying, treating, and distributing the water; emissions from wastewater treatment are also reduced.

REGIONAL AND LOCAL

Sustainable Communities Strategy

MTC is the federally recognized metropolitan planning organization for the nine county Bay Area, which includes San Mateo County and the City of San Carlos. Adopted July 26, 2017, by the MTC and ABAG, Plan Bay Area 2040 includes the region's Sustainable Communities Strategy (SCS) and the Regional Transportation Plan. The SCS lays out how the region will meet GHG reduction targets set by CARB.

Plan Bay Area 2050 was adopted in October 2021. Plan Bay Area 2050 provides transportation and environmental strategies to continue to meet the regional transportation-related GHG reduction goals of SB 375. Under the Plan Bay Area 2050 strategies, just under half of all Bay Area households would live within one half-mile of frequent transit by 2050, with this share increasing to over 70 percent for households with low incomes. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from over 50 percent in 2015 to 36 percent in 2050. GHG emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19-percent reduction in per capita emissions by 2035 — but only if all strategies are implemented.[24] To achieve MTC's/ABAG's sustainable vision for the Bay Area, the Plan Bay Area land use concept plan for the region concentrates the majority of new population and employment growth in the region in Growth Geographies. Growth Geographies are generally areas where there are existing services and infrastructure to accommodate growth. Plan Bay Area 2050 discourages new growth in outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle, VMT, and associated GHG emissions reductions that the Plan must attain. There are four types of Growth Geographies: (1) Priority Development Areas (PDAs), (2) Priority Production Areas (PPAs), Transit Rich Areas (TRAs), and High-Resource Areas (HRAs). TRAs are areas near rail, ferry or frequent bus service that were not already identified as PDAs. Specifically, these are areas where at least 50 percent of the area is within 1/2 mile of either an existing rail station or ferry terminal (with bus or rail service), a bus stop with peak service frequency of 15 minutes or less, or a planned rail station or planned ferry terminal (with bus or rail service). HRAs are State-identified places with well-resourced schools and access to jobs and open space, among other advantages, that may have historically rejected more housing growth. The HRA designation includes only places that meet a baseline transit service threshold of bus service with peak headways of 30 minutes or better. In addition to the four Growth Geographies, Plan Bay Area also identifies TPAs, which are areas 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 or applicable regional transportation plan. The proposed project is not within an identified PDA but is within a TPA and a portion of the site is within a Transit-Rich and High-Resource area.

[24] ABAG/MTC, 2021, *Plan Bay Area 2050*, https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf.

Bay Area Air Quality Management District and the Clean Air Plan

The project site falls within the San Francisco Bay Area Air Basin and therefore under the jurisdiction of BAAQMD. BAAQMD provides a document titled *California Environmental Quality Act Air Quality Guidelines* ("Guidelines"), which provides guidance for consideration by lead agencies, consultants, and other parties evaluating air quality impacts in the San Francisco Bay Area Air Basin conducted pursuant to CEQA. The document includes guidance on evaluating and mitigating greenhouse gas emissions impacts. The most recent version of the Guidelines is the 2022 California Environmental Quality Act Air Quality Guidelines. The 2022 version revised the quantified prior significance thresholds to a checklist of compliance for a project's design elements.

In 1991, BAAQMD, together with MTC and ABAG, prepared the Bay Area 1991 CAP. This air quality plan addresses the CCAA. The 2017 CAP includes a multi-pollutant strategy represented by 85 control strategies to simultaneously reduce emissions and ambient concentrations of ozone, fine PM, TACs, as well as GHG that contribute to climate change.[25]

The CAP includes the Bay Area's first-ever comprehensive Regional Climate Protection Strategy (RCPS), which identifies potential rules, control measures, and strategies that BAAQMD can pursue to reduce GHG in the Bay Area. Measures of the 2017 CAP addressing the transportation sector are in direct support of Plan Bay Area, which was prepared by ABAG/MTC and includes the region's SCS and the 2040 Regional Transportation Plan. Highlights of the Draft 2017 CAP control strategy include:

- Limit Combustion: Develop a region-wide strategy to improve fossil fuel combustion efficiency at industrial facilities, beginning with the three largest sources of industrial emissions: oil refineries, power plants, and cement plants.
- Stop Methane Leaks: Reduce CH_4 emissions from landfills and oil and natural gas production and distribution.
- Reduce Exposure to Toxics: Reduce emissions of TACs by adopting more stringent limits and methods for evaluating toxic risks at existing and new facilities.
- Put a Price on Driving: Implement pricing measures to reduce travel demand.
- Advance Electric Vehicles: Accelerate the widespread adoption of EVs.
- Promote Clean Fuels: Promote the use of clean fuels and low or zero carbon technologies in trucks and heavy-duty vehicles.
- Accelerate Low Carbon Buildings: Expand the production of low-carbon, renewable energy by promoting on-site technologies such as rooftop solar and ground-source heat pumps.
- Support More Energy Choices: Support community choice energy programs throughout the Bay Area.
- Make Buildings More Efficient: Promote energy efficiency in both new and existing buildings.
- Make Space and Water Heating Cleaner: Promote the switch from natural gas to electricity for space and water heating in Bay Area buildings.

To achieve the goals of the CAP, it identifies 85 emissions control measures for implementation by BAAQMD in collaboration with local government agencies, the business community, and Bay Area residents. The control measures target the following emissions sources:

[25] BAAQMD, *Clean Air Plan 2017: Spare the Air, Cool the Climate*, Adopted April 2017.

- Stationary sources (40 measures);
- Transportation (23 measures);
- Energy (2 measures);
- Buildings (4 measures);
- Agriculture (4 measures);
- Natural and working lands (3 measures);
- Waste management (4 measures);
- Water (2 measures);
- Super-GHGs (3 measures); and
- Further study (miscellaneous stationary, building, and agriculture sources) (11 measures).

City of San Carlos General Plan

The City of San Carlos General Plan 2030 includes policies and programs to reduce exposure of the City's sensitive population to exposure of air pollution, TACs, and GHG emissions. The following policies and programs are applicable to the proposed project:

Goal EM-1: Develop a Greenhouse Gas Emissions Inventory and develop and implement a Climate Action Plan to address San Carlos' contribution to Global Climate Change.

Policies:

EM-7.1: Take appropriate action to address climate change and reduce greenhouse gas emissions.

EM-7.3: Participate in regional, State, and federal efforts to reduce greenhouse gas emissions and mitigate the impacts resulting from climate change.

EM-7.6: Support greenhouse gas (GHG) emission reduction measures and climate change resiliency strategies that are cost effective and help create an environmentally sustainable, livable, and equitable community. The cost of implementation to the City and private sector shall be considered prior to the adoption of any GHG reduction strategy.

East Side Innovation District Vision Plan

The East Side Innovation District Vision Plan covers the East Side of San Carlos bounded by Holly Street, Brittan Avenue, Old County Road, and U.S. 101. The Vision Plan is intended to be used alongside the General Plan and Municipal Code to help transform the East Side with 10 Big Moves to assist in this transformation. The Big Moves that are applicable to the GHG emissions discussion of this project are:

- "Establish Industrial Road as a Green Boulevard." Establish Industrial Road as a green boulevard, calling for consistent and generous tree-lined sidewalks along Industrial Road.

- "Establish an Open Space Network." Provide a mix of accessible connected open spaces and non-vehicular connections in the District to serve existing and future District users and the greater San Carlos community.

- "Promote Environmental Stewardship." Promote environmental stewardship by establishing best practices to address flooding and environmental remediation, and increase the ecological value of the area with new connections to nature.

- "Prioritize Activity Hubs." Incorporate a mix of community-serving uses in the District that provide daily amenities, create vibrant places, and strengthen the social fabric of San Carlos.
- "Invest in Multi-Modal Streets." Promote safe and accessible walking and bike trips to, from, and within the District for all users, while balancing the freight circulation and loading needs of Industrial commercial uses.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The following thresholds are based on Appendix G of the CEQA Guidelines:

1. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The CEQA Guidelines state that, where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. The analysis in this chapter is based on the most recently adopted BAAQMD GHG thresholds, which account for the state's 2030 target and 2045 goal.

GREENHOUSE GAS EMISSIONS AND CLIMATE ACTION PLAN CONSISTENCY

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

BAAQMD has determined that GHG emissions and global climate change represent cumulative impacts. No single project could generate enough GHG emissions to noticeably change the global average temperature, but the combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts. In developing thresholds of significance for GHG emissions, BAAQMD considered the features a project would have to include today to do its fair share towards achieving the state goal of carbon neutrality by 2045. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse GHG emissions impacts.[26]

Impact GHG-1: **Increased GHG Emissions.** Construction and operation of the proposed project would be additional sources of Greenhouse Gas (GHG) emissions, primarily through consumption of fuel for transportation and energy usage on an ongoing basis. However, the GHG emissions level would be below applicable significance thresholds and would therefore be a ***less than significant*** impact.

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. The Air Quality and Greenhouse Gas Assessment (Appendix B) calculated that over the total construction period, approximately 12,392 $MTCO_{2e}$ would be emitted. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in BAAQMD CEQA Air Quality Guidelines.

[26] BAAQMD, April 2023, *2022 California Environmental Quality Act Air Quality Guidelines*.

Updated BAAQMD Thresholds

In April 2022, BAAQMD issued new GHG emissions thresholds, revising the quantified prior threshold to a checklist of compliance, requiring consistency with either criterion A or B as follows:

A. Projects must include, at a minimum, the following project design elements:
    1. Buildings
        a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
        b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
    2. Transportation
        a. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.
        b. Achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted SB 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
            i. Residential projects: 15 percent below the existing VMT per capita
            ii. Office projects: 15 percent below the existing VMT per employee
            iii. Retail projects: no net increase in existing VMT
B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

Regarding criterion A, the proposed buildings would be constructed in conformance with the CALGreen and the Title 24 Building Code in effect when building permits are submitted, which requires high-efficiency water fixtures, water-efficient irrigation systems, and compliance with current energy efficacy standards and would meet BAAQMD's checklist as follows:

A.1.a. Avoid construction of new natural gas connections

Conforms –The project buildings would not be connected to natural gas pipelines and would not include natural gas appliances.

A.1.b. Avoid wasteful or inefficient use of energy,

Conforms – The project would replace existing, energy-inefficient buildings with energy efficient buildings. The project is designed to meet Title 24, Part 6, and CALGreen Building Standards Code (Title 24, Part 11) requirements, which ensure that the buildings are energy efficient and include features such as low-flow toilets, appropriate insulation, efficient HVAC systems, and energy efficient lighting. In addition, the project would comply with the City's construction waste diversion requirements and the waste provider's recycling and compost programs. The project is located in an area with relatively low VMT, which reduces energy expended by employees commuting to the project by car compared to a high VMT location. In addition, the project includes a TDM plan to reduce trips made by cars and promote the use of transit and other energy efficient means of transportation (e.g., walking, biking). A full analysis of the project's

impacts on energy resources is found in the Energy Chapter of the EIR, which concludes that the project will not use energy in a wasteful, inefficient, or unnecessary manner.

A.2.a. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2, and

Conforms – The project will comply with CALGreen Tier 2 requirements for electric vehicle charging infrastructure.

A.2.b. Reduce VMT per City VMT threshold (15 percent below existing citywide VMT per service population) or by 15 percent over regional average employee VMT.

Conforms – The San Mateo countywide average VMT rate for employment-based VMT per service population is 17.0. The Project's VMT Rate for Phases 1, 2, and 3 are 14.0, 12.7, and 13.2, respectively, which corresponds to an 18%, 25%, and 22% reduction from baseline. This results in each phase of the project having a VMT per service population that is more than 15 percent below the regional average VMT (see Chapter 15: Transportation).

As indicated above, all relevant criteria would be met and the project would generate a less than cumulatively considerable contribution to significant cumulative GHG emissions.

Note that it is not necessary to consider threshold B since the GHG thresholds are in the alternative (a jurisdiction can rely on A or B). However, the following information is provided for informational purposes.

On September 27, 2021, the San Carlos City Council adopted a new Climate Mitigation and Adaptation Plan (CMAP) that meets the criteria under State CEQA Guidelines Section 15183.5(b) to reduce GHG emissions.[27] The CMAP aims to reduce emissions 49% below 2005 levels by 2030 and 83% below 2005 levels by 2050. This CMAP is an update to the 2009 CAP that provides updated information, an expanded set of GHG reduction strategies, climate adaptation strategies and a planning horizon out to 2050. These items qualify the CMAP as a streamlining document based on the criteria established in the CEQA Guidelines section 15183.5(b). There is not currently a checklist for development projects, but the following goals and strategies found in the CMAP would be relevant to this project:

Goal 1: Reduce energy use.

- Strategy 1: Regional Energy Conservation and Efficiency Programs. Promote available energy efficiency and conservation opportunities, incentives, and technical assistance for businesses and residents.

  Components:

  - Expand energy saving opportunities and assistance for large and small commercial and industrial businesses by working with San Mateo County Energy Watch, PCE, and BayREN.
  - Support BayREN and San Mateo County efforts to conduct outreach and education with local contractors to ensure they are updated on local code requirements and energy-efficient appliances and devices.
  - If annual reporting and monitoring shows the City is not on track to reduce community-wide energy use as needed to meet its 2030 GHG reduction target, research, develop, and adopt a Building Efficiency Program that would go into effect in 2025 and require owners of

[27] City of San Carlos, 2021, *City of San Carlos Climate Mitigation and Adaptation Plan*, p.11.

commercial, industrial, and residential buildings 10,000 square feet or larger to prepare an annual energy and water benchmarking report and submit it to the City, to help community awareness of building performance and identify opportunities for energy- and water-efficiency retrofits.

Conforms – The project would be required to meet local code requirements, have energy-efficient appliances and devices, and would be subject to annual benchmarking reports if the City is not on tract to reduce community-wide energy use to meet its 2030 GHG reduction target.

Goal 2: Transition to carbon-free energy sources.

o Strategy 4: Electrification. Transition to electricity as the primary energy source citywide.

Components

- Promote building electrification and retrofitting by working with local organizations and agencies to increase community awareness.

Conforms – The project would be all electric and does not propose natural gas appliances or infrastructure.

o Strategy 5: Building Codes. Advance electrification through local amendments to the California Building Code.

Components

- Partner with local industry organizations, community-based organizations, and regional partners to inform and educate community members about the 2021 All-Electric Reach Code requirements and community benefits.

Conforms – The project is all electric and does not propose natural gas appliances or infrastructure.

o Strategy 6: Rooftop Solar: Continue to support and increase participation in rooftop and onsite solar energy systems in the community and at City facilities.

Components

- Continue to participate in the Sun Shares program to increase rooftop and onsite solar energy systems in the community and at City facilities.

Conforms – The project would have wiring for solar panels on top of the parking garages.

o Strategy 7: Peninsula Clean Energy. Continue to support and promote PCE as the community's official electricity provider with a goal to provide 100 percent carbon-free renewable energy by 2025.

Components

- Encourage residents and businesses, especially large energy users, to opt into PCE's ECO100 (100 percent renewable energy) program.
- Encourage those not purchasing energy from PCE to do so.

Conforms – Peninsula Clean Energy would be the electricity provider.

Goal 4: Promote sustainable development that reduces vehicle miles traveled.

o Strategy 12: Active Transportation. Prioritize bicycling and walking as safe, practical, and attractive travel options citywide, as directed by the Bicycle and Pedestrian Master Plans.

Components

- Establish standards requiring that active transportation improvements, including bicycle lanes, sidewalks, and supporting infrastructure as needed, will be constructed as a condition of approval for larger developments, including commercial and office development on the east side.
- Support the construction of proposed bikeways and improvement areas, as outlined in the adopted Bicycle and Pedestrian Master Plan.

Conforms – The project would install bicycle lanes along the project frontage on Commercial Stret and Old County Road.

o Strategy 15: Public Transportation. Support improvements to public transit routes, services, and facilities to facilitate longer distance travel.

Components

- Research and consider programs to support large employer-led shuttle services within San Carlos to connect their employees to public transit and core services. Explore encouraging or requiring shuttles to be all-electric.

Conforms – The applicant is coordinating with the City to help design a Transportation Management Association with other East Side Innovation District projects (see Chapter 15: Transportation).

o Strategy 16: Public Spaces. Create and maintain accessible public spaces, including the full spectrum of the public realm: sidewalks, alleys, pedestrian paseos, pedestrian and bicycle paths, plazas, squares, and public gathering spaces.

Components

- Include elements such as wide, smooth sidewalks, good lighting, safe crosswalks, clear signage, curb bulb-outs, curb cuts, street furniture and trees, and traffic-calming measures that allow people of all ages and abilities to exercise and safely access public transportation, community centers, schools, and goods and services.
- Require new large-scale developments to address transit, biking, and walking access as applicable through the City's discretionary review process.

Conforms – The project would install street furniture and trees, pedestrian and bicycle paths, and accessible public spaces.

o Strategy 17: Vehicles Miles Traveled. Reduce community-wide transportation-related emissions per resident and employee, with an emphasis on reductions from existing and new development in the city's core commercial, office, and industrial areas, including development on the east side.

Components

- Aid new and existing multi-family and commercial developments in implementing and expanding transportation demand management strategies.
- Research and consider creative solutions to reduce VMT, such as employer commuter programs or adopting work from home policies for City employees.
- Ensure that new development on the east side considers and implements strategies to reduce VMT and transportation-related emissions.

Conforms – The TDM plan for the project would reduce vehicle trips by 20 percent to meet Section 18.25.030 of the City of San Carlos Municipal Code. With this required TDM Plan

reduction, VMT per service population would be reduced by at least 15 percent over regional average (see Chapter 15: Transportation).

Goal 5: Transition to low-carbon transportation.

- Strategy 18: Electric Vehicles. Support residents and business owners to transition to electric and plug-in hybrid vehicles.

  Components

  - Ensure that new development on the east side includes EV charging stations for employees and other users.

  Conforms – The project would meet applicable CalGreen Tier 2 EV charging requirements by installing EV chargers and making other spots EV charger ready.

- Strategy 22: Micromobility. Facilitate micromobility options, including low-speed individually owned or shared, human powered and electric bicycles, scooters, and skateboards, for short trips and last mile commutes.

  Components:

  - Work with large business owners and public transit service providers, including Caltrain, to examine the feasibility of incorporating infrastructure to support micromobility devices at large businesses and public transit stops.

  Conforms – The project would we provide electrical outlets in both indoor bicycle parking and exterior bicycle parking to support e-bikes and e-scooters.

Goal 6: Support pollution-free outdoor equipment.

- Strategy 23: Clean-fuel construction and landscaping. Encourage hybrid and clean-fuel construction and landscaping equipment citywide.

  Conforms – The project would use hybrid or electric landscaping equipment where feasible.

Goal 7: Become a zero-waste community.

- Strategy 27: Construction and Demolition Waste. Increase the amount of waste recycled during construction and demolition of buildings.

  Components

  - Incentivize the recycling of construction debris by working with regional partners.

  Conforms – The project would comply with Chapter 8.05 of the City of San Carlos's Municipal Code, which outlines requirements for Recycling and Diversion of Construction and Demolition Debris. Specifically, during construction, the project must divert at least 60 percent of all generated waste debris tonnage, with at least 25 percent of diverted material from generated tonnage that excludes dirt, concrete, asphalt, brick and/or cinderblock.

Goal 8: Reduce community-wide water use.

- Strategy 32: Water-wise Landscaping. Promote drought-tolerant and firewise landscaping.

  Components

  - Develop a native, drought-tolerant, and fire-resistant landscaping list and require new development or redevelopment to use this list in landscaping plans.
  - Enforce and update the Water-Efficient Landscaping Ordinance to reduce outdoor water use.

Conforms – The project would use plants from the landscaping list and use WELO compliant irrigation methods.

As detailed above, the project would conform with updated BAAQMD thresholds and relevant goals and strategies of the San Carlos CMAP, which is consistent with the *less than significant* impact conclusion.

CONSISTENCY WITH GHG REDUCTION PLANS

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

Impact GHG-2: Compliance with GHG Reduction Plans. The project would be compliant with applicable measures of the Clean Air Plan, Plan Bay Area 2050 and the City of San Carlos' Climate Mitigation and Adaptation Plan, and would therefore be a ***less than significant*** impact.

See Chapter 5: Air Quality for an analysis of the project's consistency with the regional CAP. Additionally with respect to GHG emissions, the CAP includes the goal to reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. This is consistent with the target reductions intended to be met by BAAQMD thresholds and City's CMAP. As demonstrated under criterion 1 above, the project would be consistent with BAAQMD thresholds and the City's CMAP and would therefore be consistent with the GHG emissions reduction goal of the CAP.

CARB's Scoping Plan

CARB's Climate Change Scoping Plan outlines the State's strategies to reduce GHG emissions in accordance with the targets established under AB 32 and SB 32. The Scoping Plan is applicable to State agencies and is not directly applicable to cities/counties and individual projects. However, new regulations adopted by the State agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that affect a local jurisdiction's emissions inventory from the top down. Statewide strategies to reduce GHG emissions include the LCFS and changes in the corporate average fuel economy standards (e.g., Pavley I and Pavley California Advanced Clean Cars program). The proposed project would adhere to the programs and regulations identified by the Scoping Plan and implemented by State, regional, and local agencies to achieve the statewide GHG reduction goals of AB 32 and SB 32. For example, new buildings under the proposed project would meet the applicable CALGreen and Building Energy Efficiency standards. The Scoping Plan measures serve to frame state-wide, regional, and local regulations, and do not apply to individual projects. However, the project would support such measures through the proposal for an all-electric development, on-site solar panels, construction waste diversion measures, and through implementing a TDM Plan to reduce VMT rates below target levels.

Plan Bay Area 2050

With Plan Bay Area 2050, ABAG/MTC has provided a Plan Bay Area 2050 Consistency Checklist for Development Projects to help assess consistency of a development project with the RTP/SCS.[28] According to the checklist, this project site is in a Transit Rich Area (TRA) and High Resource Area

[28] ABAG/MTC, *Checklist: Plan Bay Area 2050 Consistency for Development Projects*, available at: https://mtc.ca.gov/digital-library/5023230-checklist-plan-bay-area-2050-consistency-development-projects. Accessed on March 6, 2023.

(HRA) in Plan Bay Area 2050.[29] TRAs are areas near rail, ferry or frequent bus service; HRAs are state-identified places with well-resourced schools and access to jobs and open space. Developments in TRAs and HRAs could shape the distribution of future job growth in a manner that can support economic vitality and the plan's climate goals. In addition to being in TRAs and HRAs and otherwise meeting the location consistency, the project would also be consistent with SCS strategies, as discussed below in **Table 10.1**. Therefore, the project, once approved, is anticipated to directly facilitate the implementation of 5 SCS strategies, and not obstruct any other strategies.

Table 10.1: Project Consistency with the Plan Bay Area 2050 Strategies

Strategy	Project Consistency
EN3: Fund energy upgrades to enable carbon neutrality in all existing commercial and public buildings. Support electrification and resilient power system upgrades in all public and commercial buildings.	The project does not include natural gas appliances or natural gas.
EN4: Maintain urban growth boundaries. Using urban growth boundaries and other existing environmental protections, focus new development within the existing urban footprint or areas otherwise suitable for growth, as established by local jurisdictions.	The project site is located in the City boundaries and redevelops a previously developed site that is surrounded by existing development and suitable for growth as established by the City through its East Side Vision Plan.
EN8: Expand clean vehicle initiatives. Expand investments in clean vehicles, including more fuel-efficient vehicles and electric vehicle subsidies and chargers.	This project would meet applicable CALGreen Tier 2 EV charger requirements and provide over 300 EV spaces plus over 300 EV-charger ready parking spaces.
EN9: Expand transportation demand management initiatives. Expand investments in programs like vanpools, bikeshare, carshare and parking fees to discourage solo driving.	This project would implement various transportation demand management measures to reduce the VMT rate of this project, as discussed in more detail in Chapter 15: Transportation.
EC4: Allow greater commercial densities in Growth Geographies. Allow greater densities for new commercial development in select Priority Development Areas and Transit-Rich Areas to encourage more jobs to locate near public transit.	This project would redevelop an area near transit with office buildings, commercial retail, and community center, encouraging more jobs in the area.

Source: Applicant

As discussed above, the project would be consistent with applicable GHG reduction plans, policies, and regulations, and the impact would be *less than significant*.

CUMULATIVE GREENHOUSE GAS EMISSIONS IMPACTS

GHG emissions and global climate change represent cumulative impacts. No single project could generate enough GHG emissions to noticeably change the global average temperature, but the combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts. In developing thresholds of significance for GHG emissions, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance

[29] ABAG/MTC, *Plan Bay Area 2050 Growth Geographies*, https://mtc.maps.arcgis.com/apps/webappviewer/index.html?id=af347b881594468a94ea85a67e972679. Accessed on Accessed on March 6, 2023.

thresholds, its emissions would be cumulatively considerable, resulting in significant adverse GHG emissions impacts.[30]

As detailed above, project emissions are not significant per BAAQMD thresholds, and therefore do not represent a cumulatively considerable contribution towards GHG impacts. This project and all future development will have to demonstrate compliance with all applicable federal, State and City regulations.

[30] BAAQMD, May 2017, *California Environmental Quality Act Air Quality Guidelines*, p. 2-1.

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HAZARDS AND HAZARDOUS MATERIALS

INTRODUCTION

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

This chapter utilizes information from the following reports prepared for the applicant by Ramboll US Corporation, available as part of project application materials:

- Phase I Environmental Site Assessment: 900 Industrial Road, San Carlos, California, dated October 2018
- Phase I Environmental Site Assessment and Phase II Environmental Site Assessment: L-3 Communications Corporation, 960 Industrial Road, San Carlos, California, dated April 25, 2017
- Phase I Environmental Site Assessment: 961 Commercial Way, San Carlos, California, dated May 2018
- Phase I Environmental Site Assessment: 987–1075 Commercial Street, 915–1063 Old County Road, San Carlos, California, dated April 2020.
- Subsurface Investigation Report and Groundwater Remedial Action Plan, Former Kelly-Moore Paint Facility, 987–1075 Commercial Street, 915–1063 Old County Road, San Carlos, California, dated May 18, 2021
- Supplemental Soil Vapor Investigation Report, Former Kelly-Moore Paint Facility, 987–1075 Commercial Street, 915–1063 Old County Road, San Carlos, California, dated November 22, 2022
- Fourth Quarter 2022 Groundwater Monitoring Report, Former Kelly-Moore Paint Facility, 987–1075 Commercial Street, 915–1063 Old County Road, San Carlos, California, dated April 5, 2023

ENVIRONMENTAL SETTING

SITE USE HISTORY

900 Industrial Road: The site was located within the wetland margins of the San Francisco Bay until it was filled with imported fill material sometime prior to 1939. The existing office and warehouse building was constructed in 1955 and has been occupied by a number of commercial and light industrial tenants, including paper products, metal product manufacturing, and office and storage warehouse businesses.

960 Industrial Road: The site was undeveloped prior to the 1950s, and then became the site of a vacuum electron device manufacturing facility. The site operated as a facility for the testing, production, and

assembly of vacuum electronic devices for civilian and military applications for over 50 years. Most recently, the site is occupied by Joby Aviation, an electric aircraft ridesharing company.

961 Commercial Street: The site was located within the wetland margins of the San Francisco Bay until it was filled with imported fill material sometime prior to 1939. It remained undeveloped until 1976, when the current building was constructed. The site has operated as a commercial warehouse and office building since its construction. It has been used for commercial printing operations, storage and maintenance operations for Litton Industries, storage for Kelly Moore Paint, and storage and administrative operations for H.Y. Floor.

987–1075 Commercial Street and 915–1063 Old County Road: The site was undeveloped until the 1940s, when it was developed with several separate industrial complexes, including manufacturing facilities for chemicals, conveyors, metal products, tools and electronic instruments, paper products, sporting goods, and food products. Beginning in approximately 1955, Kelly-Moore conducted paint manufacturing operations at the site that included production, sales, and storage of paints and related products, as well as spray equipment repair, facility support, and vehicle maintenance. Previously unimproved portions of the site were largely developed by the 1960s to support additional smaller industrial activities including automotive repair and/or fueling, freighting, and electronic equipment assembly and storage.

CURRENT SITE USE AND POTENTIAL CONTAMINATION

900 Industrial Road: The site currently operates as an office and warehouse building. The site has no recorded historic use or storage of hazardous materials and is not listed in any relevant regulatory agency database as having any significant current or historical hazardous material use or storage. Given its proximity to other sites with known environmental impacts, including 960 Industrial Road, the potential for migration of contamination from off-site properties exists.

960 Industrial Road: The site currently operates as an office and research/development facility for Joby Aviation who are developing prototype electric aircraft to serve regional rideshare transportation needs.

On-Site Groundwater Impact. Groundwater beneath the site is impacted with volatile organic compounds (primarily trichloroethylene) as a result of historical site operations as a testing, production, and assembly of vacuum electronic devices facility since the mid-1950s. The San Francisco Bay Regional Water Quality Control Board (SFRWQCB) has provided oversight to investigation and remediation efforts at the property for over 30 years with Northrop Grumman as the responsible party. Case closure is currently being pursued.

Residual Soil and Groundwater Cyanide Contamination. In relation to closure activities overseen by the San Mateo County Environmental Health Department (SMCEHD) for former plating and cleaning operations in Building 5B, a Remedial Action Agreement with SMCEHD was entered into by L3 Communications. Following additional investigation, SMCDEH issued closure in November 2010.

961 Commercial Street: The site currently operates as a floor installation and surfacing facility. The site has no recorded historical use or storage of significant quantities of hazardous materials and is not listed in any relevant regulatory agency database as having any significant current or historical hazardous material use or storage. Given its proximity to other sites with known environmental impacts, the potential for migration of contamination from off-site properties exists.

987–1075 Commercial Street and 915–1063 Old County Road: The site was occupied by Kelly-Moore, which ceased operations in 2018. The buildings on the property have been demolished since the publication of the Initial Study for this project.

Soil, Groundwater, and Soil Vapor Contamination due to Historical Industrial Operations and Hazardous Materials Storage. Multiple release incidents have been reported at the site including large quantity surface spills and leaking underground storage tanks related to Kelly-Moore products and solvents. Underground storage tanks were removed in the 1980s and 1990s, including removal of surrounding impacted soil. As part of the facility closure activities overseen by SMCEHD in 2018, petroleum hydrocarbon (TPH) and volatile organic compounds were identified in the soil and groundwater and soil vapor concentrations exceeded commercial soil gas vapor intrusion levels for the following contaminants: chloroform, carbon tetrachloride, trichloroethylene, and tetrachloroethene (PCE). Soil vapor concentrations exceeded less stringent regulatory screening criteria for benzene, ethylbenzene, 1,1,2-trichloroethane, methylene chloride, and vinyl chloride. It is possible contamination at this site has impacted groundwater and vapor at other off-site properties. SFRWQCB has an open case related to these issues (ID Number T0608191580). A Groundwater Remedial Action Plan was approved by SFRWQCB on July 2, 2021. The landowner completed remediation consisting of in-situ chemical reduction paired with enhanced anaerobic dichlorination and monitored natural attenuation to address chlorinated volatile organic compound impacts in groundwater in 2021.

Volatile organic compounds and TPH have been detected in soil vapor at elevated concentrations. Soil vapor monitoring activities are ongoing.

OTHER HAZARD AND HAZARDOUS MATERIALS ISSUES

SCHOOLS AND DAYCARE FACILITIES

CEQA establishes special requirements for certain projects near schools to ensure that potential health impacts resulting from exposure to hazardous materials, wastes, and substances will be carefully examined and disclosed in a negative declaration or EIR, and that the lead agency will consult with other agencies in this regard.

There are no schools located within or near the project site. The project could include the construction of a childcare facility on site.

AIRPORTS

Aviation safety hazards can result if projects are located near airports. The public airport located nearest to the project site is San Carlos Airport, located less than 1/4 miles east of the project site. There are no private airstrips in the vicinity. The project site is located in the San Carlos Airport Influence Area.

WILDLAND FIRES

The California Department of Forestry and Fire Protection (CAL FIRE) is required by law to map areas of significant fire hazard based on fuels, terrain, weather, and other relevant factors (PRC 4201-4204 and Govt. Code 51175-89). Factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition, and atmospheric conditions. The CAL FIRE San Mateo County Fire Hazard Severity Zone Map does not identify any very high or high zones of fire hazard severity in the vicinity of the project site.

REGULATORY SETTING

Adoption of and development pursuant to the project is subject to government health and safety regulations applicable to the transportation, use, and disposal of hazardous materials. This section provides an overview of the health and safety regulatory framework that is potentially applicable to the project.

FEDERAL

Hazardous Materials Management

The primary federal agencies with responsibility for hazardous materials management include the US EPA, U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the DOT. The major federal laws and regulations pertaining to the management of hazardous materials on the project site are the Resource Conservation and Recovery Act (RCRA) and Toxic Substances Control Act (TSCA).

In 1976, RCRA was enacted to provide a general framework for the US EPA to regulate hazardous waste from the time it is generated until its ultimate disposal. In accordance with RCRA, facilities that generate, treat, store, or dispose of hazardous waste are required to ensure that the wastes are properly managed from "cradle to grave" by complying with the federal waste manifest system. In California, the California Department of Toxic Substances Control (DTSC) administers the RCRA program. One of the requirements for an RCRA-permitted facility is to implement a "corrective action program" and investigate and remediate any releases of hazardous wastes at the facility under the supervision of DTSC.

In 1976, the TSCA was enacted to provide the US EPA with the authority to regulate the production, importation, use, and disposal of chemicals that pose a risk to public health and the environment. The TSCA also gives the US EPA the authority to regulate the cleanup of sites that have been contaminated with polychlorinated biphenyls (PCBs).

The Emergency Planning and Community Right to Know Act of 1986 imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that materials are accidently released.

Hazardous Materials Site Listings

The National Priorities List (NPL) is a compilation of over 1,200 sites for priority cleanup under the Federal Superfund Program. The Proposed National Priorities List identifies sites considered for NPL listing. The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) system contains data on potentially hazardous waste sites that have been reported to the US EPA by California. CERCLIS contains sites that are proposed or are on the NPL, and sites that are in the screening and assessment phase.

Hazardous Waste Handling

Under the RCRA, the US EPA regulates the generation, transportation, treatment, storage and disposal of hazardous waste. The Hazardous and Solid Waste Act amended the RCRA in 1984. The amendments specifically prohibit the use of certain techniques for the disposal of hazardous waste.

Hazardous Materials Transportation

In 1990 and 1994, the Hazardous Material Transportation Act was amended to strengthen regulations for protecting life, property, and the environment from the inherent risks of transporting hazardous material. The transport of hazardous materials is subject to both RCRA and DOT regulations. DOT has the regulatory responsibility for the safe transportation of hazardous materials. The DOT regulations govern all means of transportation except packages shipped by mail (49 Code of Federal Regulations (CFR)), which are governed by the US Postal Service (USPS) regulations. DOT has hazardous materials

regulations regarding classification, packaging, transport, and handling as well as regulations regarding employee training and incident reporting.[1]

Occupational Safety

The Occupational Safety and Health Act of 1970 (Fed/OSHA) sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR). OSHA is the federal agency with responsibility for enforcing and implementing federal laws and regulations pertaining to worker health and safety. OSHA's Hazardous Waste Operations and Emergency Response regulations require training and medical supervision for workers at hazardous waste sites.[2] Additional regulations have been developed regarding exposure to lead[3] and asbestos[4] to protect construction workers.

Aviation Safety and Aviation Hazards

The closest airport to the project site is the San Carlos Airport, approximately 1/4 miles to the east. The Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport (ALUCP) is used by C/CAG to promote compatibility between the airport and surrounding land uses. The project site is subject to Federal Aviation Regulations and the ALUCP, which provides policies and regulations pertaining to land use that may affect, or be affected by airport operations, including restrictions for the height of structures within the ALUCP area and/or elements that may affect normal aviation operations or that could create a safety hazard for aircraft.

STATE OF CALIFORNIA

Primary state agencies with jurisdiction over hazardous chemical materials management are DTSC and the Regional Water Quality Control Board (RWQCB). Additional state agencies are also involved in hazardous materials management. These agencies include Cal/OSHA (which is part of the Department of Industrial Relations), State Office of Emergency Services (OES), CARB, BAAQMD, Caltrans, California Highway Patrol (CHP), State Office of Environmental Health Hazard Assessment (OEHHA) and the California Integrated Waste Management Board (CIWMB).

In January 1996, Cal EPA adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements:

- Hazardous waste generators and hazardous waste on-site treatment;
- Underground storage tanks;
- Aboveground storage tanks;
- Hazardous materials release response plans and inventories;
- Risk management and prevention programs; and
- Unified Fire Code, hazardous materials management plans, and inventories.

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[1] Code of Federal Regulation, Title 49, *Transportation*, Parts 171–180.

[2] Code of Federal Regulations, Title 29, *Labor*, Section 1910.120, *Hazardous Waste Operations and Emergency Response*.

[3] Code of Federal Regulations, Title 29, *Labor*, Section 1926.62, *Lead*.

[4] Code of Federal Regulations, Title 29, *Labor*, Section 1926.1101, *Asbestos*.

The Unified Program is implemented at the local level. The Certified Unified Program Agency (CUPA) is the local agency that is responsible for the implementation of the Unified Program. In San Carlos, the SMCDEH is the designated CUPA.

Hazardous Materials Management

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires that any business that handles hazardous materials prepare a business plan, which must include the following:

- Details, including floor plans, of the facility and business conducted at the site;
- An inventory of hazardous materials that are handled or stored on site;
- An emergency response plan; and
- A training program for safety and emergency response for new employees, with annual refresher courses

The California Hazardous Materials Incident Report System (CHMIRS) provides information regarding spills and other incidents gathered from the California OES.

Hazardous Waste Handling

The DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. Laws and regulations require hazardous materials users to store these materials appropriately and to train employees to manage them safely.

Under RCRA, individual states may implement their own hazardous waste programs in lieu of RCRA, as long as the state program is at least as stringent as federal RCRA requirements. In California, the DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

Hazardous Materials Transportation

The State of California has adopted DOT regulations for the intrastate movement of hazardous materials. State regulations are contained in Title 26 of the California Code of Regulations (CCR), which includes requirements applicable to the transportation of hazardous waste originating in the State and passing through the State. The two state agencies that have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are CHP and Caltrans.

Hazardous Building Materials

Hazardous materials are commonly found in building materials that may be affected during demolition and renovation activities. The proper management of hazardous building materials, in accordance with various regulations, is described below.

Asbestos-Containing Building Materials. Exposure to asbestos, a state-recognized carcinogen, can result in lung cancer, mesothelioma (i.e., cancer of the linings of the lungs and abdomen), or asbestosis (i.e., a

scarring of lung tissue that results in constricted breathing). Asbestos-containing building materials, such as thermal system insulation, surfacing materials, and asphalt and vinyl flooring, may be present in buildings constructed prior to 1981. Therefore, workers who conduct asbestos abatement must be trained in accordance with state and federal OSHA requirements. The National Emissions Standards for Hazardous Air Pollutants (NESHAP) require the removal of potentially friable (i.e., crushable by hand) asbestos-containing building materials prior to building demolition or renovation. BAAQMD oversees the removal of regulated asbestos-containing building materials. All friable asbestos-containing building materials or non-friable asbestos-containing building materials that may be damaged must be abated prior to demolition in accordance with applicable requirements. Friable asbestos-containing building materials must be disposed of as asbestos waste at an approved facility. Non-friable asbestos-containing building materials may be disposed of as non-hazardous waste at landfills that accept such wastes.

Lead-Based Paint. Exposure to lead, a state-recognized carcinogen, can result in stomach and lung cancer and impair nervous, renal, cardiovascular, and reproductive systems. Although lead-based paint in residential structures was banned in 1978, this restriction did not apply to commercial and industrial buildings; therefore, any commercial or industrial building, regardless of construction date, could have surfaces that have been coated with lead-based paint. Loose and peeling lead-based paint must be disposed of as a state and/or federal hazardous waste if the concentration of lead equals or exceeds applicable waste thresholds. State and federal OSHA regulations require a supervisor who is certified with respect to identifying existing and predictable lead hazards to oversee air monitoring and other protective measures during demolition activities in areas where lead-based paint may be present. Special protective measures and notification of Cal/OSHA are required for highly hazardous construction tasks related to lead, such as manual demolition, abrasive blasting, welding, cutting, or torch burning, where lead-based paint is present.

Universal Wastes. Universal wastes include a wide variety of hazardous wastes that are commonly produced in households and businesses. For example, universal wastes include electrical transformers, fluorescent lighting equipment, electrical switches, heating/cooling equipment, and thermostats that contain hazardous materials such as PCBs, diethyl-hexyl phthalate, mercury, and other metals. The disposal of these materials is regulated under the California Universal Waste Rule, which is less stringent than most other federal and state hazardous waste regulations. To manage universal waste in accordance with the streamlined requirements for the state, generators must relinquish the waste to a universal waste transporter, another universal waste handler, or a universal waste destination facility.

Occupational Safety

Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the CFR. Cal/OSHA standards are sometimes, but not always, more stringent than federal regulations.

Cal/OSHA Title 8 regulations concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention planning. Cal/OSHA enforces regulations for hazard communication programs, which contain training and information requirements, including procedures for identifying and labeling hazardous substances, and communicating hazard information relating to hazardous substances and their handling. The hazard communication program also requires that Materials Safety Data Sheets (MSDS) be available to employees, and that employee information and training programs be documented. These regulations also require preparation of emergency action plans (escape and evacuation procedures, rescue and medical duties, alarm systems, and training in emergency evacuation).

Cal/OSHA (8 CCR), like Fed/OSHA (29 CFR), includes extensive, detailed requirements for worker protection applicable to any activity that could disturb asbestos-containing materials, including maintenance, renovation, and demolition. These regulations are also designed to ensure that persons working near the maintenance, renovation or demolition activity are not exposed to asbestos.

Naturally Occurring Asbestos

CARB has adopted the Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations, which requires construction and grading projects to implement best available dust mitigation measures where naturally occurring asbestos rock is likely to be encountered. CARB defines "asbestos-containing material" as any material that has an asbestos content of 0.25 percent or greater. In accordance with Title 17 of the California Code of Regulations, Section 93105, construction projects greater than 1 acre in size must prepare and submit an Asbestos Dust Mitigation Plan to BAAQMD for review and approval. The Asbestos Dust Mitigation Plan must indicate how construction and grading operations will minimize emissions and ensure that no equipment or operation will emit visible dust across the property line. Upon completion of construction activities, disturbed surfaces must be stabilized (e.g., with vegetative cover or pavement) to prevent visible emissions of asbestos-containing dust caused by wind speeds of 10 miles per hour or more. BAAQMD must also be notified at least 14 days prior to any construction or grading in areas with naturally occurring asbestos rocks.

Emergency Response

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by OES, which coordinates the responses of other agencies, including Cal EPA, CHP, CDFG, SFRWQCB and the Redwood City Fire Department. The Redwood City Fire Department provides first response capabilities, if needed, for hazardous materials emergencies within San Carlos.

The Hazardous Materials Response Team of San Mateo County responds to hazardous materials emergencies throughout the county. The team is comprised of the South County Fire Hazmat Team, the Environmental Health Division of the County Health Services Agency and the Sheriff's Office of Emergency Services.

ADDITIONAL REGULATORY SETTING SPECIFIC TO LIFE SCIENCES FACILITIES

While the exact tenant or tenants of the proposed building have not yet been identified, the following regulations are listed as they are potentially applicable to R&D/life sciences types of facilities depending on the specifics of the operations therein.

Microbiological, Biomedical and Animal Laboratories

The United States Department of Health and Human Services (USDHHS), Centers for Disease Control and Prevention (CDC), and National Institutes of Health (NIH) prescribe containment and handling practices for use in microbiological, biomedical, and animal laboratories. Based on the potential for transmitting biological agents, the rate of transmission of these agents, and the quality and concentrations of biological agents produced at a laboratory, Biosafety Levels (BSL) are defined for four tiers of relative hazards from BSL-1 (least hazard) to BSL-4 (most hazard). The handling for different BSLs requires different practices, safety equipment, and facilities, as shown in **Table 11.1**.

Table 11.1: Biosafety Level Descriptions and Requirements

Biosafety Level	Agents	Practices	Safety Equipment	Facilities
BSL-1	These agents: • Are not generally associated with disease in healthy people	• Good micro-biological practice • Hand washing • No eating, drinking, or gum chewing in the laboratory	• Pipetting devices-mouth pipetting is prohibited	No specific facility requirements
BSL-2	These agents: • Are associated with human disease	BSL-1 practices plus: • Limited lab access • Most work may be performed on a bench top • Biohazard warning signs • "Sharps" precautions • Biosafety manual defining any needed waste decontamination or medical surveillance policies	BSL-1 safety plus: • Class I or II Biological Safety Cabinets (BSCs) or other physical containment devices • Lab coats, gloves, face protection, as needed	• Open bench-top • Sink for hand washing is required • Autoclave available
BSL-3	These agents: • Are associated with human disease and cause illness by spreading through the air (aerosol) • Cause diseases that may have serious or lethal consequences	BSL-2 practices plus: • Controlled access • Decontamination of all waste • Decontamination of lab clothing before laundering	BSL-2 safety plus: • Protective lab clothing, gloves, respiratory protection as needed	BSL-2 requirements plus: • Physical separation from access corridors • Self-closing, double-door access • Exhaust air is not recirculated • Negative airflow into laboratory • Design includes back up/redundant systems
BSL-4	These agents: • Are associated with human disease and cause illness by spreading through the air (aerosol) or have an unknown cause of transmission • Cause diseases that are usually life threatening	BSL-3 practices plus: • Clothing change before entering • Shower on exit • All material decontaminated on exit from facility	• Class II procedures conducted in Class III BSCs or Class I or II BSCs in combination with full-body, air-supplied, positive-pressure personnel suit	BSL-3 requirements plus: • Separate building or isolated zone • Dedicated supply and exhaust, vacuum, and decontamination systems • Design includes back-up/redundant systems • Other requirements outlined in NIH/CDC publication Biosafety in Microbiological and Biomedical Laboratories

Source: National Institute of Allergy and Infectious Diseases. https://www.niaid.nih.gov/research/biosafety-labsneeded

San Carlos City Council adopted Ordinance 1597 in August 2023, which amended the Municipal Code to disallow BSL-3 and BSL-4 in all areas of the city. BSL-1 and BSL-2 facilities are permitted uses under the project site zoning.

Federal and state laws, such as the Animal Welfare Act, specify standards for record keeping and the registration, handling, care, treatment, and transportation of animals. Such laws are enforced by the U.S. Department of Agriculture and the California Department of Health Services (DHS).

Medical wastes must be managed as a biohazardous material, in accordance with Section 117635 of the California Health and Safety Code. The management of biohazardous materials must comply with USDHHS guidelines and DHS regulations pertaining to such materials. Biohazardous medical waste is generally regulated in the same manner as hazardous waste, except that special provisions apply to storage, disinfection, containment, and transportation. The DHS Medical Waste Management Program enforces the Medical Waste Management Act and related regulations.

Radioactive Materials Regulations

The Atomic Energy Act (42 U.S.C. Sections 2011- 2259) (AEA) ensures the proper management of source, special nuclear, and by-product material. The AEA, and the statutes that amended it, delegate the control of nuclear energy primarily to the Department of Energy, the Nuclear Regulatory Commission, and the US EPA. The California Radiation Control Law (California Health & Safety Code Sections 114960-114985) is a regulatory program designed to provide for compatibility with the standards and regulatory programs of the federal government and integrate an effective system of regulation within the state. The program regulates sources of ionizing radiation and establishes procedures for performance of certain regulatory responsibilities with respect to the use and regulation of radiation sources. These laws and regulations govern the receipt, storage, use, transportation, and disposal of sources of ionizing radiation (radioactive material) and protect the users of these materials and the public from radiation hazards.

REGIONAL AND LOCAL

Hazardous and Acutely Hazardous Emissions

BAAQMD oversees the protection of air quality in the San Francisco Bay Area Air Basin, which includes the project site. Hazardous and acutely hazardous emissions during construction (e.g., from demolition of buildings containing asbestos) and facility operations (e.g., from diesel generators) are subject to health risk assessment regulations and permitted conditions of operation to protect nearby sensitive receptors.

San Mateo County Health Department

As noted above, the San Mateo County Health Department, Environmental Health Division is the primary local agency approved as the CUPA with responsibility for implementing federal and state laws and regulations pertaining to hazardous materials management. The Unified Program is the consolidation of six state environmental regulatory programs into one program under the authority of a CUPA. This program was established under the amendments to the California Health and Safety Code made by SB 1082 in 1994. The six consolidated programs are:

- Hazardous Materials Release Response Plan and Inventory (Business Plans) (Health and Safety Code (H&SC) Chapter 6.5)
- California Accidental Release Program (CalARP) (H&SC Chapter 6.95)

- Hazardous Waste (including Tiered Permitting) (H&SC Chapter 6.5)
- Underground Storage Tanks (H&SC Chapter 6.7)
- Above Ground Storage Tanks (H&SC Chapter 6.67), and
- Hazardous Materials Management Plan and Hazardous Materials Inventory Statement Program

As the local CUPA, the San Mateo County Health Department, Environmental Health Division maintains the records regarding location and status of hazardous materials sites in the county, and administers programs that regulate and enforce the transport, use, storage, manufacturing, and remediation of hazardous materials. By designating a CUPA, San Mateo County has accurate and adequate information to plan for emergencies and/or disasters, and to plan for public and firefighter safety.

San Carlos Emergency Response and Evacuation

The City's 2022 General Plan Environmental Safety and Public Services Element establishes evacuation routes and identifies agencies responsible for emergency response. It also summarizes and assesses potential threats and hazards. In the event of an emergency, the City will respond according to the Standardized Emergency Management System (SEMS) developed by the State. The SEMS system establishes a hierarchy of response, with local government as the first responders, and with the County of San Mateo lending resources if needed. San Carlos implements the San Mateo County's Zonehaven evacuation system. Zonehaven determines the most efficient and effective evacuation routes based on the emergency type and location. Both Industrial Road and Old County Road are marked as evacuation routes.[5]

San Carlos General Plan 2030

The City of San Carlos General Plan includes goals and objectives relevant to hazardous materials potentially affected by the proposed project, including the following:

Goal CSS-3: Protect lives and property from risks associated with fire-related emergencies.

Policies:

CSS-3.9: Support "early review" of proposed development by the Belmont-San Carlos Fire Department and institute impact fees to ensure adequate all-risk fire equipment for the community.

CSS-3.10: Continue to require all new development to provide all necessary water service, fire hydrants and road improvements consistent with City standards and the California Fire Code.

CSS-3.13: Ensure that property owners maintain property in a manner that minimizes fire hazards through the removal of vegetation, hazardous structures and materials and debris as governed under the City Municipal Code for enforcement.

Goal CSS-4: Protect the community from the harmful effects of hazardous materials.

Policies:

CSS-4.1: Prohibit uses involving the manufacturing of hazardous materials throughout the city. Hazardous materials are defined in Chapter 6.95, Section 25501 0-1 of the Health and Safety Code. This policy applies only to the direct manufacture of hazardous substances.

[5] City of San Carlos, November 2022, *San Carlos General Plan Environmental Safety and Public Services Element*, Figure 8-12.

It does not apply to the storage or use of such materials in conjunction with permitted industrial uses.

CSS-4.2: Require producers of and users of hazardous materials in San Carlos to conform to all local, State and federal regulations regarding the production, disposal and transportation of these materials.

CSS-4.3: Mitigate hazard exposure to and from new development projects through the environmental review process, design criteria and standards enforcement.

CSS-4.4: Mitigate indoor air intrusion potential in areas of new development or redevelopment where the property is located above known volatile compound plumes.

CSS-4.5: Where deemed necessary, based on the history of land use, require site assessment for hazardous and toxic soil contamination prior to approving development project applications.

CSS-4.7: Require the preparation of emergency response plans as part of use applications for all large generators of hazardous waste as required by federal law.

CSS-4.9: Encourage the use of green building practices to reduce potentially hazardous materials in construction materials.

Goal CSS-5: Minimize risks associated with operations at the San Carlos Airport.

Policies:

CSS-5.1: Maintain land use and development in the vicinity of San Carlos Airport that are consistent with the relevant airport/land use compatibility criteria and guidelines contained in the adopted Airport/Land Use Compatibility Plan (CLUP) for the environs of San Carlos Airport, including noise, safety, height and avigation easement requirements.

San Carlos Municipal Code

The City of San Carlos Municipal Code contains all ordinances for San Carlos. Chapter 5.04, General Business Registration Requirements, includes regulations relevant to hazardous materials on the project site as discussed below.

5.04.060 B. Businesses that handle hazardous materials and chemicals must receive a Fire Department clearance before a business registration certificate may be issued.

Chapter 15.04, Technical Building Codes, includes the adoption of the 2022 edition of the California Fire Code. Chapter 50 of the California Fire Code includes requirements for the prevention, control and mitigation of dangerous conditions related to storage, dispensing, use and handling of hazardous materials.

15.04.110 Title 24, Part 9, California Fire Code, 2022 Edition is hereby adopted by reference, with amendments and modifications.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based upon CEQA Guidelines thresholds:

1. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
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?
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?
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?
5. Would the project 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? Would the project result in a safety hazard or excessive noise for people residing or working in the project area?
6. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
7. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

HAZARDOUS MATERIALS USE, TRANSPORT, OR DISPOSAL

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

Impact Haz-1: **Routine Use of Hazardous Materials.** With compliance with applicable regulations, the project would not expose employees, the nearby public, or the environment to significant hazards due to the routine transport, use, disposal, or storage of hazardous materials (including chemical, radioactive and biohazardous waste). This impact would be ***less than significant.***

Construction. As is standard practice, it is likely that equipment used at the site during construction activities could utilize substances considered by regulatory bodies as hazardous, such as diesel fuel, grease, and gasoline. In addition, construction could involve paints and oils that must be properly managed. Although small amounts of these materials would be transported, used, and disposed of during project construction, these materials are typically used in construction projects and are not considered acutely hazardous. Workers who handle hazardous materials are required to adhere to Fed/OSHA and Cal/OSHA health and safety requirements. Pursuant to California Health and Safety Code, Division 20, Chapter 6.95, construction contractors would be required to prepare and implement a Hazardous Materials Business Plan (HMBP) that describes the location, type, quantity, and health risks of hazardous materials which are handled, used, stored, or disposed. The HMBP must also include an emergency response plan with procedures to be implemented in the event of a reportable release or threatened release of a hazardous material. Additionally, all construction activities would be required to conform with applicable provisions of Title 49 of the CFR, DOT, State of, and procedures. Any soil or water that is contaminated at levels above what is allowed in a landfill would follow DTSC regulations for disposal, which would ensure safe handling and proper disposal of hazardous substances.

Operation. While specific tenants have not yet been identified, office uses would involve household hazardous waste such as vehicle components and cleaners. R&D laboratories additionally are likely to handle materials considered to be biological hazards and/or chemical hazards. The SMCEHD enforces

regulations pertaining to safe handling and proper storage of hazardous materials to prevent or reduce the potential for injury to health and the environment. Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. Cal/OSHA is responsible for developing and enforcing workplace safety standards and ensuring worker safety in the handling and use of hazardous materials, including personnel training, appropriate labeling with warning markings, and appropriate safety equipment. Additionally, the project would be required to comply with applicable San Carlos ordinances, which currently disallow BSL-3 and BSL-4 in the city. See the Regulatory Setting section above for additional information about applicable regulations.

With compliance with applicable regulations as discussed above, project construction and operations are not anticipated to create a significant hazard to the public or environment through the routine transport, use or disposal of hazardous materials *(less than significant)*.

HAZARDOUS MATERIALS SITE AND ACCIDENTIAL RELEASE

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?*

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?*

Impact Haz-2: **Accidental Release of Hazardous Materials.** Portions of the project site contain contaminated soil and groundwater from historical uses. Demolition of existing buildings during construction could expose the public or construction workers to hazardous materials. The impact related to accidental release of hazardous materials would be ***less than significant with mitigation*.**

Project construction and operation would involve the routine transport, use, disposal, and/or storage of hazardous materials. Impacts related to such routine handling are addressed above. The accidental release of hazardous materials during project construction and operation activities is not reasonably foreseeable. The use of hazardous materials would be subject to existing hazardous materials laws, regulations, and CUPA programs described above under Regulatory Setting. Pursuant to California Health and Safety Code, Division 20, Chapter 6.95, construction contractors would be required to prepare and implement an HMBP that includes an emergency response plan with procedures to be implemented in the event of a reportable release or threatened release of a hazardous material, including appropriate containment, neutralization and removal of spills or leakage of hazardous materials. Under the CalARP Program, facilities that handle more than a threshold quantity of a regulated hazardous substance, such as federally listed extremely hazardous toxic and flammable substances, and state listed acutely hazardous materials, must prepare a Risk Management Plan (RMP). The RMP must analyze the potential for an accidental release. Facilities that are required to prepare an RMP must obtain and keep current a CalARP Program Facility Permit. Every permittee must provide testing, certification, maintenance schedules, monitoring and inspections in compliance with an approved Hazardous Materials Management Plan. Satisfactory provisions must be made for appropriate containment, neutralization and removal of spills or leakage of hazardous materials that may occur during storage, handling, transportation or use, including necessary safety equipment for personnel. Adherence to these standards would reduce the potential for an accidental release, as the regulations require compliance with plans and procedures designed to prevent accidental release or to minimize any negative effects of an accidental release. In addition, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared and implemented during project construction for coverage under the Construction General Permit, in accordance with the requirements of the State Water Board.

As described in Chapter 12: Hydrology and Water Quality, the SWPPP requires implementation of best management practices for hazardous materials storage and soil stockpiles, inspections, maintenance, employee training, and the containment of releases to prevent runoff to stormwater collection systems or waterways. Because compliance with existing regulations would be mandatory, accidental hazardous materials releases during construction and operation would have a less-than-significant impact on human health and the environment.

The project site is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962. Hazardous materials upset or accident could have the potential to occur related to the disturbance of contaminated soil and/or groundwater. As detailed in the Phase I and II Environmental Site Assessments, Subsurface Investigation Report and Groundwater Remedial Action Plan (all available as part of the project application materials), and as summarized above, site contamination concerns include soil contaminated with non-aqueous phase liquid and groundwater with elevated concentrations of volatile organic compounds that exceed SFRWQCB's environmental screening levels for vapor intrusion concerns for commercial land use.

Consistent with the existing Removal Action Workplan and Groundwater Remedial Action Plan for the project site, construction plans would include measures designed to minimize potential exposure of the community, workers and building occupants to contaminated soils and vapor during and after site development. To protect the environment after development, the project would include measures such as capping site soils with asphalt, concrete, and vegetative barriers; and installation of a vapor barrier and venting system below the building foundation to address the potential for migration onto the site of combustible vapor, if necessary.

The project also would implement safety measures for soil handling during construction. Such measures may include:

- Wheel wash stations or gravel pads at exits to prevent track out.
- Minimizing drop heights while loading soil.
- Covering truck loads when hauling off soils.
- Deploy watering trucks to keep soil moist to ensure minimal dust.
- Coverage of heavy traffic areas with recycled aggregate base rock to limit the potential for dust creation.

These measures would help minimize the risk of accidental release of contaminants during soil excavation and removal.

Because of the age of the existing buildings, there is the possibility for hazardous material from asbestos-containing materials and lead-based paint to be released during demolition activities. The removal of hazardous building materials prior to demolition is governed by federal as well as state laws and regulations. An asbestos survey is required by local authorities and NESHAP, which requires the removal of potentially friable asbestos-containing building materials prior to building demolition or renovation that may disturb asbestos-containing building materials. Workers who conduct abatement and demolition activities associated with hazardous building materials must be trained in accordance with state and federal OSHA requirements. Hazardous building materials removed during demolition must be transported in accordance with DOT regulations and disposed of in accordance with RCRA regulations and/or the California Universal Waste Rule at a facility that is permitted to accept the wastes. Compliance with existing laws and regulations would be mandatory.

This impact is considered potentially significant and the following Mitigations Measures Haz-2a and Haz-2b (renumbered from the Initial Study) shall be applicable. Mitigation Measure Haz-2a, formerly Haz-1, has been updated from the Initial Study to include the Groundwater Remedial Action Plan.

Mitigation Measure Haz-2a: **Compliance with Removal Action Workplan, Groundwater Remedial Action Plan, and Regulatory Agency Requirements.** The applicant shall demonstrate proposed compliance with agency requirements related to known contamination in the soil, groundwater, and vapor, including the Removal Action Workplan and Groundwater Remedial Action Plan, prior to initiation of construction activities and shall demonstrate compliance with any agency-required post-construction requirements prior to occupancy. The Groundwater Remedial Action Plan covers the former Kelly Moore portion of the project site and includes the following:

- Installation and monitoring of three shallow groundwater monitoring wells in the central part of the impacted area.
- Continued groundwater monitoring of the existing site groundwater monitoring well network in the southeastern area.
- Groundwater remediation.
- Evaluation of vapor intrusion mitigation measures for the three future occupied buildings on the former Kelly Moore sites.

Mitigation Measure Haz-2b: **Lead-Based Paint, Asbestos, and Mold Abatement.** Prior to demolition, the applicant shall demonstrate that buildings have been assessed for asbestos-containing materials and lead-based paint, and during demolition, any suspected such materials have been abated by a licensed abatement contractor and disposed of according to all state and local regulations.

Implementation of Mitigation Measures Haz-2a and Haz-2b would reduce the impact related to a hazardous materials site and upset or accidents involving the release of hazardous materials into the environment to a level of *less than significant* with mitigation through compliance with the existing RAW and other agency requirements as appropriate to address contaminated site soils and groundwater and assessment/abatement of hazardous building materials.

HAZARDOUS MATERIALS NEAR SCHOOLS

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?

No school is located within one-quarter mile of the project site. Therefore, the project would have *no impact* with respect to hazardous materials near schools.

NON-CEQA: RISK ASSESSMENT FOR PROPOSED PROJECT DAYCARE

While not considered an impact to the environment under CEQA, the potential health risk to proposed new on-site sensitive receptors is presented here as an information item.

A childcare facility may be included on site as part of the project. This section analyzes the potential impacts to the childcare facility should it be constructed. Further discussion of the impact of the project's operations on the optional childcare facility can be found in Chapter 5: Air Quality.

As discussed above regarding construction-related hazards, if the childcare center opens before the completion of the demolition and groundwork portion of the construction activities of Phase 3, children and workers at the childcare center could be exposed to hazards associated with renovation or demolition of buildings, or to sites with soil and/or groundwater contaminated with TPH or other industrial materials. Additionally, children and childcare workers could potentially be exposed to hazards related to the routine transport, use, disposal, or storage of hazardous materials. Therefore, all parties have agreed that if a daycare center is included and if it is operational before the start of Phase 3 (or later) construction, operations of the daycare will be suspended during subsequent demolition, rough grading, foundations and structural steel framing of new buildings at the project site.

Note that even without the suspension of operations, during any construction activities near a childcare facility, all regulatory requirements pertaining to known hazardous materials sites (see discussion under Impact Haz-2, above) would apply. Additionally, all regulatory requirements pursuant to construction activities that could expose the public to a significant hazard from hazardous materials through the renovation or demolition of buildings, or relocation of underground utilities (see discussion under Impact Haz-2, above) would also apply. Compliance with these regulations would prevent adverse risks related to use or discovery of hazardous materials or related to accidental spills and upset involving hazardous materials during construction, notwithstanding proximity to the optional childcare center.

All of the regulatory requirements listed pursuant to the routine transport, use, disposal or storage of hazardous materials (see discussion under Impact Haz-1, above) ensure that the exposure of employees or the nearby public (including the childcare facility) would be reduced to levels determined by these regulations to be safe.

AIRPORT HAZARDS

5. Would the project 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? Would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Impact Haz-3: **Development within Airport Land Use Plan Boundaries.** The proposed project is located within the Airport Land Use Plan boundaries of San Carlos Airport, but the project would comply with applicable regulations including required consultation with the Federal Aviation Administration prior to construction and would not result in a safety hazard for people residing or working at the project site. This impact would be ***less than significant.***

The closest airport is the San Carlos Airport, a small county airport, located less than ¼ mile to the east of the project site. Under the law, before an affected agency has a consistency determination from the Airport Land Use Commission on its plans, such as its general plan and specific plans, the Airport Land Use Commission may require that the local agency submit all actions, regulations, and permits to the Airport Land Use Commission. (Pub. Util. Code, Section 21676.5(a).) If the local agency has revised its general plan or specific plan or has overruled an inconsistency finding by the Airport Land Use Commission consistent with legal requirements, a proposed land use action by the local agency is not subject to further Airport Land Use Commission review unless the Airport Land Use Commission and the local agency agree that individual projects shall be reviewed by the Airport Land Use Commission. (Pub. Util. Code, Section 21676.5(b).)

Based on the applicable ALUCP, proposed development and land use policy actions that affect property within Area B of the Airport Influence Area (AIA) to the Airport Land Use Commission (the C/CAG Board) for a determination of consistency with the ALUCP prior to issuing a permit for the proposed

development (Pub. Util. Code, Section 21676.5(a)). The project site is in Area B, the project referral area of the AIA and the project requires a rezoning. Accordingly, the City must refer the project to the C/CAG Board for a determination of consistency with the ALUCP prior to approving the proposed rezoning.

The ALUCP has six safety zones. Permissibility of medical and biological research facilities handling highly toxic or infectious agents varies across the six safety zones. BSL-1 facilities are permitted in each safety zone. BSL-2 facilities are not permitted in Safety Zones 1, 2, and 5. BSL-3 and BSL-4 facilities are not permitted in Safety Zones 1 through 5. According to the ALUCP, the project site is in Safety Zone 6, which is the traffic pattern zone and is not within a primary flight path. No limit is placed on the intensity of new, nonresidential uses within this zone. Office and R&D uses as well as all four BSL facilities are identified as compatible uses in this zone. The site has an allowable height of 155' above mean sea level without further review/approvals. Because of the location within the ALUCP area, the project would be subject to Federal Aviation Administration Part 77 No Hazard Determination confirming that the proposed buildings are compatible with height constraints and would not include elements dangerous to aircraft such as blinking lights, smoke columns, or attraction of birds. The project appears to be in conformance with the applicable rules.[6] There are no other airports, either public or private within the vicinity of the project. There would be a *less than significant* impact related to airport hazards.

ADOPTED EMERGENCY RESPONSE PLAN

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

Impact Haz-4: **Temporary Construction Obstructions.** The proposed project would not result in permanent changes to the roadway system or otherwise result in changes to area emergency response or evacuation plans. No substantial construction-period roadway obstruction is planned and any temporary construction obstructions would follow appropriate procedures. This impact would be ***less than significant.***

The proposed project would be designed to comply with the California Fire Code and the City Fire Marshal's code requirements that require on site access for emergency vehicles, a standard condition for any new project approval.

No substantial obstruction in public rights-of-way has been proposed with the project's construction activities. However, any construction activities can result in temporary intermittent roadway obstructions, but these would be handled through standard temporary traffic control procedures with the City to ensure adequate clearance is maintained, including working in stages, temporary traffic signs or signals, and alternate routes.

The City's 2022 General Plan Environmental Safety and Public Services Element establishes emergency response procedures according to the State SEMS and evacuation per the San Mateo County's Zonehaven evacuation system, which indicates that both Industrial Road and Old County Road are evacuation routes.[7] Zonehaven uses local traffic data to identify potential choke points so emergency management agencies can define zones to reduce gridlock and enable fire and law enforcement to support evacuations more easily. The project would not create any obstructions on Industrial Road or Old County Road that

[6] City/County Association of Governments of San Mateo County, Adopted October 2015, *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport*, Exhibits 4-3 and 4-4 and p. 4-26.

[7] City of San Carlos, November 2022, *San Carlos General Plan Environmental Safety and Public Services Element*, Figure 8-12.

would interfere with their use as evacuation routes or otherwise impair implementation of the City's Emergency Operations Plan or the Zonehaven evacuation system.

Therefore, with compliance with applicable regulations and standard procedures, the impact with respect to impairment or interference with an Emergency Response or Evacuation Plan would be *less than significant.*

WILDLAND FIRES

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

The project site is a highly developed industrial area, and no wildlands are intermixed within this industrial area. The proposed project would not exacerbate wildfire risks of any nature, would not substantially impair an adopted emergency evacuation plan or emergency response plan, and is not located in or near a Local or State Responsibility area with a Very High Fire Hazard Severity Zone designation.[8] The project would not be susceptible to significant risk of loss, injury or death involving wildland fires and there would be *no impact* in this regard.

CUMULATIVE HAZARDS AND HAZARDOUS MATERIALS IMPACTS

The geographic context for cumulative impacts associated with hazards and hazardous materials considers development in the East Side Innovation District and immediately surrounding area. Hazards and hazardous materials impacts are generally site-specific environmental concerns. More specifically, the project impacts identified above related to the routine transport, use or disposal and potential accidental release of hazardous materials during construction, operation, and building demolition are site specific. As analyzed above, these project impacts are less than significant due to mandatory compliance with Federal, state and City regulations and compliance with Mitigation Measures Haz-2a and Haz-2b. Accordingly, this would reduce the risk of hazardous materials emissions and/or accidental releases that could affect receptors outside the project site. Cumulative health and safety impacts could occur if off-site hazards related to the project were to interact with or combine with similar effects of other cumulative development within the East Side Innovation District and immediately surrounding area. These impacts could only occur through limited mechanisms: air emissions, transport of hazardous materials and waste, inadvertent release of hazardous materials to the sewer or non-hazardous waste landfill, and potential accidents that require hazardous materials emergency response capabilities. While other projects could add uses that may use, store, and/or generate hazardous materials, as with the proposed project, these other projects would be subject to the same mandatory compliance with hazardous materials laws and regulations and would be required to implement project-specific measures consistent with applicable hazardous materials laws and regulations to reduce any potential significance of these impacts.

Because cumulative land use in the East Side Innovation District relies on the same roads to be used by the project, the project would contribute to a cumulative increase in the amount of hazardous materials transported to and from the area. Cumulative increases in the transportation of hazardous materials and wastes would not lead to a significant cumulative impact because the probability of accidents is relatively low due to stringent regulations that apply to transport, use and storage of hazardous materials. Because remediation, construction, and operation of this project and all other potential projects in the vicinity would be done in compliance with laws that prevent purposeful release and minimize accidental releases

[8] City of San Carlos, June 2009, *San Carlos 2030 General Plan EIR*, p. 4.6-18.

of hazardous materials, there would be no significant cumulative impacts caused by hazardous releases in the area over time.

Likewise, because this project and any other future project would comply with applicable ALUCP regulations including required consultation with the Federal Aviation Administration prior to construction and would not result in a safety hazard for people residing or working at the project sites or in the surrounding community there would be no significant cumulative impacts related to airport hazards.

The project, in combination with other development in the East Side Innovation District would add to cumulative traffic congestion on roadways used for evacuation. Traffic congestion during an evacuation event is inevitable, but the roadway system in the East Side Innovation District allows for multiple possible evacuation routes in the case of an emergency. Because the project would not interfere with applicable emergency response plans, including evacuation routes and local agency response, and would comply with applicable emergency response standards, and because all development in the City is required to adhere to applicable safety standards regarding emergency response, there would be no significant cumulative impacts related to the impairment of emergency response or evacuation plans.

The project site is not located near an existing or proposed school nor located within an area with a Very High Fire Hazard Severity Zone designation. There are no significant cumulative impacts to which the project could contribute with respect to hazardous materials near schools nor to significant cumulative impacts exposing people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

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HYDROLOGY AND WATER QUALITY

INTRODUCTION

This chapter of the EIR evaluates the potential impacts of the project on hydrology, water resources and water quality. This chapter provides background information on hydrologic conditions within the project area and the relevant regulatory setting applicable to the site, identifies potential impacts that could result from implementation of the project, and identifies regulatory requirements and/or mitigation measures that would avoid or minimize potential impacts, when applicable.

The discussion of flooding details in this chapter is based on the following report prepared for the applicants:

- WRA, Inc., Pulgas Creek Flooding: Proposed Mitigated Project, dated November 2020 (included as Appendix F).

SETTING

CLIMATE AND TOPOGRAPHY

The project site receives 20.3 inches of rain, on average, per year, with 96 percent of rainfall occurring between October and April. The average yearly temperatures range from a high of 82 degrees Fahrenheit in July to an average low of 58 degrees Fahrenheit in January.[1]

The project site is relatively level, with general site grades ranging from approximately 10 to 17 feet above sea level. Pulgas Creek borders the site on the south side, with creek banks approximately 6 to 7 feet high (relative to creek bed), with localized areas up to 10 feet high.

REGIONAL HYDROLOGY AND GROUNDWATER

There are portions of four different watersheds within San Carlos that drain into San Francisco Bay. The project site is within the Pulgas Creek watershed, which drains 3.5 square miles into the Bay. A large portion of the creek channel is modified, flowing in underground culverts. The creek flows in a northeasterly direction, coming up to the surface on the east side of El Camino Real and crosses under U.S. 101 before entering Smith Slough, near the Bair Island National Wildlife Refuge. The health of watersheds in San Carlos is typical of watersheds in urbanized areas, containing contaminants, including polychlorinated biphenyls, in the urbanized portions.[2]

The California Department of Water Resources (DWR) defines state groundwater basins based on geologic and hydrogeologic conditions. According to the DWR, the site is located in the San Francisco Bay Basin and specifically within a designated urban area in the Santa Clara Valley-San Mateo Plain

[1] Desert Research Institute, Western Regional Climate Center, Redwood City, *California NCDC 1981-2010 Monthly Normals*, https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7339, accessed on December 20, 2022.

[2] City of San Carlos, October 2022, *City of San Carlos Focused General Plan Update EIR*, p. 4.9-1.

Groundwater Subbasin. The Basin Plan indicates that the existing beneficial uses of Pulgas Creek include warm freshwater habitat and wildlife habitat and recreational activities. Existing beneficial uses of groundwater in that subbasin include municipal and domestic water supply, industrial process supply, and industrial service supply, and agricultural water supply is listed as a potential beneficial use.[3]

The basin consists of bedrock and alluvial fan deposits formed by tributaries to the San Francisco Bay, which are the Santa Clara Formation of Plio-Pleistocene age and the Quaternary age alluvial deposits, the second being the primary water-bearing strata which overlies the former. The San Mateo Subbasin is bounded by the Westside Basin to the north, San Francisco Bay to the east, San Francisquito Creek to the south, and the Santa Cruz Mountains to the west.[4] Groundwater is commonly found at less than five feet below grade in the flatland areas.

FLOODING

San Carlos experiences seasonal inland flooding in areas primarily located along the bayshore, Pulgas Creek, Cordilleras Creek, and Belmont Creek. Flooding can be caused by heavy rainfall, long periods of moderate rainfall, or clogged storm drains during periods of rainfall. Storm drainage systems throughout the city collect stormwater runoff and convey water to prevent flooding, although these systems are typically designed based on winter storms recorded in the past and may not be designed to accommodate more intense storms anticipated under climate change conditions. During strong storms and king tides, bay shoreline flooding may damage or destroy commercial buildings in low-lying areas in eastern San Carlos. The project site is located adjacent to Pulgas creek, with portions of the site considered to be within 100-year and 500-year flood hazard areas (under both current and climate change conditions).[5]

REGULATORY SETTING

The proposed project would be constructed in accordance with several regulatory programs, laws, and regulations that aim to protect water resources. In some cases, federal laws are administered and enforced by state and local government. In other cases, state and local regulations in California are more restrictive than those imposed by federal law. This section summarizes relevant regulatory programs, laws, and regulations with respect to hydrology and water quality and how they relate to the proposed project.

FEDERAL LAWS AND REGULATIONS

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) is responsible for establishing base flood elevations (BFE) and floodplain boundaries based on USACE studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps used in the National Flood Insurance Program (NFIP) (42 USC Ch. 50, Section 4102). These maps identify the locations of special flood hazard areas, including 100-year floodplains. Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations, enabling FEMA to require municipalities that participate in the NFIP to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains.

[3] California Regional Water Quality Control Board San Francisco Bay Region, November 2019, *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan), last amended March 7, 2023, available at: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html.

[4] California Department of Water Resources, *California's Groundwater Update 2020* (Bulletin 118). Available at: https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118

[5] City of San Carlos, October 2022, *Draft Environmental Safety and Public Services Element*, pp. 201-202, Figures 8-9, 8-15, and 8-16.

Clean Water Act (CWA)

The CWA was enacted by Congress in 1972 and amended several times since inception. It is the primary federal law regulating water quality in the United States and forms the basis for several state and local laws throughout the country. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribes the basic federal laws for regulating discharges of pollutants and sets minimum water quality standards for all waters of the United States. Several mechanisms are employed to control domestic, industrial, and agricultural pollution under the CWA. At the federal level, the EPA administers the CWA. At the state and regional level, the CWA is administered and enforced by the SWRCB and the San Francisco Bay's Regional Water Quality Control Boards (RWQCBs, respectively). The State of California has developed a number of water quality laws, rules, and regulations, in part to assist in the implementation of the CWA and related federally-mandated water quality requirements. In many cases, the laws, rules, and regulations adopted by the state and regional boards are more protective than the federal requirements.

Section 303(d) and Total Maximum Daily Loads (TMDLs)

The CWA contains two strategies for managing water quality. One is a technology-based approach that includes requirements for maintaining a minimum level of pollutant management, using the best available technology (BAT). The other is a water quality–based approach that relies on evaluating the condition of surface waters and setting limitations on the amount of pollution that surface waters can be exposed to without adversely affecting the beneficial uses of those waters. Section 303(d) of the CWA bridges the two strategies. Section 303(d) requires states to make a list of waters that fail to attain the water quality standards after BAT limits are implemented. For the waters on this list, and where the EPA administrator deems appropriate, the states are required to develop TMDLs. TMDLs are established at the level necessary to implement the applicable water quality standards.

The CWA does not expressly require implementation of TMDLs. However, federal regulations require an implementation plan to be developed along with TMDLs. Furthermore, Sections 303(d) and 303(e) of the CWA, along with their implementing regulations, require approved TMDLs to be incorporated into basin plans. EPA has established regulations (40 Code of Federal Regulations 122) that require NPDES permits to be revised and consistent with any approved TMDL. TMDLs for mercury, Polychlorinated Biphenyls (PCB), and Pesticide-Related Toxicity in Urban Creeks have been established for the Bay and incorporated into the Basin Plan and applicable regulations.[6]

Section 404 Dredge/Fill Permitting

The discharge of dredged or fill material into waters of the United States is subject to permitting specified under Section 404 (Discharges of Dredged or Fill Material) of the CWA, which regulates the placement of fill materials in waters of the United States. Section 404 permits are administered by USACE.

Section 401 Water Quality Certification

Section 401 of the CWA requires an applicant for a federal permit to conduct an activity that may result in a discharge of a pollutant to obtain a Water Quality Certification (or waiver). A Water Quality Certification requires the evaluation of water quality considerations associated with dredging or the placement of fill materials into waters of the United States. Water Quality Certifications are issued by one of the nine geographically separated Regional Water Boards in California. Under the CWA, a

[6] California Regional Water Quality Control Board San Francisco Bay Region, *Water Quality and Total Maximum Daily Load (TMDL) Report Cards*, available at: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/water_quality.html.

Regional Water Board must issue or waive a Section 401 Water Quality Certification for a project to be permitted under CWA Section 404.

Section 402—National Pollutant Discharge Elimination System

The 1972 amendments to the federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section of the CWA, devoted to stormwater permitting (Section 402[p]). EPA has granted the State of California (i.e., the State Water Board and Regional Water Boards) primacy in administering and enforcing the provisions of the CWA and NPDES. NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States. NPDES permitting requirements related to construction and stormwater are discussed below.

CALIFORNIA LAWS AND REGULATIONS

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act establishes the SWRCB and the RWQCB as the principal state agencies having primary responsibility for coordinating and controlling water quality in California. The Porter-Cologne Act establishes the responsibility of the RWQCBs for adopting, implementing, and enforcing water quality control plans (Basin Plans), which set forth the state's water quality standards (i.e., beneficial uses of surface waters and groundwater) and the objectives or criteria necessary to protect those beneficial uses. The NPDES permit must be consistent with the Basin Plan for the site region.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act of 2014 (SGMA) is a comprehensive three-bill package that Governor Jerry Brown signed into law in September 2014. The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention only if necessary to protect the resource. The plan is intended to ensure a reliable groundwater water supply for California for years to come. The SGMA requires the formation of local Groundwater Sustainability Agencies, which are required to adopt groundwater sustainability plans (GSPs) to manage the sustainability of groundwater basins. Groundwater Sustainability Agencies for all high- and medium-priority basins, as identified by the DWR, must adopt a GSP or submit an alternative. The SGMA also requires governments and water agencies for high- and medium-priority basins to halt operations that result in overdraft conditions and bring the basins into balance with respect to pumping and recharge. GSPs for high- and medium-priority basins are to be submitted to DWR by January 31, 2022; however, GSPs for high- and medium-priority basins with critical overdraft conditions were to be submitted to DWR by January 31, 2020.

NPDES Construction Stormwater Permit Requirements

The NPDES General Construction Permit Requirements apply to clearing, grading, and disturbances to the ground such as excavation. The project applicant is required to submit a Notice of Intent (NOI) with the SWRCB's Division of Water Quality. The NOI includes general information on the types of construction activities that would occur on the site. The applicant would also be required to submit a site-specific plan called the Stormwater Pollution Prevention Plan (SWPPP) for construction activities. The SWPPP would include a description of BMPs to minimize the discharge of pollutants from the site during construction. It is the responsibility of the property owner to obtain coverage under the permit prior to site construction. The RWQCB adopted a Municipal Regional Permit (MRP) on October 14, 2009, as the NPDES permit for all Bay Area municipalities, which includes Provision C.3. The C.3 requirements are intended to protect water quality by minimizing pollutants in runoff, and to prevent downstream

erosion by: designing the project site to minimize imperviousness, detain runoff, and infiltrate runoff where feasible; treating runoff prior to discharge from the site; ensuring runoff does not exceed pre-project peaks and durations; and maintaining treatment facilities.

LOCAL PROGRAMS AND REGULATIONS

San Francisco Bay Water Quality Control Plan (Basin Plan)

The San Francisco Bay RWQCB is responsible for the development, adoption, and implementation of the Water Quality Control Plan for the San Francisco Bay region. The Basin Plan is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the San Francisco Bay Region. The Basin Plan identifies beneficial uses of surface waters and groundwater within its region and specifies water quality objectives to maintain the continued beneficial uses of these waters. The proposed project is required to adhere to all water quality objectives identified in the Basin Plan.[7]

San Mateo Countywide Stormwater Pollution Prevention Program

To comply with the Clean Water Act, San Mateo County and the 20 cities and towns in the County formed the San Mateo Countywide Stormwater Pollution Prevention Program (SMCWPPP). SMCWPPP holds a joint municipal NPDES permit from the San Francisco Bay RWQCB. The permit includes a comprehensive plan to reduce the discharge of pollutants to creeks, San Francisco Bay, and the ocean to the maximum extent possible. Each municipality in San Mateo County is responsible for implementing a stormwater program in compliance with NPDES permit requirements to prevent discharges of polluted stormwater runoff from its streets to the local storm drain system and nearby surface waters.

San Mateo County Stormwater Resource Plan (SRP)

The SRP is based primarily on critical watershed characteristics and processes, including land use, soil hydrology, land slope and other relevant landscape features. On-site stormwater management projects capture and manage the runoff from a particular parcel or site. Hydrologic Response Units (HRU's) in small spatial units containing unique attributes are used to evaluate watershed processes. HRUs assessed are land use, impervious cover, hydrologic soil groups, and slope. Based on these metrics, stormwater projects are identified and prioritized to address water quality impairments, reduce flooding, and provide more natural groundwater recharge throughout the site. LID is a form of on-site urban infrastructure design that uses a suite of technologies intended to imitate pre-urbanization (natural) hydrologic conditions. One of the most prominent effects of urbanization is the drastic increase in impervious surfaces because it creates more stormwater runoff. The SRP and LID would periodically be revised to update the project implementation plan.

San Mateo County Flood Control and Sea-Level Rise Resiliency District

The San Mateo County Flood Control and Sea-Level Rise Resiliency District coordinates cross jurisdictional collaborations to manage impending threats of flooding. The district initiates new countywide efforts to address SLR, flooding, coastal erosion, and large-scale stormwater infrastructure improvements through integrated regional planning, project implementation, and long-term maintenance. Made up of 20 incorporated cities, the City/County Association of Governments, and the County of San Mateo, the district's purpose is to create a unified agency that cost effectively implements resilient

[7] California Regional Water Quality Control Board San Francisco Bay Region, November 2019, *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan), last amended March 7, 2023, available at: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html.

infrastructure to face flood challenges. The San Mateo County Flood Control and Sea-Level Rise Resiliency District was created by modifying the existing flood control district through state legislation (i.e., AB 825 [2019–2020]).

City of San Carlos East Side Innovation District Vision Plan

In October 2021, the City of San Carlos approved the Vision Plan to shape the development of the East Side including the multiple proposed projects in the planning stages within that area. The goal of the Vision Plan is to help shape infrastructure, urban design, transportation circulation management and mobility, service provision, open space, community facilities, present and future land uses, economic development, and community benefits.

The Vision Plan is broken down into 10 "Big Moves," or categories with measurable actions to reach community goals. The Big Move that is applicable to the Hydrology and water quality discussion of this project is "Promote Environmental Stewardship," with the following strategy:

- Prioritize flood mitigation as part of all new development in the District.

San Carlos General Plan 2030

The City of San Carlos General Plan includes goals and policies relevant to hydrology potentially affected by the proposed project, including the following:

Goal LU-1: Ensure a sustainable land use pattern.

Policies:

LU-1.9: To the extent possible, retain the channels, floodplains, riparian corridors (including suitable setbacks from top of bank) and closely associated upland areas of Cordilleras, Brittan and Pulgas Creeks and their tributaries as significant open space areas. These areas should be maintained in their natural state to function as appropriate open space areas, greenbelt and to support a riparian habitat.

LU-1.10: Require that development within Pulgas, Brittan, and Cordilleras Creek watersheds shall preserve watershed integrity, including natural vegetation, soil and slope stability, water quality, scenic values and potential archaeological resources.

Goal EM-2: Promote healthy streams and riparian corridors.

Policies:

EM-2.4: Restore culverted or buried channels to their natural state wherever feasible.

EM-2.7: Retain Pulgas, Brittan, Cordilleras and Belmont Creek channels and their 100-year floodplains wherever possible as natural open space areas. These areas are to function as storm drainage facilities and as open space greenbelts to support natural habitats.

Goal EM-5: Assure a high level of domestic water quality, promote water conservation and reduce toxics in run-off, including stormwater and the sanitary sewer system.

Policies:

EM-5.1: Reduce the discharge of toxic materials into the city's sanitary sewer and stormwater collection system by promoting the use of Best Management Practices (BMPs).

EM-5.3: Promote the conservation and efficient use of water in new and existing residences and by commercial and industrial consumers.

EM-5.4: Encourage the use of drought-tolerant plants and efficient watering techniques for all City landscaping.

EM-5.7: Encourage site designs that manage the quantity and quality of storm water run-off.

EM-5.10: Require the evaluation of potential groundwater depletion that could occur from new development through dewatering.

San Carlos General Plan – Draft Environmental Safety and Public Services Element Update (2023)

The City of San Carlos Draft Environmental Safety and Public Services Element Update includes goals, policies, and actions relevant to hydrology potentially affected by the proposed project, including the following:

Goal ESPS-2: Reduce hazards associated with flooding and inundation.

Policies:

ESPS-2.1: Improve and maintain City storm drainage infrastructure in a manner that reduces flood hazards.

ESPS-2.2: Maintain and prioritize restoration of a healthy riparian corridor in City-maintained flood control channels such as Pulgas Creek and Belmont Creek to reduce the risk of flooding due to erosion, siltation, blockage, and heavy undergrowth; and increase community access to channels with improved stormwater and flood management strategies.

ESPS-2.3: Maintain a strong and enforceable Stream Development and Maintenance Ordinance for all city creeks and their tributaries.

ESPS-2.4: Minimize impervious surfaces to reduce stormwater runoff and increase flood protection.

ESPS-2.9: Reduce losses due to flooding by encouraging property owners who experience flood damage to reconstruct their properties in a flood-resistant manner.

ESPS-2.10: Incorporate stormwater drainage systems in development projects to effectively control the rate and amount of runoff to prevent increases in downstream flooding potential.

Actions:

ESPS-2.2: Amend the Stream Development and Maintenance Ordinance to: (1) include all creeks and tributaries, including Pulgas Creek and Belmont Creek, to strengthen the effectiveness of existing policies and to create vital and accessible community open space with improved stormwater and flood management strategies; (2) increase the required setbacks and landscaping provisions from the existing creek top to improve stormwater detention capacity and to help address flooding issues and creek restoration; (3) prohibit general vehicle access along the creek within the Stream Development Ordinance overlay district.

ESPS-2.3: Develop preferred streambank stabilization methods, which will guide private property owners in making repairs.

ESPS-2.4: Establish incentives for property owners to stabilize creek banks with natural methods.

ESPS-2.5: Work with private property owners who own creek frontage and educate the public on bio-engineering of creeks to stabilize banks and maintain natural creek forms.

City of San Carlos Municipal Code

Developers must submit a copy of the Notice of Intent to the City for approval before issuance of grading permits. A summary of pertinent water quality codes and provisions are listed below.

Section 13.14.070: Discharge—Pollutants. The discharge of non-stormwater discharges to the City storm sewer system is prohibited. All discharges of material other than stormwater must be in compliance with a NPDES permit issued for the discharge (other than NPDES permit No. CA0029921, which formed the SMCWPPP) and the City of San Carlos Storm Water Management and Discharge Control Ordinance, Section 13.14.110: Reduction of Pollutants in Stormwater. Any person engaged in activities that will or may result in pollutants entering the city storm sewer system shall undertake all practicable measures to reduce such pollutants. The following minimal requirements shall apply:

- Littering. Littering that might result in pollutants being transported to water bodies and discharge of pollutants directly into water bodies is prohibited.
- Standard for Parking Lots and Similar Structures. Owners or operators must keep surfaces clean to prevent pollutant discharges into the City's storm sewer system.
- Best Management Practices for New Developments and Redevelopments. Contractors must provide filter materials to prevent debris from flowing into the drainage system. The City may establish provisions for hydrograph modification mitigation (i.e., changes to runoff peaks and durations).
- Compliance with Best Management Practices. Owners or operators must comply with BMPs set forth by the City.

Section 13.14.120: Watercourse Protection. Provides for all watercourses to be kept and maintained reasonably free of potential pollutants and flow constrictions, and for maintenance and non-removal of healthy bank vegetation. (Ord. 1149 § 1 (II 5), 1994)

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Under the CEQA Guidelines, Appendix G – Environmental Checklist Form, development of the project site as proposed would have a significant environmental impact if it were to result in the following:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
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:
    a. result in substantial erosion or siltation on- or off-site;
    b. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
    c. 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

d. Impede or redirect flood flows;

4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

SITE HYDROLOGY

The existing site includes 1,066,210 square feet of impervious area representing approximately 99% of the site. Note that this does not factor in removal of buildings and pavement as part of previously-approved demolition of the former Kelly Moore property in the Phase 1 area. The project site currently serves as the location for off-site stormwater treatment for stormwater impacts of the nearby 825-835 Industrial Road Project.

The site's southern boundary is adjacent to Pulgas Creek. Creeks within the city's sphere of influence that receive stormwater drainage include Belmont, Pulgas, Brittan, and Cordilleras Creeks. These creeks are mostly unlined and eventually empty into the San Francisco Bay, though portions of Pulgas Creek are lined with Sakrete where it passes by the project site. The creeks do not have sufficient capacity to carry stormwater during high tides, resulting in periodic flooding. In addition, flooding results due to limited upstream capacity for stormwater. Most of the project site is in a FEMA Special Flood Hazard Area. The project applicant does not propose to request a revision to the flood map and has instead designed the project with flood-proof buildings and flood flow features to accommodate the anticipated periodic flooding without damage to on-site facilities and without increasing off-site flood risks. The proposed project includes the following specific flood flow features, as also shown on **Figure 12.1**:

1. Directing flood water into an enlarged lowered landscape depression for temporary on-site storage of flood waters.
2. Allowing inflow of flood waters to the site in a predictable, controlled fashion via a culvert upstream of the existing dual-container bridge and a surface swale off the north bank of Pulgas Creek in two locations.
3. Facilitating the outflow of water to return from the landscape depression to the creek via the downstream swale as the flood peak passes.
4. Maintaining a floodplain flow path through the south parking lot, modeled to have an upstream finished grade sloping from an elevation of 14 feet (west end) to an elevation of 12 feet at the east bioswale and then sloping down to meet existing grade of elevation 9.5 feet at Industrial Road. This would allow flood waters to mimic existing conditions by permitting flow to overbank, slow down, then flow across Industrial Road.

The project also includes features to protect on-site improvements from flooding. These include:

- Raising the finish grade generally 1 to 3 feet (and more in some places) higher than existing ground across the site.
- Adding a raised trail along the north bank of Pulgas Creek that is up to about 3 feet higher than the existing conditions in some locations.

These on-site flood improvements have been factored into the above flood flow features.

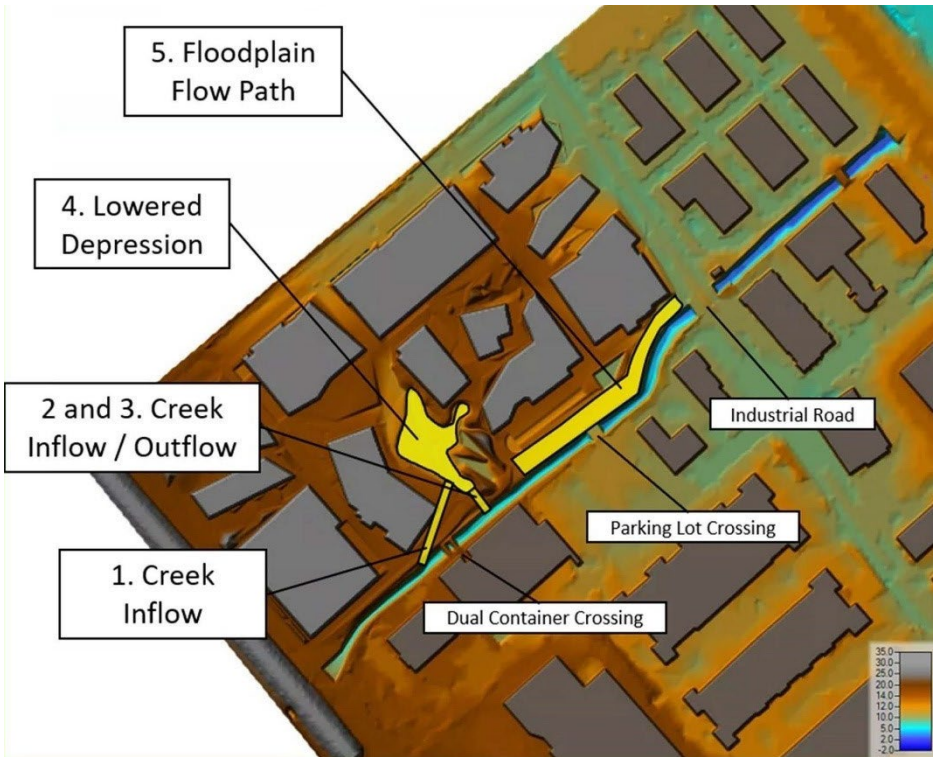


Figure 12.1: Project Flood Flow Features
Source: WRA, November 2020

WATER QUALITY STANDARDS

1. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

Impact Hydro-1: **Potential for Contaminated Runoff.** Runoff can carry sediment and contamination from the site if not properly controlled and treated. Project activities would be required to follow an approved SWPPP to prevent contaminated runoff from entering Pulgas Creek for both the construction phase and on-going operation of the project. Design requirements would address the increased erosion potential caused by construction activities and increased runoff that could result in the sedimentation of receiving waters. This would be a ***less than significant*** impact.

Construction-Period

Project construction activities, including grading, soil and material stockpiling, and other earth-disturbing activities, could result in short-term water quality impacts from erosion and subsequent sediment transport to adjacent properties, roadways, or watercourses from storm drains. Sediment transport to local drainage facilities, such as drainage inlets, culverts, and storm drains, could result in reduced stormflow capacity, resulting in localized ponding or flooding during storm events. Project construction would also involve the use of motorized heavy equipment, including trucks and dozers that would require fuel, lubricating grease, and other fluids. Construction would also involve the delivery, handling, and storage of construction materials and waste (e.g., concrete debris). An accidental chemical release or spill from a vehicle or equipment could affect the quality of surface water or groundwater. Construction activities

could also generate dust, litter, oil, and other pollutants that could temporarily contaminate runoff from the project site.

All project construction activities would be subject to existing regulatory requirements, as described above in the Regulatory Setting section. Because land disturbance associated with the project would affect more than 1 acre, it must obtain coverage under the NPDES General Construction Permit from the SWRCB. The terms of this permit require applicants to prepare a SWPPP to demonstrate that project development would not cause any increase in sedimentation, turbidity, or hazardous material concentrations within downstream receiving waters. Design requirements and implementation measures for erosion and sedimentation controls would be set forth in the applicant's SWPPP, in accordance with SWRCB design standards, and with the City's Grading and Erosion Control Ordinance (Sections 12.08.160 through 12.08.230 of the San Carlos Municipal Code) and the City's Storm Water Management and Discharge Control Ordinance, Section 13.14.110. Common SWPPP requirements include erosion control devices, such as silt fences, staked straw wattles, and geofabric to prevent silt runoff to storm drains or waterways. During construction, the City would monitor implementation of the project's approved SWPPP.[8] These are standard conditions of approval in the City's construction permitting process, as detailed below:

> Standard Condition
> Stormwater Control Plan. A stormwater and drainage control plan shall be prepared and implemented in compliance with the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), Provision C.3 of the County's Municipal Regional Stormwater NPDES Permit and any other required provisions of the City of San Carlos Municipal Code. The plan shall specify best management practices for the control and prevention of stormwater pollution. The plan shall address both construction-phase and post-construction pollutant impacts from development.
>
> Construction-phase measures shall include: erosion control measures such as installing fiber rolls, silt fences, gravel bags, or other erosion control devices around and/or downslope of work areas and around storm drains prior to earthwork and before the onset of any anticipated storm events; monitoring and maintaining all erosion and sediment control devices; designating a location away from storm drains when refueling or maintaining equipment; scheduling grading and excavation during dry weather; and removing vegetation only when absolutely necessary.
>
> Post-construction drainage controls shall be specified to capture and treat stormwater onsite.

Additionally, work within or adjacent to Pulgas Creek would be subject to Mitigation Measure Bio-4a, intended to protect Pulgas Creek from contamination during the construction process. See Chapter 6: Biological Resources, for more information.

Any construction dewatering must adhere to a discharge permit obtained from the RWQCB. In the event of the presence of regulated levels of contamination, water would undergo treatment measures before being discharged into the sanitary sewer system per applicable requirements or be trucked off-site for proper treatment and disposal if treatment on site would not be sufficient. Proper dewatering techniques would prevent contamination of surface waters.

Project construction would be in compliance with the Construction General Permit, including development and implementation of the SWPPP, and local stormwater regulations, such as the City's stormwater ordinance and other related regulations. Compliance with these requirements, Mitigation Measure Bio-4b: Implement a Dewatering and Diversion Plan, and the dewatering discharge permit,

[8] Construction General Permit Order 2009-0009-DWQ.

which limits discharge quantities to receiving waters and limits pollutants, would ensure that construction activities would not result in a violation of water quality standards or waste discharges requirements or otherwise result in water quality degradation. Project impacts on surface water quality during construction would be *less than significant*.

Operational

An In-Lieu Stormwater Treatment and Green Infrastructure technical memorandum was prepared by Freyer & Laureta in September 2020 to address stormwater elements as a supplement stormwater plan, all of which are available as part of the project application materials. This information was used to provide details in this analysis section.

The existing site includes 1,066,210 square feet of impervious area, representing approximately 99% of the site. The proposed project would reduce the impervious surfaces to a total of 821,600 square feet, representing approximately 76% of the site, and therefore would represent a substantial net decrease in impervious area and related improvement in amount of pervious surfaces at the site.

The project includes on-site LID stormwater treatment in compliance with MRP requirements, as well as a substantial increase in the amount of planted landscaping. The project LID would capture and treat runoff from 100% of the project's impervious surfaces, including all hardscapes and roof area as required by the MRP. The on-site LID is bioretention planters sized to treat the contributing area of impervious surface runoff entering the planter. The bioretention planters would be served by an appropriately sized post-biotreatment pipe that discharges out to Pulgas Creek using existing stormwater outfalls. Each component of the bioretention would be in accordance with the C3 specifications, including the bioretention plantings.

The project site currently serves as the location for off-site stormwater treatment for stormwater impacts of the nearby 825-835 Industrial Road Project. The proposed stormwater system for the current project includes continued accommodation of the required off-site treatment for that project, as provided in bioswales along the bike path next to Commercial Street. Additionally, the project proposes to replace another 13,313 square feet of existing impervious area within the right-of-way of Commercial Street, Old County Road and Industrial Road with pervious planted landscaping that provides treatment of impervious area on those roadways.

Project applicants must prepare and implement a Stormwater Control Plan containing treatment and source control measures that meet the "maximum extent practicable" standard as specified in the NPDES permit and the SMCWPPP C.3 Guidebook. Project applicants must also prepare a Stormwater Facility Operation and Maintenance Plan and execute agreements to ensure the stormwater treatment and flow-control facilities are maintained in perpetuity.

Through compliance with post-construction requirements related to implementation of the NPDES permit C.3 requirements, including project preparation and implementation of a Stormwater Control Plan and Stormwater Facility Operation and Maintenance Plan, the long-term stormwater flow rates and water quality impacts from project operation would be *less than significant.*

GROUNDWATER DEPLETION/RECHARGE AND DEWATERING DISCHARGE

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?*

Impact Hydro-2: **No Substantial Effect on Groundwater.** The project involves redevelopment of a fully-developed site and would not directly utilize groundwater. Project construction and operation would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. This would be a ***less than significant*** impact.

The project is located on a designated urban area within the San Mateo Plain sub-basin of the Santa Clara Valley groundwater basin. As an urban area, development can present concerns of pollutants from urban runoff into surface and groundwaters.[9] As discussed under Impact Hydro-1 above, the project would comply with stormwater drainage requirements, including increasing permeable surfaces and including bioretention/treatment areas to address both quality and volumes of runoff. The groundwater at the site is not used by this or other vicinity projects as a water supply.

The project involves excavation up to approximately 9.5 feet for the two parking garages, and dewatering is recommended to bring the groundwater level down to 3 feet below excavation depths. Localized dewatering may be necessary when excavating elevator and sump pits. Because groundwater at the site is not used for drinking water or for aquatic habitat and draw-down from dewatering activities would be temporary, this would not be considered a significant impact on groundwater supplies.

Because the project would not increase groundwater demand or decrease the area for groundwater recharge, it would not substantially deplete groundwater supplies or substantially interfere with groundwater recharge during operations.

Project construction and operation would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge and would have a *less than significant* impact related to groundwater.

INCREASED EROSION OR SILTATION TO RECEIVING WATERS

3.a. 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 (a) result in substantial erosion or siltation on- or off-site?

Impact Hydro-3: **Potential for Erosion and Siltation.** Erosion and siltation can occur during construction activities and along creeks. The project's preparation and implementation of a Stormwater Control Plan and Stormwater Facility Operation and Maintenance Plan, as well as stabilizing the banks of Pulgas Creek, would reduce the potential for erosion or siltation. This impact would be ***less than significant with mitigation.***

During construction, stormwater drainage patterns could be temporarily altered because of site grading, site preparation, and excavation. Measures required by the Construction General Permit and presented in the site specific SWPPP would limit site runoff during construction. BMPs would be implemented to control construction site runoff, ensure proper stormwater control and treatment, and reduce the discharge of pollutants to the storm drain system. As discussed under Impact Hydro-1, the project is also required to comply with Provision C.3, which requires new developments over 1 acre to plan and implement both

[9] California Regional Water Quality Control Board San Francisco Bay Region, November 2019, *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan), last amended March 7, 2023, available at: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html.

a Stormwater Control Plan and a Stormwater Facility Operation and Maintenance Plan that would reduce the potential for erosion during both the construction phase and during operations of the project. Consistent with Provision C.3, stormwater runoff from all building roofs and site impervious surfaces will be directed to on-site bioretention basins.

Grading near the slopes along Pulgas Creek could lead to increased erosion and siltation. Construction work in the Creek would be a part of the site specific SWPPP, and BMPs would be implemented. Work within the Creek would involve stability treatments along the north and south banks to repair or replace existing unstable streambanks in the portion of the Creek that is on the project site, leading to an overall reduction in erosion along the banks in those areas. However, construction activities near or within Pulgas Creek have the potential to cause erosion and siltation.

Mitigation Measures Bio-4a and Bio-4b detailed in Chapter 6: Biological Resources would reduce erosion and siltation during work near or within Pulgas Creek. These measures would be applicable to mitigate Impact Hydro-3 as well and would require the project to observe certain measures to reduce impacts on Pulgas Creek during construction and to prepare and implement a Dewatering and Diversion Plan to mitigate potential impacts associated with work requiring dewatering of the creek.

Through compliance with applicable regulations, runoff from the project site would not cause erosion or siltation, and work to stabilize the banks of Pulgas Creek would result in an overall reduction of erosion in that portion of the Creek post-construction. Project impacts would be *less than significant*.

INCREASED RUNOFF AND FLOODING

3.b.,d. 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 (b) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site or (d) impede or redirect flood flows?

Impact Hydro-4: **Need to Control Runoff and Flood Flows.** Much of the project site is located in a flood zone and subject to periodic seasonal flooding from Pulgas Creek. Redevelopment of the site would alter on-site drainage patterns, but the project has been designed to protect on-site development without exacerbating off-site flooding conditions. This impact would be ***less than significant.***

The majority of the project site is located within FEMA flood Zone AE, which is a special flood hazard area (SFHA) subject to inundation by the 1% annual chance flood.[10]

The project would reduce impervious site area and slow and treat runoff with bio-retention areas prior to discharge into the creek. While any potential changes in net change in volume of runoff from development would be addressed through these project elements as discussed under Site Hydrology above, the site and surrounding areas experience periodic seasonal flooding from Pulgas Creek under existing conditions (see Impact Hydro-6, below), and changes to the grading at a site, including raising of building footprints, have the potential to result in changes to off-site drainage patterns during flooding events.

[10] Federal Emergency Management Agency (FEMA), April 2019, *Flood Insurance Rate Map* (FIRM), Map Number 06081C0169G.

A Pulgas Creek Flooding and Proposed Mitigated Project analysis was submitted by the project applicant in November 2020 (Appendix F).[11] A confirmation that these analyses remain applicable to the current project was submitted in January 2022, and is available as part of the project application materials.[12] These analyses inform the discussion in this section.

The WRA analysis used a calibrated version of the City's hydrological model (prepared for the Storm Drain Master Plan in 2018) to determine specifics of 10-year and 100-year flooding at and around the site under existing and proposed conditions.

Under existing conditions, the inundated areas from a 100-year flood include most of the project site, the northeast side of Industrial Road, the Brittan Avenue corridor, and along Industrial Road, with on-site maximum flood depths of just over 2.5 feet deep and off-site flood depths generally between 0.5 and 2.0 feet deep, with a few deeper isolated areas. The inundated areas from a 10-year flood are generally a bit shallower (maximum flood depths of just under 2.5 feet deep on-site and slightly below 100-year flood levels off-site) and would affect a smaller area (44.6 acres in the vicinity as opposed to 57.5 acres in a 100-year flood), though this would continue to include most of the project site. 10-year flooding information was provided by the applicant at the request of the City and is included in the above-referenced analyses but is not further mentioned in this document, as CEQA conclusions for the 100-year flood scenario would also be valid for the 10-year flood scenario.

Initial flood modeling completed for the project showed that existing flooding of the site would be nearly eliminated, but that offsite flooding would be increased in some areas relative to existing conditions in both a 10- and 100-year flood event, as shown in **Figures 12.2** and **12.3**. To address the potential for increased offsite flooding, further flood modeling was completed to optimize the proposed project such that on-site flooding could be addressed without worsening conditions for off-site properties. As detailed under Site Hydrology above, important project design features included in the project description and project plans that relate to flooding conditions at the site include raising the finish grade generally 1 to 3 feet (and more in some places) higher than existing ground across the site, adding a raised trail along the north bank of Pulgas Creek that is up to about 3 feet higher than the existing conditions in some locations, using surface swale/culvert to allow inflow and channeling of flood waters from Pulgas Creek in a controlled fashion, and providing a lowered landscape depression/open space area near the center of the site for temporary storage until flooding conditions subside. For flood waters at the eastern portion of the site upstream of the above features, flood waters under the project would mimic existing conditions by permitting flow to overbank, slow down through the south parking lot, then flow across Industrial Road.

Figures 12.4 and **12.5** show preliminary modeling of the extent and depth respectively of existing and project conditions under the 100-year flood scenario. With inclusion of the project design features summarized above, these figures show that in addition to being protective of proposed on-site buildings, the extent (footprint) of off-site flooding during 100-year flooding events would be similar to existing conditions. WRA concludes in their analysis that the final project design would ensure that the potential adverse off-site impacts for the 100-year and 10-year floods would be less than significant.

[11] WRA, November 2020, *Alexandria Center for Science & Technology at San Carlos, Pulgas Creek Flooding: Proposed Mitigated Project*, included in Appendix F.

[12] Freyer & Laureta, Inc., January 5, 2022, *Flood Mitigation Strategy – Alexandria Center for Life Sciences*, San Carlos, California. Available as part of project application materials.

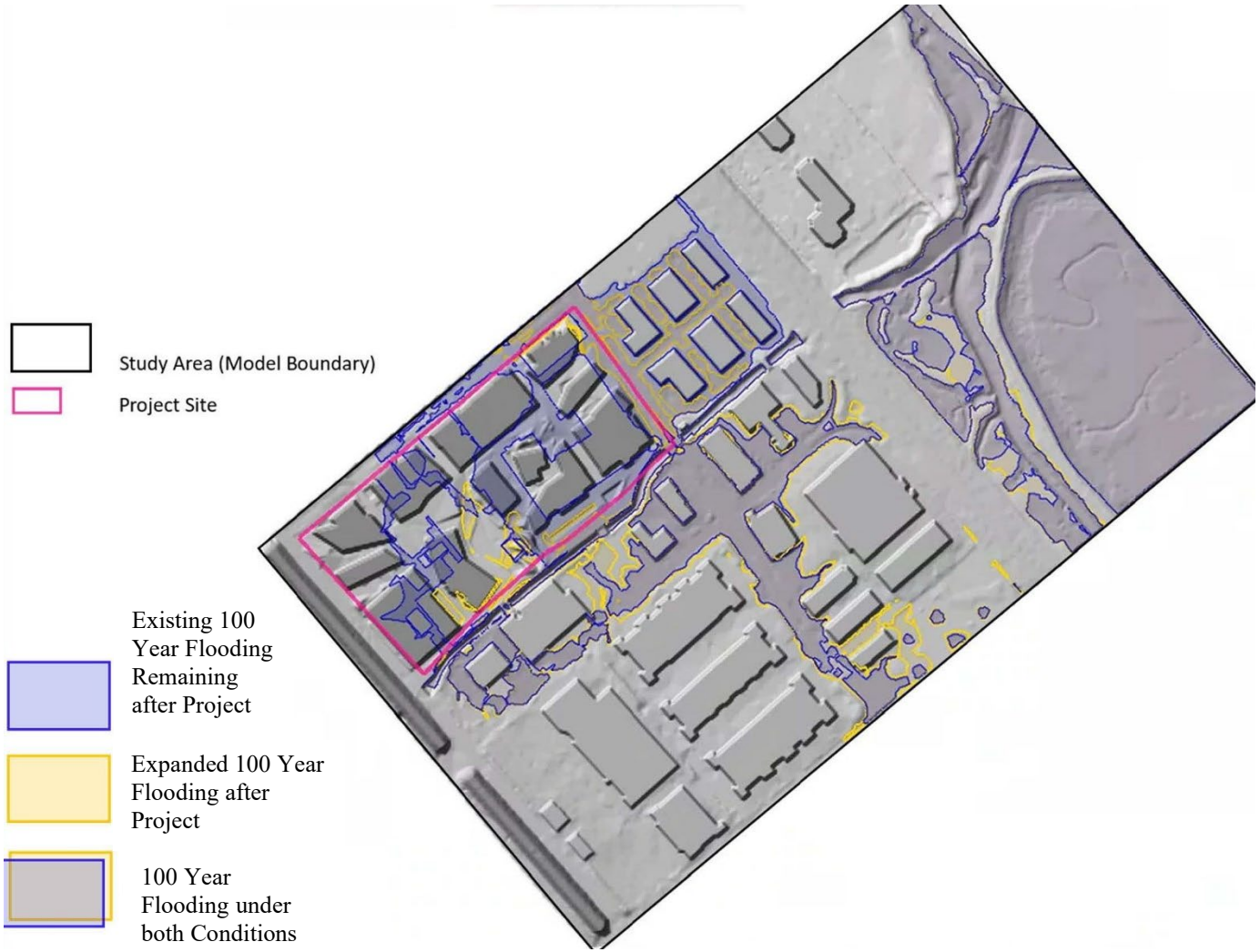


Figure 12.2: Overlay of Existing and Project with Original Design 100-Year Flood Extents
Source: WRA, November 2020

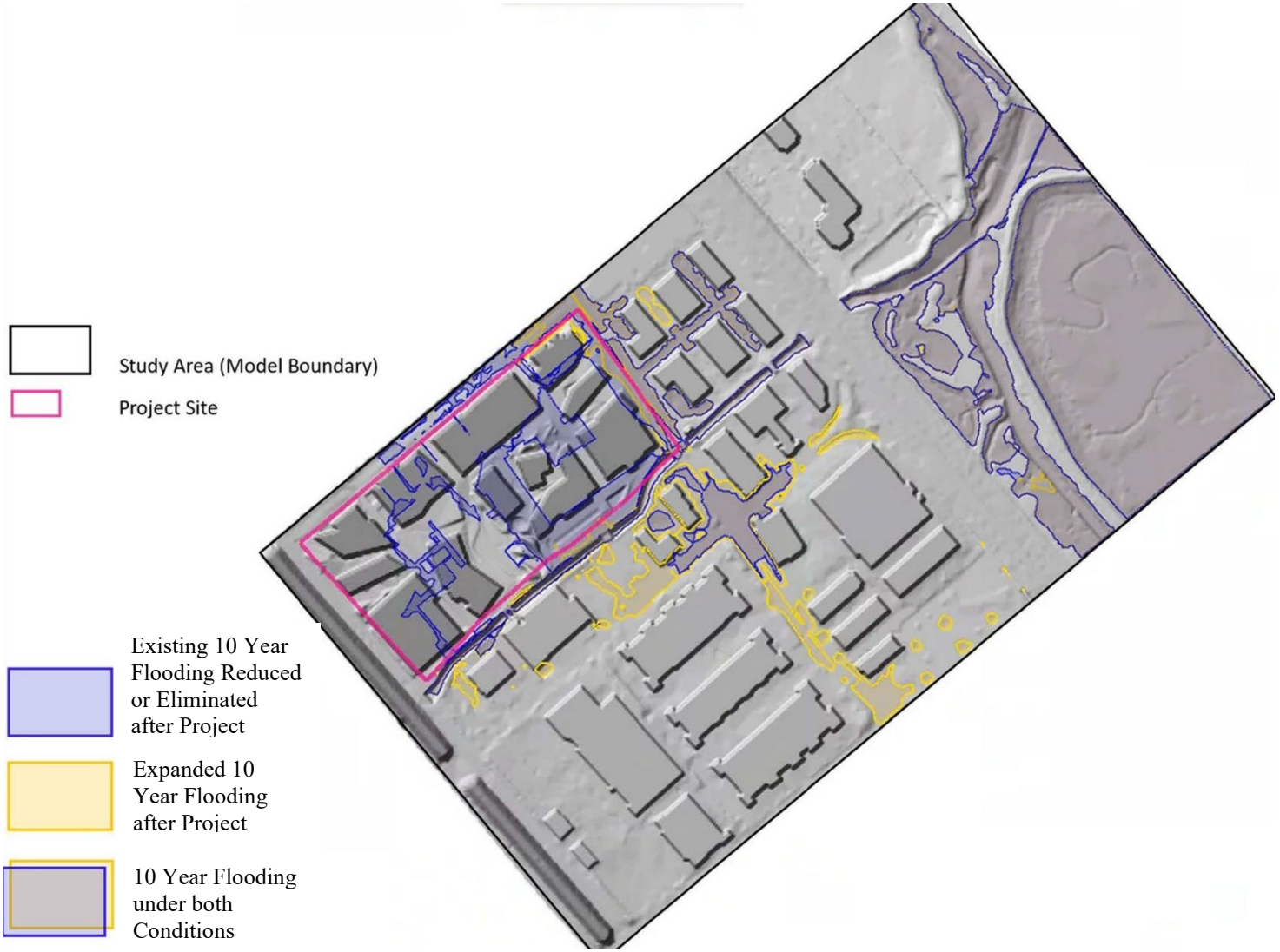


Figure 12.3: Overlay of Existing and Project with Original Design 10-Year Flood Extents
Source: WRA, November 2020

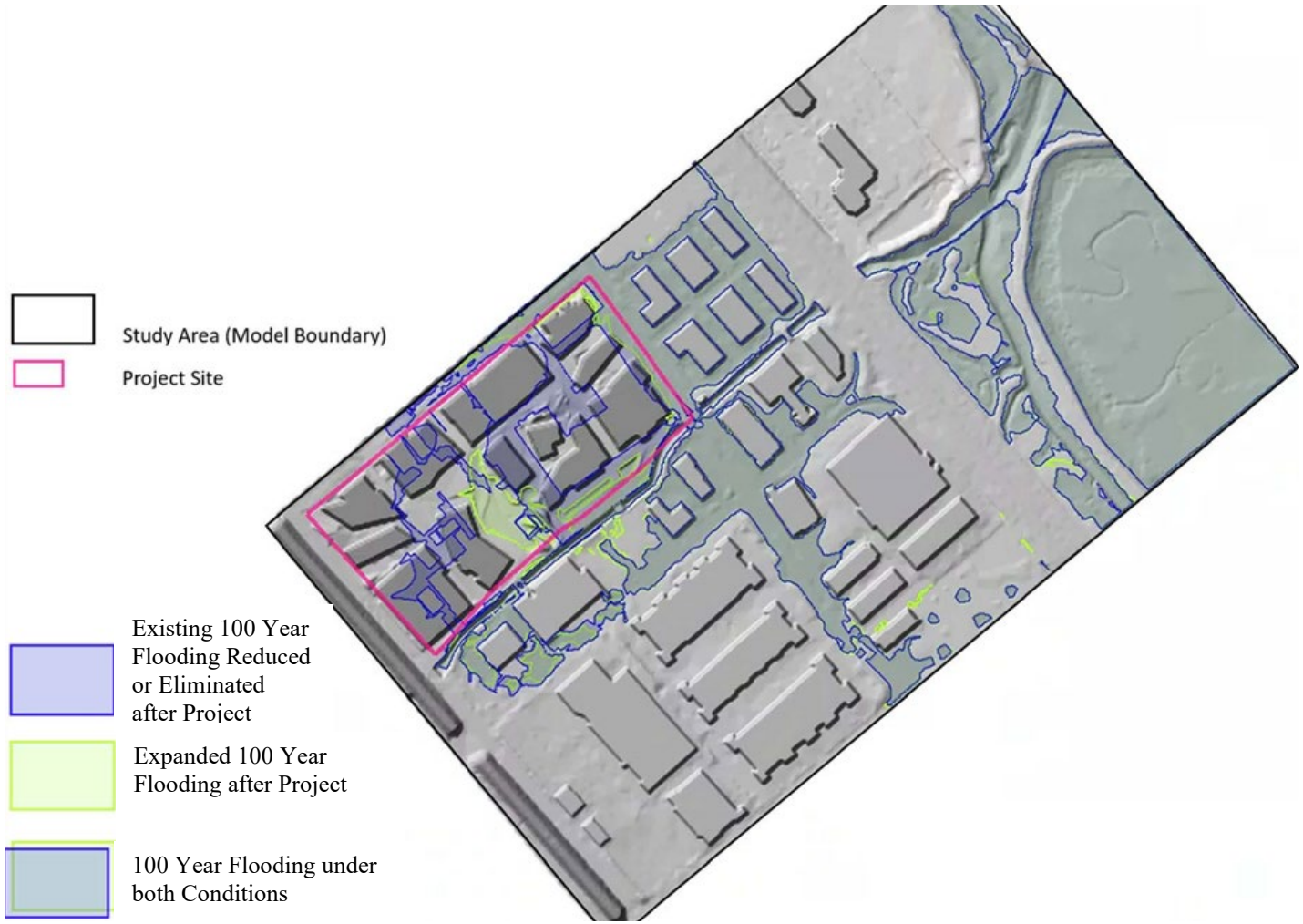


Figure 12.4: 100-Year Flood Extents Existing and Project Conditions
Source: WRA, November 2020

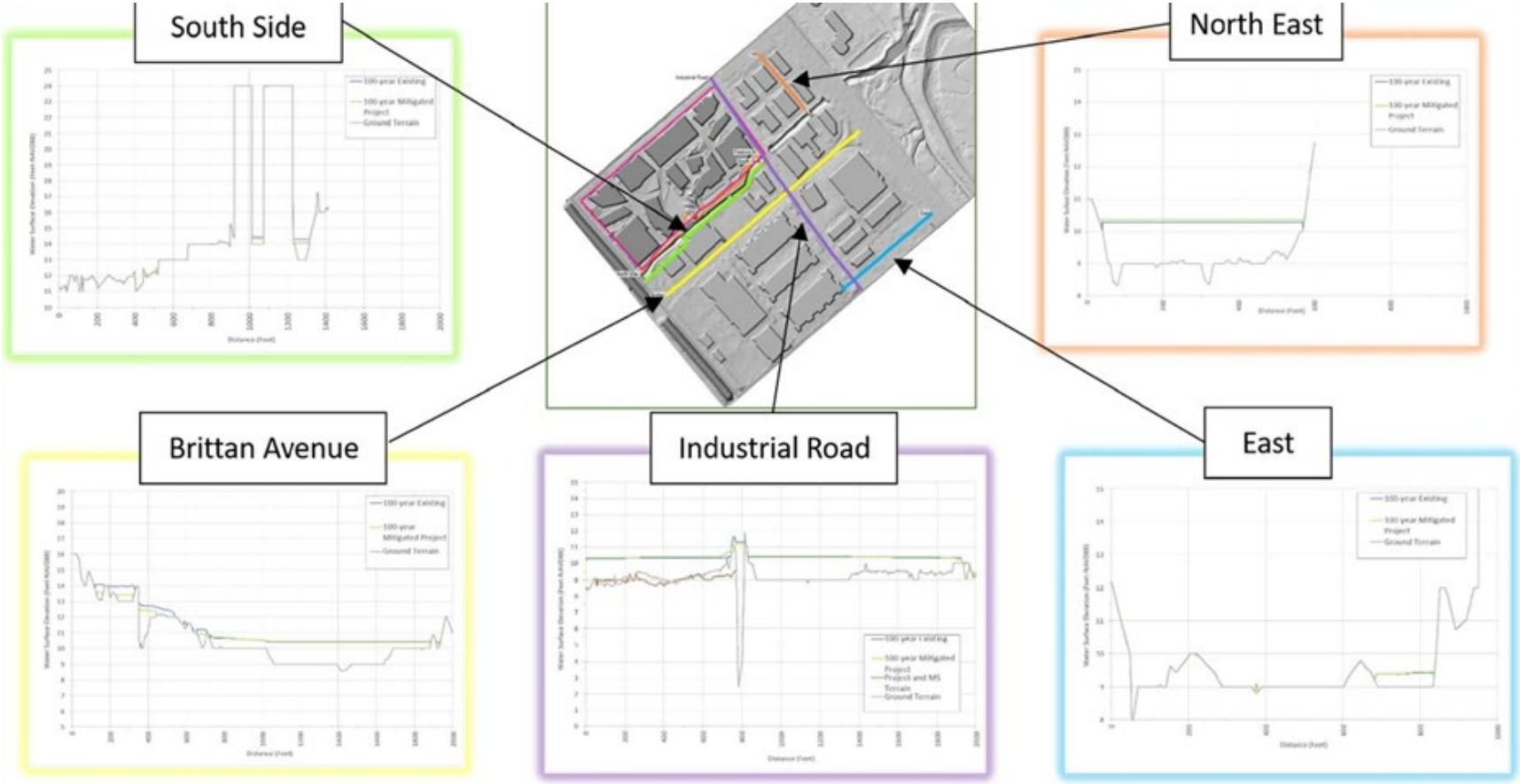


Figure 12.5: 100-Year Flood Depths Existing and Project Conditions
Source: WRA, November 2020

Work proposed within Pulgas Creek includes installations of an overflow weir and box culvert along the north bank of the creek to route high flows into an onsite swale and landscaped depression, and then convey return flows from the depression back to the creek; stability treatments along the banks, debris removal within the creek channel, and repairing the existing culverts along the north bank that convey water from the project site to the creek (see Chapter 6: Biological Resources for more information). These improvements may alter the flow of stormwater to the creek or the course of Pulgas Creek itself, but is intended to slow the drainage of stormwater into the creek and reduce the potential for flooding at the project site, while not exacerbating off site flooding conditions. During construction within the creek, temporary dewatering and/or diversion of Pulgas Creek may be necessary. The project would comply with the requirements of all necessary regulatory permits and authorizations from RWQCB and other agencies to reduce the potential for flooding during these activities.

The project would alter drainage patterns, but on-site and off-site 100-year flood event conditions would be the same or improved compared to existing conditions and would not substantially increase the rate or amount of surface runoff in a manner which would result in increased flooding on- or off-site or impede or redirect flood flows in a way that would exacerbate flooding. Project impacts related to on- and off-site flooding caused by alteration of drainage patterns would be *less than significant*.

STORMWATER DRAINAGE SYSTEM CAPACITY

3.c. 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 (c) 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?

Impact Hydro-5: Contribute to the Stormwater System. Redevelopment of a site can result in changes to runoff and use of stormwater system capacity. With compliance with applicable regulations and implementation of the proposed on-site stormwater system, the project would not increase flows to the off-site stormwater system. This impact would be ***less than significant.***

During construction, stormwater drainage patterns could be temporarily altered because of site grading, site preparation, and excavation. During work in Pulgas Creek, the Creek may undergo dewatering or an altered course. The site-specific SWPPP would minimize polluted run-off during construction activities, as discussed under Impact Hydro-1 above.

As discussed under Impact Hydro-1 above, the project would implement a Stormwater Control Plan and Stormwater Facility Operation and Maintenance Plan to meet applicable regulatory requirements as specified in the NPDES permit and the SMCWPPP C.3 Guidebook, including that the project not result in increases of the rate of stormwater flow to the stormwater system. The on-site stormwater management system was designed and calculated using the SMCWPPP C.3 Regulated Projects Guide. Bioretention basins were selected for BMPs as a form of treatment. Following on-site bioretention, the treated water would be conveyed to the storm drainage system via storm drain mains in the street or Pulgas Creek. Additional proposed project improvements in Pulgas Creek would include repair and replacement of the existing stormwater culverts.

With compliance with applicable regulations and implementation of proposed on-site stormwater system, the project would not increase flows to the off-site stormwater system and project impacts related to exceeding the capacity of the stormwater system due to alteration of the site drainage patterns would be *less than significant*.

INUNDATION BY FLOOD HAZARD, SEICHE, TSUNAMI

4. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Impact Hydro-6: Development within a Flood Hazard Zone. Much of the project site is located in a flood hazard zone. However, the project includes features to reduce the risk of on-site flooding and related risk of pollutant release. This impact would be ***less than significant.***

Flood Hazard

The majority of the project site is located within FEMA flood Zone AE, which is a SFHA subject to inundation by the 1% annual chance flood.[13] As discussed under Site Hydrology and Hydro-4 above, the proposed project would incorporate project features that relate to flooding conditions at the site including raising the finish grade generally 1 to 3 feet (and more in some places) higher than existing ground level across the site, adding a raised trail along the north bank of Pulgas Creek that is up to about 3 feet higher than the existing conditions in some locations, using surface swale/culvert to allow inflow and channeling of flood waters from Pulgas Creek in a controlled fashion, and providing a lowered landscape depression area near the center of the site for temporary storage until flooding conditions subside. Proposed project features would protect new on-site buildings from flooding events, without worsening off-site flooding conditions, and would not result in risk of pollutant release due to flooding inundation and the impact would be *less than significant.*

Failure of a Levee or Dam

The project site is not located within an area subject to inundation in the event of a failure of any dam.[14] The project site is not located in an area that is protected by levees, other than the Pulgas Creek channel banks. As discussed under i above, the changes to flooding conditions were analyzed for the project, which also determined that the project would be supportive of channel bed and bank stability. There would be a *less than significant* impact on the project related to dam or levee failure inundation.

Other Inundation

A seiche is a tide-like rise and drop of the surface of a landlocked body of water (e.g., a lake); its period can vary from a few minutes to several hours. Tsunamis, or tidal waves, are huge sea waves that are caused by seismic activity or other disturbance of the ocean floor.

A tsunami or seiche originating in the Pacific Ocean would lose much of its energy passing through San Francisco Bay. Areas most likely to be inundated are those at or below sea level and within 1½ miles of the shoreline. The site is approximately 2¾ miles inland from the San Francisco Bay shoreline and is approximately 9 to 11 feet above mean sea level. Relatedly, the site is mapped by the State of California Tsunami Inundation Map as not being within an inundation area, and by the National Oceanic and

[13] Federal Emergency Management Agency (FEMA), April 2019, *Flood Insurance Rate Map (FIRM)*, Map Number 06081C0169G.

[14] City of San Carlos, October 2022, *Draft Environmental Safety and Public Services Element*, pp. 201-202, Figures 8-10.

Atmospheric Administration as not being affected by sea level rise.[15,16] The project's finished floor elevations would be located above the 100-year flood plain plus a reasonable buffer to accommodate potential effects of sea level rise, and site elevation is also above 66 inches above mean sea level, which is the projected potential sea-level rise by 2100.[17] Additionally, the site is not located proximate to a hillside that could generate mudflow. Therefore, the potential for inundation due to tsunami, seiche, sea level rise, or mudflow would be *less than significant.*

WATER QUALITY CONTROL PLAN / SUSTAINABLE GROUNDWATER MANAGEMENT PLAN

5. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Impact Hydro-7: Compliance with Water Plans. Construction and operation of the project would follow all required water quality and groundwater management regulations. This impact would be ***less than significant.***

Project construction and operation would be subject to existing regulatory requirements. Permittees would comply with appropriate water quality objectives, as defined in the Basin Plan. Commonly practiced BMPs would be implemented to control construction site runoff and reduce the discharge of pollutants to storm drain systems from stormwater and other nonpoint-source runoff. As part of compliance with permit requirements during ground-disturbing or construction activities, the implementation of water quality control measures and BMPs would ensure that water quality standards would be achieved, including water quality objectives that protect designated beneficial uses of surface water and groundwater, as defined in the Basin Plan. Construction runoff would be required to occur in compliance with appropriate water quality objectives for the region. The NPDES Construction General Permit requires stormwater discharges to be free of pollutants that cause or contribute to an exceedance of applicable water quality objectives or water quality standards, including designated beneficial uses.

As discussed above, through compliance with post-construction requirements related to implementation of the NPDES permit C.3 requirements, including project preparation and implementation of a Stormwater Control Plan and Stormwater Facility Operation and Maintenance Plan, the project would be designed to meet all requirements of the San Francisco Bay Water Quality Control Plan and the San Mateo County Stormwater Pollution Prevention Program. The project would not have a significant effect on groundwater and would grade the site to prevent inundation due to flood. The project would comply with all applicable water quality control regulations and the impact would be *less than significant*.

CUMULATIVE HYDROLOGY AND WATER QUALITY IMPACTS

Projects in an urban area would potentially contribute to hydrology and water quality cumulative impacts by increasing impervious surfaces, increasing runoff, releasing pollutants into the watershed, or worsening flood conditions on off-site properties. The geographic context for hydrology and water-quality cumulative impacts would be the associated watershed, groundwater basin, flood zone, or stormwater system/body of water to which site waters flow. The project is located in the Pulgas Creek watershed, which flows to the San Francisco Bay. Development of past, current, and future projects

[15] National Oceanic and Atmospheric Administration, Sea Level Rise Viewer, available at: https://coast.noaa.gov/slr/

[16] California Emergency Management Agency, *Tsunami Inundation Map for Emergency Planning, San Mateo County*, available at http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps.

[17] California Department of Water Resources, June 2015, *California Climate Science and Data for Water Resources Management*. Available at: https://cawaterlibrary.net/document/california-climate-science-and-data-for-water-resources-management/

within the watershed and adjacent flood zones have the potential to result in cumulative hydrological and water quality impacts if off-site conditions increased flooding in the area or contamination were to occur. As discussed in this chapter, the project would incorporate features to minimize on-site flooding risk without exacerbating off-site flood risk, would improve flow in Pulgas Creek, and would not increase off-site runoff. Other area projects would also be required to demonstrate that off-site flooding conditions are not worsened pursuant to C.3 requirements. Therefore, flooding conditions along Pulgas Creek would be the same or improved with cumulative projects and there would be no significant cumulative impact related to flooding. Similarly, all new development projects are required to control run-off volumes and quality to the same or improved conditions compared to existing conditions. Therefore, there would be no significant cumulative hydrology and water quality impacts.

13

NOISE AND VIBRATION

INTRODUCTION

Included in this chapter is a brief description of the fundamentals of environmental noise, a summary of the applicable regulatory criteria, and the results of the noise monitoring surveys. Future noise levels at the site and surrounding areas are calculated and summarized. The chapter then evaluates impacts resulting from the project in terms of noise, vibration, and land use compatibility, temporary noise level increases resulting from the project construction, and permanent noise level increases resulting from the operation of the project.

This chapter utilizes information from the following reports prepared for this project or analysis:

- Illingworth and Rodkin, Noise and Vibration Assessment, March 27, 2024, prepared for this analysis (included in Appendix G).

FUNDAMENTALS OF ENVIRONMENTAL NOISE

Noise is defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. Decibels and other technical terms are defined in **Table 13.1**.

Most of the sounds which we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound in accordance with a weighting that reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies. This is called "A" weighting, and the decibel level so measured is called the A-weighted sound level (dBA). In practice, the level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. Typical A-weighted levels measured in the environment and in industry are shown in **Table 13.2** for different types of noise.

Although the A-weighted noise level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of noise from distant sources which creates a relatively steady background noise in which no particular source is identifiable. To describe the time-varying character of environmental noise, the statistical noise descriptors, L_{01}, L_{10}, L_{50}, and L_{90}, are commonly used. They are the A-weighted noise levels equaled or exceeded during 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period. A single number descriptor called the Leq is also widely used. The Leq is the average A-weighted noise level during a stated period of time.

In determining the daily level of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises. During the nighttime, exterior background noises

Table 13.1: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro-Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro-Pascals (or 20 micro-Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro-Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. 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.
Equivalent Noise Level, Leq	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, Ldn or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which 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, 1998.

Table 13.2: Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), California Department of Transportation, September 2013.

are generally lower than the daytime levels. However, most household noise also decreases at night and exterior noise becomes more noticeable. Further, most people sleep at night and are very sensitive to noise intrusion. To account for human sensitivity to nighttime noise levels, a descriptor, Ldn (day/night average sound level), was developed. The Ldn divides the 24-hour day into the daytime of 7:00 AM to 10:00 PM and the nighttime of 10:00 PM to 7:00 AM. The nighttime noise level is weighted 10 dB higher than the daytime noise level. The Community Noise Equivalent Level (CNEL) is another 24-hour average which includes both an evening and nighttime weighting.

Human sound perception, in general, is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level. A doubling of actual sound energy is required to result in a 3 dB (i.e., barely noticeable) increase in noise; in practice, this means that the volume of traffic on a roadway would typically need to double to result in a noticeable increase in noise.

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a point source, such as a stationary compressor or construction equipment, sound attenuates at a rate of 6 dB per doubling of distance. For a line source, such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance. Atmospheric conditions, including wind, temperature gradients, and humidity, can change how sound propagates (or travels) over distance and affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface, such as grass, attenuates at a greater rate than sound that travels over a hard surface, such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers, such as buildings and topography, that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

Trees and foliage do not generally result in perceptible reductions in noise levels unless the foliage is sufficiently dense to completely block the view along the propagation path (Federal Highway Administration [FHWA] 2019). In general, if foliage is less than 10 meters in width, no attenuation occurs. If the foliage is close to 20 meters in thickness and the complete line of sight is blocked between the source and the receiver, attenuation of approximately 1 dB or less would be expected to occur (FHWA 2019).

Community noise environments are generally perceived as quiet when the 24-hour average noise level is below 45 dBA, moderate in the 45 to 60 dBA range, and loud above 60 dBA. Very noisy urban residential areas are usually around 70 dBA CNEL. Along major thoroughfares, roadside noise levels are typically between 65 and 75 dBA CNEL. Incremental increases of 3 to 5 dB to the existing 1-hour Leq or CNEL are commonly used as thresholds for an adverse community reaction to a noise increase. However, there is evidence that incremental thresholds in this range may not be adequately protective in areas where noise-sensitive uses are located and CNEL is already high (i.e., above 60 dBA). In these areas, limiting noise increases to 3 dB or less is recommended.[1] Noise intrusions that cause short-term interior levels to rise above 45 dBA at night can disrupt sleep. Exposure to noise levels greater than 85 dBA for 8 hours or longer can cause permanent hearing damage.

[1] Federal Transit Administration, September 2018, *Transit Noise and Vibration Impact Assessment*, *FTA Report 0123*. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transitnoise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

EFFECTS OF NOISE

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA Ldn. Typically, the highest steady traffic noise level during the daytime is about equal to the Ldn and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12 to 17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57 to 62 dBA Ldn with open windows and 65 to 70 dBA Ldn if the windows are closed. Levels of 55 to 60 dBA are common along collector streets and secondary arterials, while 65 to 70 dBA is a typical value for a primary/major arterial. Levels of 75 to 80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed; those facing major roadways and freeways typically need special glass windows.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest.[2] The Ldn as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. Survey responders had been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 50 dBA Ldn. At a Ldn of about 60 dBA, approximately 12 percent of the population is highly annoyed. When the Ldn increases to 70 dBA, the percentage of the population highly annoyed increases to about 25 to 30 percent of the population. There is, therefore, an increase of about 2 percent per dBA between a Ldn of 60 to 70 dBA. Between a Ldn of 70 to 80 dBA, each decibel increase increases by about 3 percent the percentage of the population highly annoyed. Based on survey results, people appear to respond more adversely to aircraft noise. When the Ldn is 60 dBA, approximately 30 to 35 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about 3 percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase results in about a 4 percent increase in the percentage of the population highly annoyed.

FUNDAMENTALS OF GROUNDBORNE VIBRATION

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One method is the Peak Particle Velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave in units of inches per second (in/sec).

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the PPV

[2] Kryter, K. D., 1985, The Effects of Noise on Man. Academic Press.

descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to cause damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Human perception of vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level. The California Department of Transportation's *Transportation and Construction Vibration Guidance Manual* provides a summary of vibration human responses and structural damage criteria that have been reported by researchers, organizations, and governmental agencies. These thresholds are utilized as standards in environmental analysis of vibration impacts and are summarized in **Table 13.3**.

Table 13.3: Reaction of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Threshold at which there is a risk of damage to fragile buildings with no risk of damage to most buildings
0.25	Strongly perceptible to severe	Threshold at which there is a risk of damage to historic and some old buildings
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential structures
0.5	Severe – Vibrations considered unpleasant	Threshold at which there is a risk of damage to new residential and modern commercial/industrial structures

Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, 2020.

Structural damage can be classified as cosmetic only, such as paint flaking or minimal extension of cracks in building surfaces; minor, including limited surface cracking; or major, that may threaten the structural integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher. The damage criteria presented in Table 13.3 include several categories for ancient, fragile, and historic structures, the types of structures most at risk of damage. Most buildings are included within the categories ranging from "Historic and some old buildings" to "Modern industrial/commercial buildings". Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is in a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

The annoyance levels shown in Table 13.3 should be interpreted with care since vibration may be found to be annoying at lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage.

REGULATORY SETTING

The State of California, San Mateo County, and the City of San Carlos have established regulatory criteria that are applicable in this assessment. The State CEQA Guidelines, Appendix G, the California Building Code, and the City of San Carlos General Plan are used to assess the potential significance of impacts related to the construction and operation of the project. A summary of the applicable regulatory criteria is provided below.

FEDERAL

Federal Transit Administration

No federal laws, regulations, or policies for construction-related noise and vibration directly apply to the proposed project. In the absence of local regulations, it is industry standard to utilize thresholds set by the FTA for transit and highway projects in the *Transit Noise and Vibration Impact Assessment Manual*.[3]

The FTA has identified construction noise thresholds which limit daytime construction noise to 80 dBA Leq at residential land uses, to 85 dBA Leq at commercial land uses, and to 90 dBA Leq at industrial land uses. These thresholds are recommended internally for FTA projects with a month or more of construction in noise-sensitive areas or if particularly noisy equipment would be involved and are intended to represent reasonable criteria for determining when adverse community reaction could occur. Again, while strictly intended for FTA transit and highway projects, the recommended criteria are applied to the project's construction activities, which would involve construction activities more than a month long in the vicinity of noise-sensitive areas.

The FTA has identified vibration impact criteria for sensitive buildings, residences, and institutional land uses near rail transit and railroads. These criteria are shown in **Table 13.4.** The thresholds for residences are 72 VdB for frequent events (more than 70 events of the same source per day), 75 VdB for occasional events (30 to 70 vibration events of the same source per day), and 80 VdB for infrequent events (less than 30 vibration events of the same source per day). For a General Construction Noise Assessment, it should be assumed that all equipment operates at the center of the project.

STATE OF CALIFORNIA

California Building Standards Code

The California Building Standards Code is contained in Title 24 of the California Code of Regulations and consists of 11 different parts that set various construction and building requirements. Part 2, California Building Code, Section 1207, Sound Transmission, establishes sound transmission standards for interior walls, partitions, and floor/ceiling assemblies.

The California Green Building Standards Code is Part 11 of the California Building Standards Code. Chapter 5, Nonresidential Mandatory Standards, Section 5.507: Environmental Comfort, establishes additional standards for interior noise levels:

- Section 5.507.4.1.1 sets forth that buildings exposed to a noise level of 65 dB Leq (1-hour) during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composting sound transmission class (STC) rating of at least 45, or

[3] Federal Transit Administration, September 2018, *Transit Noise and Vibration Impact Assessment Manual*, *FTA Report No. 0123*, available at https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

an outdoor indoor transmission class (OITC) of 35, with exterior windows of a minimum STC of 40.

- Section 5.507.4.2 sets forth that wall and roof assemblies for buildings exposed to a 65 dBA Leq pursuant to Section 5.507.4.1.1, shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed 50 dBA Leq in occupied areas during any hour of operation. This requirement shall be documented by preparing an acoustical analysis documenting interior sound levels prepared by personnel approved by the architect or engineer of record.

Table 13.4: Groundborne Vibration Impact Criteria

	Groundborne Vibration Impact Levels (VdB re 1 µinch/sec, RMS)		
Land Use Category	**Frequent Events[1]**	**Occasional Events[2]**	**Infrequent Events[3]**
Category 1- Buildings where vibration would interfere with interior operations	65 VdB[4]	65 VdB[4]	65 VdB[4]
Category 2- Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category 3- Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB

Source: Illingworth & Rodkin, 2024, Table 4.

Notes:
1. "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.
2. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
3. "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.
4. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research should always require detailed evaluation to define the acceptable vibration levels. Ensuring low vibration levels in a building requires special design of HVAC systems and stiffened floors.

California Department of Transportation

To avoid damage to buildings, Caltrans recommends that construction vibration levels are limited to 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, to 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and to 0.08 in/sec PPV for ancient buildings or buildings that are documented to be structurally weakened. These thresholds levels are set to reduce the potential for cosmetic damage to structures. Cosmetic damage is defined as hairline cracking in plaster, the opening of old cracks, the loosening of paint or the dislodging of loose objects.

California Environmental Quality Act

CEQA requires an evaluation of the significance of potential project noise impacts. CEQA does not define what noise level increase would be considered substantial. Typically, an increase of 3 dBA CNEL or more caused by the project would be considered a significant impact when projected noise

levels would exceed those considered acceptable for the affected land use, because that is the level at which the increase in noise would be perceptible. A noise increase of 5 dBA CNEL or more caused by the project would be considered a significant impact when projected noise levels would remain at or below the noise levels considered acceptable for the affected land use, based on criteria listed in Action NOI-1.4 of the General Plan (see below).

REGIONAL AND LOCAL

Comprehensive Airport Land Use Compatibility Plans

Noise compatibility policies are established in the ALUCP for each airport, and are designed to protect the public health, safety, and welfare by minimizing the exposure of residents and occupants of future noise-sensitive development to incompatible airport noise.

The San Carlos Airport is a public-use airport located approximately 1000 feet north of the project site and the San Francisco International Airport is a public-use airport located approximately 9 miles northwest of the project site. As will be discussed in more detail under Impact Noise-4, the project site is not within a mapped area with incompatible airport noise levels under the ALUCP for either of these airports and therefore related policies are not applicable or detailed here.[4]

San Carlos General Plan 2030

The Noise Element of the General Plan provides goals, policies, and actions to maintain a community with a noise environment that supports a high quality of life. The goals, policies, and actions that apply to the proposed project are as follows:

Goal NOI-1: Encourage compatible noise environments for new development and control sources of excessive noise citywide.

Policies:

NOI-1.1: Use the Noise and Land Compatibility Standards shown in Figure 9-1, the noise level performance standards in Table 9-1 and the projected future noise contours for the General Plan shown in Figure 9-3 and detailed in Table 9-2, as a guide for future planning and development decisions.

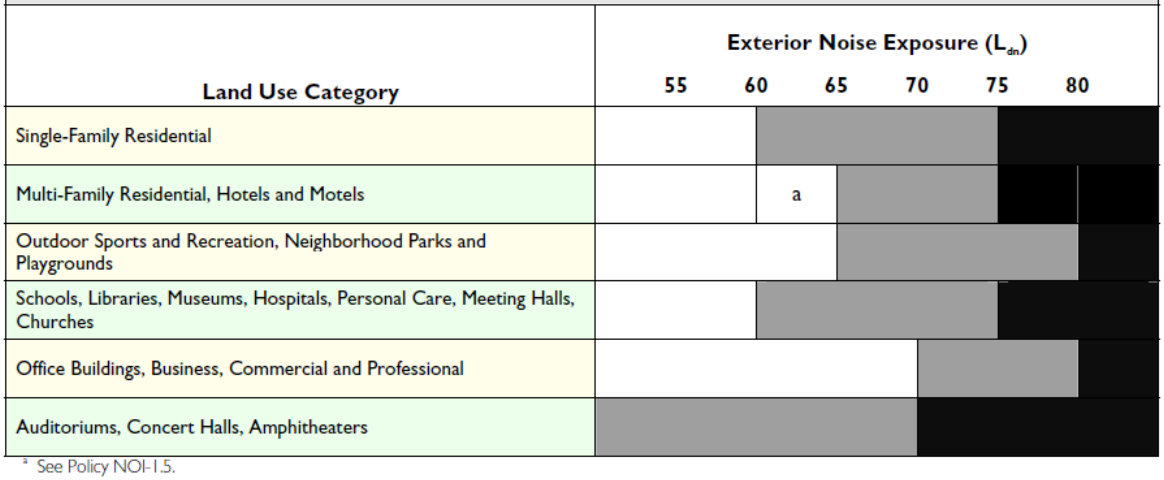
NOI-1.2: Minimize noise impacts on noise-sensitive land uses. Noise-sensitive land uses include residential uses, retirement homes, hotel/motels, schools, libraries, community centers, places of public assembly, daycare facilities, churches, and hospitals.

NOI-1.3: Limit noise impacts on noise-sensitive uses to noise level standards as indicated in Table 9-1.

NOI-1.4: Require a detailed acoustic report in all cases where noise-sensitive land uses are proposed in areas exposed to exterior noise levels of 60 CNEL/Ldn or greater. If recommended in the report, mitigation measures shall be required as conditions of project approval.

[4] City/County Association of Governments of San Mateo County, Adopted October 2015, *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport*, Exhibits 4-3 and 4-4 and p. 4-26.

FIGURE 9-1 LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT



[a] See Policy NOI-1.5.

NORMALLY ACCEPTABLE. Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.

CONDITIONALLY ACCEPTABLE. Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.

UNACCEPTABLE. New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

TABLE 9-1 NON-TRANSPORTATION NOISE STANDARDS

Land Use Receiving the Noise	Hourly Noise-Level Descriptor	Exterior Noise-Level Standard In Any Hour (dBA)		Interior Noise-Level Standard In Any Hour (dBA)	
		Daytime (7am-10pm)	Nighttime (10pm-7am)	Daytime (7am-10pm)	Nighttime (10pm-7am)
Residential	L_{eq}	55	45	40	30
	L_{max}	70	60	55	45
Medical, convalescent	L_{eq}	55	45	45	35
	L_{max}	70	60	55	45
Theater, auditorium	L_{eq}	--	--	35	35
	L_{max}	--	--	50	50
Church, meeting hall	L_{eq}	55	--	40	40
	L_{max}	--	--	55	55
School, library, museum	L_{eq}	55	--	40	--
	L_{max}	--	--	55	--

Notes:
1. The Residential standards apply to all residentially zoned properties.
2. Each of the noise levels specified above shall be lowered by 5 dBA for tonal noises characterized by a whine, screech, or hum, noises consisting primarily of speech or music, or recurring impulsive noises.
3. In situations where the existing noise level exceeds the noise levels indicated in the above table, any new noise source must include mitigation that reduces the noise level of the noise source to the existing level.
4. The exterior noise standards are measured at any point on the receiving property where there is, or could be in the future, frequent human use and quiet would be beneficial.
5. These standards do not apply to temporary sources such as construction activities.

FIGURE 9-3

2030 Traffic and Railroad Noise Level Contours

TABLE 9-2 2009 VEHICULAR TRAFFIC NOISE ON MAJOR ROADWAYS

Major Roadway	Segment	L_{dn} at 75 ft, dBA* 2009 Existing
El Camino Real	North of Holly St	69
	San Carlos Ave to Brittan Ave	68
	Brittan Ave to Howard Ave	69
	South of Howard Ave	69
Holly Street	West of El Camino Real	62
	Old County Rd to Industrial Way	65
	East of Industrial Way	68
Old County Road	North of Holly St	63
	Holly St to Brittan Ave	64
	Brittan Ave to Howard Ave	64
	South of Holly St	62
Industrial Road	North of Holly St.	61
	Holly St to Brittan Ave	66
	South of Brittan Ave	66
San Carlos Avenue	North of Club Dr	63
	Club to Alameda de Las Pulgas	65
	Alameda de Las Pulgas to El Camino Real	62
	East of El Camino Real	59
Brittan Avenue	West of Alameda de Las Pulgas	61
	Alameda de Las Pulgas to El Camino Real	62
	Old County Rd to Industrial Way	64
	East of Industrial Way	64
Howard Avenue	West of El Camino Real	59
	East of Old County Rd	60
Dartmouth Avenue	East of San Carlos Ave	59
Club Drive	West of San Carlos Ave	57
Alameda de Las Pulgas	San Carlos Ave to Brittan Ave	62
	South of Brittan Ave	63

* Noise levels are given at a distance of 75 feet from the center of the roadway.

NOI-1.6: Where noise mitigation measures are required to achieve the noise level standards, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered after practical design-related noise mitigation measures have been integrated into the project.

NOI-1.7: The City shall seek to reduce impacts from groundborne vibration associated with rail operations by requiring that vibration-sensitive buildings (e.g. residences) are sited at least 100 feet from the centerline of the railroad tracks whenever feasible. The development of vibration-sensitive buildings within 100 feet from the centerline of the railroad tracks would require a study demonstrating that groundborne vibration issues associated with rail operations have been adequately addressed (i.e., through building siting, foundation design and construction techniques).

NOI-1.8: During all phases of construction activity, reasonable noise reduction measures shall be utilized to minimize the exposure of neighboring properties to excessive noise levels.

a. Construction activities shall comply with the City's noise ordinance.

NOI-1.9: Minimize potential transportation-related noise through the use of setbacks, street circulation design, coordination of routing and other traffic control measures and the construction of noise barriers and consider use of "quiet" pavement surfaces when resurfacing roadways.

NOI-1.12: Ensure consistency with the noise compatibility policies and criteria contained in the San Carlos Airport Land Use Plan.

NOI-1.14: The Federal Transit Administration vibration impact criteria and assessment methods shall be used to evaluate the compatibility of train vibration with proposed land uses adjoining the UPRR (Caltrain) corridor. Site specific vibration studies shall be completed for vibration-sensitive uses proposed within 100 feet of active railroad tracks.

Actions:

NOI-1.1: Establish a noise abatement protocol for existing sensitive land uses located in areas anticipated to experience significant noise increases with the implementation of the General Plan. Cumulative traffic noise impacts on existing noise-sensitive uses could be reduced through the inclusion of exterior and/or interior sound-reduction measures, such as setbacks, noise barriers, forced-air mechanical ventilation and sound-rated window construction. The City should research sources of funding for these actions.

NOI-1.2: Revise the City's Noise Ordinance to be consistent with this Element.

NOI-1.4: Require the evaluation of mitigation measures for projects that would cause the following criteria to be exceeded or would cause a significant adverse community response:

a. Cause the Ldn at noise-sensitive uses to increase by 3 dBA or more and exceed the "normally acceptable" level.

b. Cause the Ldn at noise-sensitive uses to increase by 5 dBA or more and remain "normally acceptable."

c. Cause noise levels to exceed the limits in Table 9-1.

NOI-1.5: Enforce Section 27007 of the California Motor Vehicle Code that prohibits amplified sound that can be heard 50 or more feet from a vehicle.

NOI-1.6: Enforce Section 27150 of the California Motor Vehicle Code that addresses excessive exhaust noise.

NOI-1.7: Update and review procedures for dealing with noise complaints in the community.

NOI-1.8: Evaluate the necessity of requesting Caltrain to establish a Quiet Zone designation for San Carlos.

San Carlos Municipal Code

The City of San Carlos Municipal Code contains all ordinances for San Carlos. Chapter 9.30, Noise Control and Chapter 18.21, Performance Standards, include regulations relevant to noise and vibration as discussed below.

9.30.030 Except as otherwise permitted under this chapter, no person shall cause and no property owner shall permit, as to property owned by him, a noise produced by any person, amplified sound or device, or any combination thereof in excess of the noise limits established in Table 18.21.050-A to emanate from any property, public or private, as measured at the receiving property line. (Ord. 1439 § 4 (Exh. B (part)), 2011: Ord. 1086 § 1 (part), 1991).

9.30.070 The following noise-generating activities are exempt from the provisions of this chapter:

A. Transportation facilities, such as freeways, airports, buses, and railroads;

B. Construction activities; such activities, however, shall be limited to the hours of eight a.m. to six p.m. Monday through Friday, and nine a.m. to five p.m. on Saturdays and Sundays. No construction noise-related activities on the following holidays: New Year's Day, Martin Luther King Jr. Day, President's Day, Memorial Day, 4th of July, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day. All gasoline-powered construction equipment shall be equipped with an operating muffler or baffling system as originally provided by the manufacturer, and no modification to these systems is permitted (the Building Official shall have the authority to grant exceptions to construction noise-related activities);

C. Home workshops and gas-powered gardening equipment; such activities, however, shall be limited to the hours of eight a.m. to sunset Monday through Friday, and ten a.m. to sunset on Saturday, Sunday and holidays stated in subsection B of this section;

D. Public works and public utilities activities; such activities, however, shall be limited to the hours set forth under subsection B of this section, except for emergency situations (the Public Works Director shall have the authority to grant exceptions to public works and public utilities construction noise-related activities);

E. Emergency vehicles;

F. Solid waste pickup; such activities, however, shall be limited to the hours of collection set forth under the applicable franchise agreement for solid waste pickup, recyclable materials pickup and/or organic materials pickup as may be restricted for residential, commercial and City facilities. (Ord. 1439 § 4 (Exh. B (part)), 2011: Ord. 1086 § 1 (part), 1991)

18.21.050 A. Noise Limits. No use or activity shall create noise levels that exceed the following standards. The maximum allowable noise levels specified in Table 18.21.050-A, Noise Limits, do not apply to noise generated by automobile traffic or other mobile noise sources in the public right-of-way.

1. Adjustments to Noise Limits. The maximum allowable noise levels of Table 18.21.050-A, Noise Limits, shall be adjusted according to the following provisions. No more than one increase in the maximum permissible noise level shall be applied to the noise generated on each property.

a. Ambient Noise. If the ambient noise level at a noise-sensitive use is ten dBA or more below the standard, the allowable noise standard shall be decreased by five decibels.

b. Duration. The maximum allowable noise level (L50) shall be increased as follows to account for the effects of duration:

i. Noise that is produced for no more than a cumulative period of fifteen minutes in any hour may exceed the noise limit by five decibels; and

ii. Noise that is produced for no more than a cumulative period of five minutes in any hour may exceed the noise limits by ten decibels;

iii. Noise that is produced for no more than a cumulative period of one minute in any hour may exceed the noise limits by fifteen decibels.

c. Character of Sound. If a noise contains a steady audible tone or is a repetitive noise (such as hammering or riveting) or contains music or speech conveying informational content, the maximum allowable noise levels shall be reduced by five decibels.

d. Prohibited Noise. Noise for a cumulative period of thirty minutes or more in any hour which exceeds the noise standard for the receiving land use.

B. Noise Exposure – Land Use Requirements and Limitations. Table 18.21.050-B, Noise Exposure—Land Requirements and Limitations, describes the requirements and limitations of various land uses within the listed day/night average sound level (Ldn) ranges.

C. Acoustic Study. The Director may require an acoustic study for any proposed project that could cause any of the following:

1. Locate new residential uses within the fifty-five CNEL impact area of the San Carlos Airport;

2. Cause noise levels to exceed the limits in Table 18.21.050-A;

3. Create a noise exposure that would require an acoustic study and noise attenuation measures listed in Table 18.21.050-B, Noise Exposure – Land Use Requirements and Limitations; or

4. Cause the Ldn at noise-sensitive uses to increase three dBA or more.

TABLE 18.21.050-A: NOISE LIMITS

Land Use Receiving the Noise	Noise-Level Descriptor	Exterior Noise Level Standard in Any Hour (dBA)		Interior Noise-Level Standard in Any Hour (dBA)	
		Daytime (7 a.m. – 10 p.m.)	Nighttime (10 p.m. – 7 a.m.)	Daytime (7 a.m. – 10 p.m.)	Nighttime (10 p.m. – 7 a.m.)
Residential	L_{50}	55	45	40	30
	L_{max}	70	60	55	45
Medical, convalescent	L_{50}	55	45	45	35
	L_{max}	70	60	55	45
Theater, auditorium	L_{50}	-	-	35	35
	L_{max}	-	-	50	50
Church, meeting hall	L_{50}	55	-	40	40
	L_{max}	-	-	55	55
School, library, museum	L_{50}	55	-	40	-
	L_{max}	-	-	55	-

TABLE 18.21.050-B: NOISE EXPOSURE
—LAND USE REQUIREMENTS AND LIMITATIONS

Land Use	Day/Night Average Sound Level (Ldn)	Requirements and Limitations
Residential (1) and Other Noise-Sensitive Uses (e.g., Schools, Hospitals, and Churches)	Less than 60	Satisfactory
	60 to 75	Acoustic study and noise attenuation measures required
	Over 75	Acoustic study and noise attenuation measures required
Auditoriums, Concert Halls, Amphitheaters	Less than 70	Acoustic study and noise attenuation measures required
	Over 70	Not allowed
Commercial and Industrial	Less than 70	Satisfactory
	70 to 80	Acoustic study and noise attenuation measures required
	Over 80	Airport-related development only; noise attenuation measures required
Outdoor Sports and Recreation, Parks	Less than 65	Satisfactory
	65 to 80	Acoustic study and noise attenuation measures required; avoid uses involving concentrations of people or animals
	Over 80	Limited to open space; avoid uses involving concentrations of people or animals

D. Establishing Ambient Noise. When the Director has determined that there could be cause to make adjustments to the standards, an acoustical study shall be performed to establish ambient noise levels. In order to determine if adjustments to the standards should be made either upwards or downwards, a minimum twenty-four-hour-duration noise measurement shall be conducted. The noise measurements shall collect data utilizing noise metrics that are consistent with the noise limits presented in Table 18.21.050-A, e.g., L_{max} (zero minutes), L_{02} (one minute), L_{08} (five minutes), L_{25} (fifteen minutes) and L_{50} (thirty minutes). An arithmetic average of these ambient noise levels during the three quietest hours shall be made to demonstrate that the ambient noise levels are regularly ten or more decibels below the respective noise standards. Similarly, an arithmetic average of ambient noise levels during the three loudest hours should be made to demonstrate that ambient noise levels regularly exceed the noise standards.

E. Noise Attenuation Measures. Any project subject to the acoustic study requirements of subsection C of this section may be required as a condition of approval to incorporate noise attenuation measures deemed necessary to ensure that noise standards are not exceeded.

1. New noise-sensitive uses (e.g., schools, hospitals, churches, and residences) shall incorporate noise attenuation measures to achieve and maintain an interior noise level of forty-five dBA.

2. Noise attenuation measures identified in an acoustic study shall be incorporated into the project to reduce noise impacts to satisfactory levels.

3. Emphasis shall be placed upon site planning and project design measures. The use of noise barriers shall be considered and may be required only after all feasible design-related noise measures have been incorporated into the project. (Ord. 1438 § 4 (Exh. A (part)), 2011).

18.21.060 No vibration shall be produced that is transmitted through the ground and is discernible without the aid of instruments by a reasonable person at the lot lines of the site. Vibrations from temporary construction, demolition, and vehicles that enter and leave the subject parcel (e.g., construction equipment, trains, trucks, etc.) are exempt from this standard. (Ord. 1438 § 4 (Exh. A (part)), 2011).

ENVIRONMENTAL SETTING

SENSITIVE RECEPTORS

San Carlos Municipal Code Section 18.21.050 defines "Noise sensitive land use" as locations where there are greater sensitivities to excess noise, including, but not limited to, residences, hospitals, religious facilities, and schools.

The closest sensitive receptors to the site are residents in multi-family building approximately 270 feet to the southwest, on the other side of the elevated train tracks.

NOISE AND LAND USE COMPATIBILITY

The future noise environment at the project site would continue to be dominated by local traffic along Old County Road, Industrial Road, Commercial Street, and Brittan Avenue and by trains traveling along the UPRR (Caltrain) tracks. A traffic study completed for the proposed project included existing peak hour turn movements for several intersections in the project vicinity. Under the Future with Project

scenario (Year 2030), traffic volumes along Old County Road, Commercial Street, Brittan Avenue, and Industrial Road would increase noise levels by up to 3 dBA Ldn above existing ambient conditions.

Noise level thresholds established in Figure 9-1 of the City's General Plan that apply to this project include the following:

- The City's acceptable exterior noise level standard is 70 dBA Ldn or less for proposed office buildings and commercial uses.
- The City's conditionally acceptable exterior noise level standard is 70 to 80 dBA Ldn for proposed office buildings and commercial uses.

The Noise and Vibration Assessment calculated the future exterior noise environment of the project to compare it to the thresholds from the General Plan. A noise monitoring survey was conducted, consisting of four long-term and five short-term noise measurements. The locations of the noise monitors are shown in **Figure 13.1**. The following locations were assessed: proposed open space areas located north of Building 5, between Buildings 4 and 5, east of Building 1, east of PG2, south of Building 7, and south of Building 3, and proposed interior courtyards located in Buildings 6, 1, 7, and 3. All exterior spaces would fall below the 70 dBA threshold, with the loudest open space being east of Building 1 at 66 dBA, and all interior courtyards being at 60 dBA or less.

The Noise and Vibration Assessment calculated the future interior noise environment of the project as well and found that the use of standard construction materials in combination with forced-air mechanical ventilation would satisfy the daytime threshold of 50 dBA Leq(1-hr) for all interior commercial spaces, pursuant to limits set in CALGreen Section 5.507.4.2.

VIBRATION AND LAND USE COMPATIBILITY

The FTA vibration impact assessment criteria (summarized in Table 13.3) were used to evaluate vibration levels produced by trains passing the project site. The FTA vibration impact criteria are based on maximum overall levels for a single event. The impact criteria in Table 13.3 provide thresholds based on the number of train pass-bys in a given day: frequent events (more than 70 events of the same source per day), occasional events (30 to 70 vibration events of the same source per day), and infrequent events (less than 30 vibration events of the same source per day).

According to the existing Caltrain schedule, about 61 trains currently pass through San Carlos in a 24-hour period, which would fall within the occasional events FTA vibration impact category. Train pass-bys along the near and far tracks resulted in measured vibration levels of 57 to 66 VdB at 115 to 130 feet. Compared against the threshold of 75 VdB for frequent events in case train frequency increases in the future, the nearest proposed building would be compatible with the future worst-case vibration environment (70 pass-by events in 24 hours) at the project site.[5] Conversion to high speed rail (HSR) is planned starting in 2040, with an expected increase of 134 trains per day (108 during daytime hours and 26 during nighttime hours) along the applicable section of the train corridor. HSR trains create a comparable level of ground-borne vibrations to existing Caltrain trains, and would not exceed the 75 VdB threshold.

[5] The FTA does not set a threshold vibration level for commercial land use. The threshold for residential land use was used for the analysis.

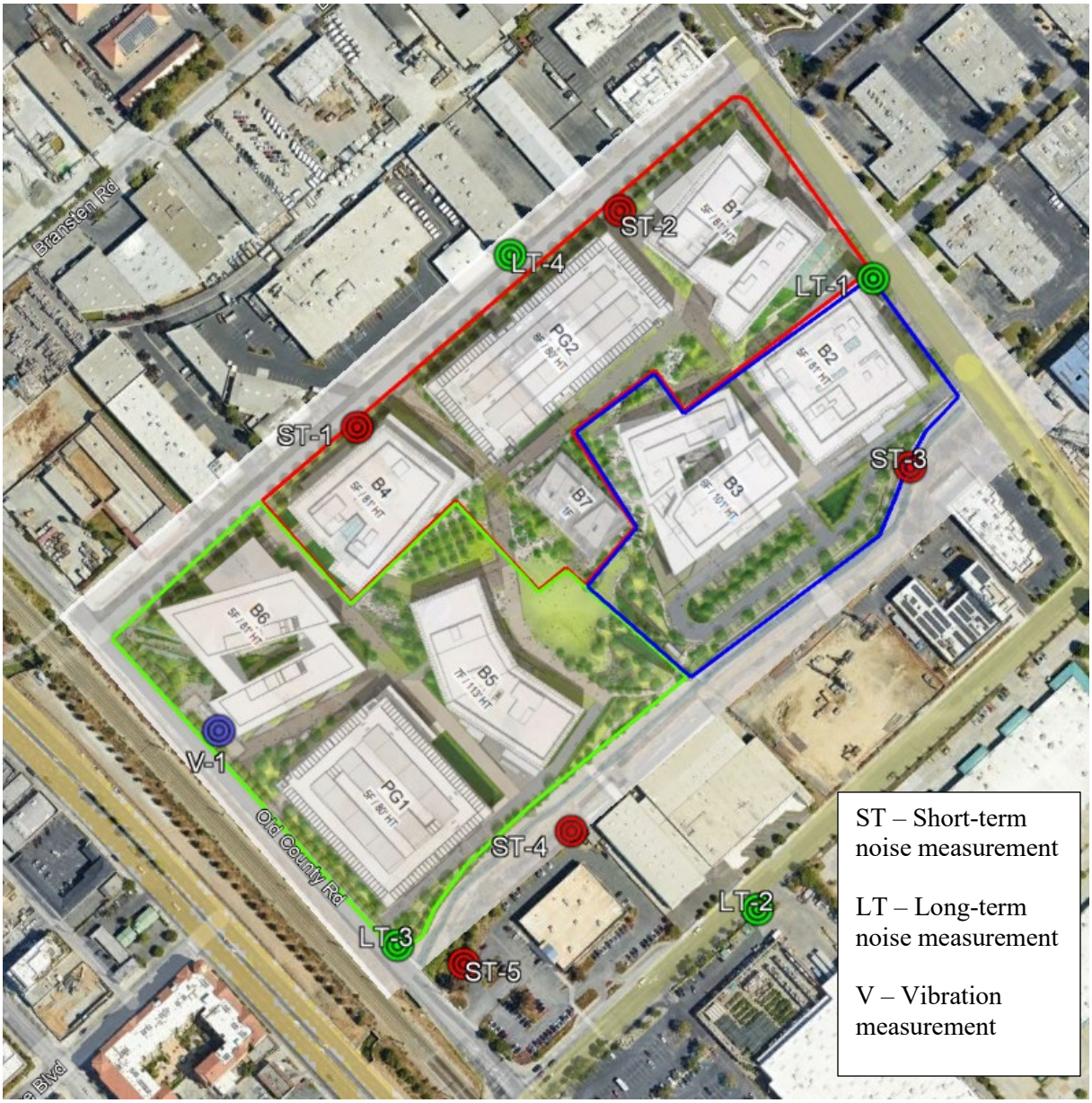


Figure 13.1: Noise and Vibration Measurement Locations

Source: Illingworth & Rodkin, 2024, Figure 1 (Appendix G)

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based upon Appendix G of the CEQA Guidelines thresholds:

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 applicable standards of other agencies?
2. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?
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, would the project expose people residing or working in the project area to excessive noise levels?

NOISE EXPOSURE

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 applicable standards of other agencies?*

   Temporary Noise. Pursuant to SCMC Chapter 9.30.070, construction activities are exempt from basic noise regulations, with the limitation of permitted operating hours and that gasoline powered equipment is muffled or baffled. In the absence of local regulations, the FTA daytime construction noise thresholds of 80 dBA Leq at residential land uses, 85 dBA Leq at commercial land uses, and 90 dBA Leq at industrial land uses have been utilized. (See Federal Transit Administration subsection under the Regulatory Setting above for more information.)

   Permanent Noise. Consistent with San Carlos General Plan Action NOI-1.4, the following standards are used to determine an impact under this threshold of significance:

   - Cause the Ldn at noise-sensitive uses to increase by 3 dBA or more and exceed the "normally acceptable" level.
   - Cause the Ldn at noise-sensitive uses to increase by 5 dBA or more and remain "normally acceptable."
   - Cause noise levels to exceed the limits in Table 9-1 of the San Carlos General Plan 2030.

Construction Period

Impact Noise-1: **Temporary Construction Noise**. Existing noise-sensitive land uses would be exposed to temporary noise due to project construction activities, but these would not exceed levels expected to cause adverse community reaction and would not represent a substantial increase over ambient noise levels. This is a ***less than significant*** temporary noise impact.

The potential for temporary noise impacts due to project construction activities would depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of

time. The City of San Carlos considers allowable hours of construction to be a standard condition of any project, as detailed below.

> Standard Condition
> Construction Noise. Construction Activities shall comply with the City's noise ordinance (Chapter 9.30 of the San Carlo Municipal Code), which includes restriction of construction activities to the hours of 8:00 AM to 5:00 PM on weekdays, and 9:00 AM to 5:00 PM on Saturdays.

The Noise and Vibration Assessment included in full in Appendix G modeled the anticipated construction noise levels based on the details of the project. For this analysis, construction of Phase 1 was estimated to be completed in 26 months, construction for Phase 2 and 3 were estimated to take 30 months each, which would result in continuous construction activities for about seven and a half years. Construction assumptions were set at the start of analysis. Since the project would be built in response to market conditions, specific construction timelines could change. The *amount* of construction activities would remain substantially the same as was used in the analysis, though the start would be later and the *phasing and length* of the construction activities may change. The analysis in this EIR is intended to represent the quickest likely construction schedule, which would result in the most noise and vibration occurring at once. Because thresholds are based on maximum noise and vibration levels, and the total construction activities would remain the same even if the timeline changes, construction initiated later or completed in different or longer phases would have the same or lessened noise and vibration levels and therefore, substantially the same impacts as analyzed in the Noise and Vibration Assessment.

Construction phases for each phase of the project would include site preparation, demolition (as needed), grading, trenching, building construction, architectural coating, and paving (as needed). During each phase of construction and at each site, there would be a different mix of equipment operating, and noise levels would vary by phase and vary within phases, based on the amount of equipment in operation and the location at which the equipment is operating.

Construction activities can generate considerable amounts of noise, especially during earth-moving activities when heavy equipment is used and during the construction of the building foundations when heavy equipment is used. The hauling of excavated materials and construction materials would generate truck trips (and associated noise) on vicinity roadways, as well.

The typical range of maximum instantaneous noise levels for the proposed construction equipment and activities would be 70 to 90 dBA L_{max} at a distance of 50 feet from the equipment. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain often results in lower construction noise levels at distant receptors.

As included in more detail in the project-specific modeling in the Noise and Vibration Assessment (Appendix G), temporary construction noise was assessed at the receiving property lines of surrounding uses (commercial buildings (COM), residences (RES), a hotel (LOD-1), and the future project at 1030 Brittan Avenue, which is expected to be an office/R&D building (FUT-1)) that would have direct exposure to each individual phase, which are shown in **Figure 13.2**. The results of the assessments are summarized in **Table 13.5.** Note that uses farther away would experience lower noise levels from project construction.

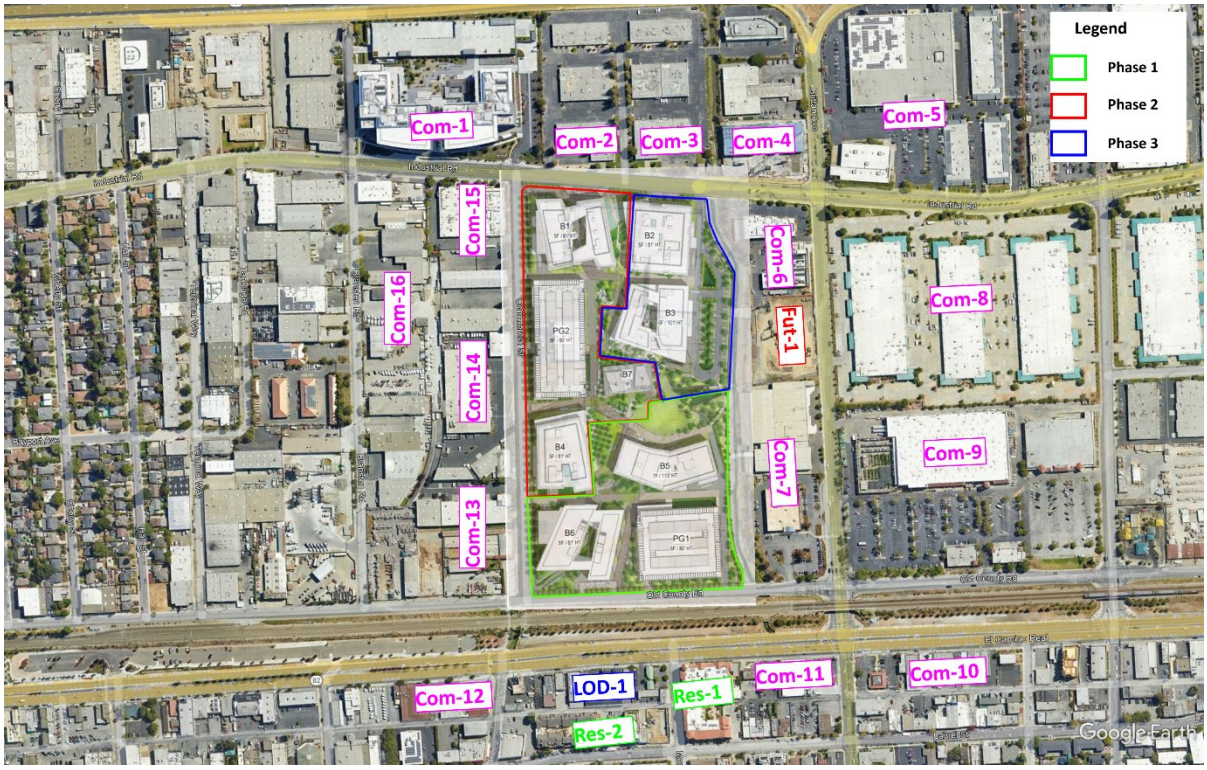


Figure 13.2: Aerial Image Identifying the Noise-Sensitive Receptors in the Vicinity of the Project Site
Source: Illingworth & Rodkin, 2024.

Table 13.5: Summary of Construction Noise Levels Expected at Each Receiving Property Line in the Project Vicinity (in dBA Leq)

Receptor	Phase 1	Phase 2	Phase 3
Com-1	48-64	52-70	52-70
Com-2	49-65	52-70	56-73
Com-3	49-65	52-70	56-73
Com-4	49-65	52-70	56-73
Com-5	48-64	48-65	52-70
Com-6	55-71	53-71	60-78
Com-7	58-74	53-71	60-78
Com-8	53-69	49-66	54-72
Com-9	53-69	49-66	54-72
Com-10	51-67	46-64	46-63
Com-11	54-70	46-64	46-64
Com-12	53-68	47-65	45-63
Com-13	58-74	54-71	49-67
Com-14	58-74	63-80	53-71
Com-15	53-69	63-80	53-71
Com-16	53-69	55-72	50-68
Res-1	55-71	47-65	46-64
Res-2	53-69	47-65	46-64
Lod-1	55-71	47-65	46-64
Fut-1	58-74	53-71	60-78

Source: Illingworth & Rodkin, 2024, Table 15.
Note: Receptors existing daytime ambient noise environments range from 51-74 dBA Leq

As shown in Table 13.5, construction noise levels would range from 46 to 71 dBA Leq at the closest residential land uses (600 to 1000 feet from the center of activity) and from 45 to 80 dBA Leq at the closest commercial uses (200 to 1200 feet from the center of activity). As shown in the table, FTA's residential threshold of 80 dBA Leq and the commercial threshold of 85 dBA Leq would not be exceeded at any nearby receptors.

The project would be required to comply with Chapter 9.30.070 of the SCMC, which limits the hours of construction activities. Such reasonable regulation of the hours of construction protect the health and safety of persons, promote the general welfare of the community, and maintain the quality of life.

As discussed above, the temporary construction activities would comply with applicable City regulations and construction noise levels do not exceed thresholds established to avoid adverse community reaction and would not represent a substantial increase above ambient noise levels. Therefore, the impact with respect to construction noise would be ***less than significant***.

While not necessary to reach significance conclusions, San Carlos General Plan Policy NOI-1.8 requires all phases of construction activity to utilize reasonable noise reduction measures to minimize the exposure of neighboring properties to excessive noise levels and comply with the City's noise ordinance. In addition to compliance with the SCMC Chapter 9.30.070 construction hours, the following measures are recommended to be included as conditions of project approval to reduce construction noise levels as low as practical in accordance with Policy NOI-1.8 of the General Plan:

- Utilize "quiet" models of air compressors and other stationary noise sources where such technology exists;
- Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from adjacent land uses;
- Locate staging areas and construction material areas as far away as possible from adjacent land uses;
- Prohibit all unnecessary idling of internal combustion engines;
- Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem are implemented.
- Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction.

Operation

Impact Noise-2: **Permanent Noise Level Increase**. The proposed project would result in permanently increased ambient noise levels, but the increases would not be substantial at the noise-sensitive receptors in the project vicinity and operational noise levels generated by the proposed project would not exceed applicable standards established by the City of San Carlos. This is a ***less than significant*** impact.

Project Traffic Increase

The Noise and Vibration Assessment (Appendix G) was coordinated with the EIR transportation consultants (see Chapter 15 of this EIR) to determine traffic noise increases, which included peak hour turning movements for the existing traffic volumes and trip generation counts for the proposed project. By comparing the existing plus project trips traffic scenario to the existing scenario, the total contribution of the project to the overall traffic noise level increase was determined to be 3 dBA Ldn or less along each roadway segment in the project vicinity and would not exceed the "normally acceptable" noise level at area receptors. Although the proposed project causes the Ldn to increase by up to 3 dBA, the "normally acceptable" noise level would not be exceeded. Because both conditions are not met, this would be a less than significant impact.

Mechanical Equipment

Mechanical equipment on the ground floors at the project site would include transformers, generators, and fire pump rooms. Rooftop mechanical equipment would include cooling towers, air handling units (AHUs), exhaust fans, and heat pumps. The noise assessment calculated the increase in ambient noise at the nearby receptors with the assumption that all equipment would be operating simultaneously. Mechanical noise Leq due to rooftop equipment at all proposed buildings would not exceed daytime or nighttime average noise standards at residential land uses for non-transportation noise sources. For all

existing receptors, the noise level increase due to ground and rooftop mechanical equipment noise, including emergency generator testing, would be 2 dBA Ldn or less.

Truck Loading and Unloading

The noise assessment determined that operational Leq due to truck loading/unloading noise would not exceed daytime average ambient noise levels at any surrounding land use. For all existing receptors, the noise level increase due to truck loading/unloading noise sources would not be measurable or detectable (1 dBA Ldn increase or less).

Daycare

The construction of a playground in the center of Building 7 is one possible use of that space, therefore a noise assessment was completed. Playground activities would be the dominant noise source if a daycare is included. With the assumption that the playground would not be used outside of the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, it was determined that operational Leq due to playground noise would not exceed daytime average ambient noise levels at any surrounding land use. For all existing receptors, the noise level increase due to playground noise sources would not be measurable or detectable (0 dBA Ldn increase).

Total Combined Project-Generated Operational Noise Conclusions

Consistent with San Carlos General Plan Action NOI-1.4, because the Ldn at noise-sensitive uses would remain "normally acceptable" and would not increase by 5 dBA or more, the up to 3 dBA traffic noise increases resulting from the project would not be a substantial increase over existing ambient noise levels.

The operational noise levels produced at the project site by the proposed project combined (mechanical equipment, truck loading/unloading activities, and daycare) would result in an increase of 2 dBA Ldn or less at all existing receptors surrounding the project site, which is less than the 3 dBA threshold identified in San Carlos General Plan Action NOI-1.4 even when noise exceeds "normally acceptable" levels. Therefore, the proposed project would not result in a substantial increase over existing ambient noise levels in the project vicinity.

Further, overall operational noise levels would not result in noise exceeding the San Carlos General Plan (Table 9-1) residential daytime noise standard of 55 dBA Leq or the nighttime noise standard of 45 dBA Leq at the nearest residential receptors. As detailed above, overall aspects of project operation would have a *less than significant* impact with respect to permanent noise increases.

GROUNDBORNE VIBRATION

2. *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

   The following standard is used to determine an impact under this threshold of significance:

   - A significant impact would be identified if the construction of the project would generate excessive vibration levels at surrounding receptors. A vibration limit of 0.3 in/sec PPV has been used in this analysis, Groundborne vibration levels exceeding 0.3 in/sec PPV have been used as the threshold for this analysis, which is consistent with California Department of Transportation recommendations for vibrations levels that would have the potential to result in cosmetic damage to structurally sound buildings such as those in the vicinity of the project, while conservatively using the threshold for buildings where structural damage is a major concern.

Impact Noise-3: **Exposure to Groundborne Vibration**. Office and/or R&D uses are not a source of substantial operational vibration and construction-related vibration levels at the project site would not exceed 0.3 in/sec PPV at the existing structures. This is a ***less than significant*** impact.

Construction Period

The construction of the project may generate perceptible vibration when heavy equipment or impact tools (e.g. jackhammers, hoe rams) are used. Construction activities would include site demolition, preparation work, foundation work, and new building framing and finishing. Pile driving, which can cause excessive vibration, is not required for the proposed project.

Vibration levels would vary depending on soil conditions, construction methods, and equipment used. While construction noise levels increase based on the cumulative equipment in use simultaneously, construction vibration levels would be dependent on the location of individual pieces of equipment. To represent the worst-case scenario, vibration levels were estimated under the assumption that each piece of equipment was operating along the nearest boundary of the project site to the structure being analyzed and propagated to the nearest structure.

The Noise and Vibration Assessment estimated that project-generated vibration levels during construction would be below the 0.3 in/sec PPV structural damage threshold at 25 feet, such that neither cosmetic, minor, or major damage would occur beyond 25 feet. The closest offsite structure is 200 feet from the nearest boundary of the project site. At these locations and in other surrounding areas where vibration would not be expected to cause structural damage, vibration levels may still be perceptible. However, as with any type of construction, this would be anticipated and would not be considered significant, given the intermittent and short duration of the phases that have the highest potential of producing vibration.

While construction activity may be perceptible, the modeled vibration levels would not result in architectural damage to any surrounding structure. Therefore, the impact related to construction-period vibration would be a *less than significant* impact.

Operation

There are no known sources of substantial groundborne vibration at or near the project site and the proposed office/R&D use is not a use that would produce substantial groundborne vibration. As noted in the Vibration and Land Use Compatibility section, the nearby train pass-bys do not exceed the vibration impact assessment criteria, so would not be considered a source of substantial groundborne vibration for this project. This is a *less than significant* impact**.**

AIRPORTS

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, would the project expose people residing or working in the project area to excessive noise levels?

Impact Noise-4: **Excessive Aircraft Noise**. The project site is located approximately 1000 feet from San Carlos Airport and approximately 9 miles from San Francisco International Airport. The noise environment attributable to aircraft from both these airports is considered normally acceptable for the proposed commercial use. This is a ***less than significant*** impact.

The San Carlos Airport is a public-use airport located approximately 1000 feet north of the project site and the San Francisco International Airport is a public-use airport located approximately 9 miles northwest of the project site. According to the associated ALUCPs, the project site lies outside the 65 dBA CNEL noise contours for the San Carlos Airport and the San Francisco International Airport. The projected aircraft exterior noise levels at the project site are compatible with the proposed commercial development.[6,7]

Assuming standard construction materials, future interior noise levels resulting from aircraft would be below 50 dBA Leq1-hr, which again, is compatible with the proposed commercial use. Therefore, the proposed project would be compatible with noise standards for aircraft noise. This would be a *less than significant* impact.

CUMULATIVE NOISE AND VIBRATION IMPACTS

There are a number of planned or approved projects (at the time of analysis for the project) that are located within 1,000 feet of the proposed project, which is the distance within which noise levels can compound for cumulative impacts. These projects include:

- 1030 Brittan Avenue
- 1091 Industrial Road
- 841 Old County Road
- 993 Laurel Street
- 1040-1052 Laurel Street
- 777 Industrial Road
- 789 Old County Road
- 888 Bransten Road

Note that the pipeline of proposed/approved projects can and does change over time as some projects are abandoned and other new projects are proposed. New projects proposed subsequent to the above list are too speculative to consider for this analysis but would need to consider their impacts with respect to the cumulative context when they are proposed.

Cumulative noise impacts would include temporary construction noise from cumulative construction projects. Cumulative noise impacts could occur if cumulative noise levels would exceed the FTA's standard of 85 dBA Leq at the shared sensitive receptors. Nearby receptors could be exposed to construction activities at multiple sites simultaneously or consecutively. As construction noise levels of the project are well below the FTA's standard, and as other projects would be required to adhere to noise standards, the combined average hourly construction noise levels would not exceed the FTA's standard of 85 dBA Leq at the shared receptors. There would be no significant cumulative construction noise impact.

With respect to operational noise, consistent with San Carlos General Plan Action NOI-1.4, all new projects would need to demonstrate that the project would not cause impacts to vicinity sensitive receptors. As discussed under Impact Noise-2, the proposed project is consistent with this action. The

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[6] City/County Association of Governments of San Mateo County, Adopted October 2015, *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport*, Exhibits 4-3 and 4-4 and p. 4-26. Available at https://ccag.ca.gov/plansreportslibrary-2/airport-land-use/.

[7] City/County Association of Governments of San Mateo County, November 2012, *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport*, including Exhibit IV-14, and pages IV-59 to IV-60. Available at: http://ccag.ca.gov/wp-content/uploads/2014/10/Consolidated_CCAG_ALUCP_November-20121.pdf

proposed project does not make a cumulatively considerable contribution to noise increases and cumulative noise levels at sensitive receptors, and cumulative noise would remain within "normally acceptable" levels, so there would be no significant cumulative operational noise impact.

As discussed under Impact Noise-4, this type of use would not generate substantial operational groundborne vibration and construction vibration would not have an affect more than 25 feet from the project site. Due to the limited distance for a vibration impact, there are no other area projects with the potential to result in cumulative impacts in concurrence with the proposed project. There would be no significant cumulative vibration impact.

14

POPULATION AND HOUSING

INTRODUCTION

This chapter evaluates the potential impacts of the project related to population, employment, and housing. This chapter describes the existing population, employment, and housing characteristics of the project's surroundings and evaluates the extent to which the project may affect these characteristics.

This analysis is limited to those socio-economic issues that could result in a direct change to the physical environment (pursuant to CEQA Guidelines Section 15131).

REGULATORY SETTING

STATE

Housing Element Law

The State requires that each local government's general plan includes plans and regulatory systems for housing development opportunities for people at all income levels. The number of housing units that each jurisdiction must accommodate is mandated through the Regional Housing Needs Allocation (RHNA) process. The housing element law requires local governments to adequately plan to meet their existing and projected housing needs; prepare an inventory of land suitable for residential development, including vacant sites and sites having the potential for redevelopment, and an analysis of the relationship of zoning and public facilities and services to these sites; identify and analyze potential and actual governmental constraints to the maintenance, improvement, or development of housing for all income levels, including housing for people with disabilities; and identify specific programs in its housing element that will allow it to implement the stated policies and achieve the stated goals and objectives.[1]

REGIONAL

Plan Bay Area 2050

The Metropolitan Transportation Commission and ABAG's Plan Bay Area 2050 is the current regional long-range Sustainable Communities Strategy, which is part of the Bay Area's Regional Transportation Plan. Plan Bay Area 2050 charts the course for the future of reducing greenhouse gas emissions from transportation in the nine-county San Francisco Bay Area. Plan Bay Area 2050 focuses on four key issues: the economy, the environment, housing, and transportation. Plan Bay Area 2050 has identified strategies under each of these four key issues. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from 50 percent in 2015 to 33 percent in 2050. Greenhouse gas emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19 percent reduction in per capita emissions by 2035. Plan Bay Area 2050's strategies include increasing

[1] California Department of Housing and Community Development, "Housing Elements", accessed August 15, 2023 at: https://www.hcd.ca.gov/planning-and-community-development/housing-elements

commercial density and job growth near frequent transit areas, including the following employment growth-related strategies relevant to the project:

> EN4. Maintain urban growth boundaries. Using urban growth boundaries and other existing environmental protections, focus new development within the existing urban footprint or areas otherwise suitable for growth, as established by local jurisdictions.
>
> EC4. Allow greater commercial densities in Growth Geographies. Allow greater densities for new commercial development in select Priority Development Areas and Transit-Rich Areas to encourage more jobs to locate near public transit.

Additional strategies related to transportation (such as improvements for walking and bicycling and implementation of a TDM Plan to reduce vehicle trips and associated emissions) are relevant to this project, but are not relevant to the discussion of population and employment growth, so are not discussed here. See Chapter 15: Transportation for additional discussion of project consistency with Plan Bay Area 2050 transportation strategies.

LOCAL

East Side Innovation District Vision Plan

The Vision Plan (adopted October 25, 2021) presents planning strategies, goals, principles, and action items to achieve the desired characteristics for the future East Side Innovation District area as it shifts from mostly single-story industrial and low intensity commercial uses to biotechnology, life science and high-tech office uses, with taller buildings and more employees. The goal of the Vision Plan is to maximize the City's ability to shape infrastructure, urban design, transportation circulation management and mobility, service provision, open space, community facilities, present and future land uses, economic development, and community benefits. This plan is meant to be used at the beginning stages of project development to determine how a project can be conceptualized and programmed so that a portion of the plan can be fulfilled with each act of new construction or public involvement. At the time of its publication, there were three recent developments completed in the East Side Innovation District, three projects approved by the City, and four projects under review, including the proposed project. [2]

ENVIRONMENTAL SETTING

EXISTING CONDITIONS

Population, employment, and housing data are available on city, county, regional and state levels. This chapter of the EIR relies on data at the regional and city levels for analysis relevant to the City of San Carlos.

City of San Carlos

Population

The Census Bureau's 10-year Population Estimates Program produces and disseminates the official estimates of the population for the nation, states, counties, and cities. According to the 2020 U.S. Census, the City of San Carlos had a population of 28,406 people in 2010 and a population of 30,722 people in 2020.[3] This represented an increase of approximately 2,316 people over the ten years, or a 6.1% growth over that decade.

[2] City of San Carlos, October 25, 2021, *East Side Innovation District Vision Plan*, pp. 6, 7, available at: https://www.cityofsancarlos.org/city_hall/departments_and_divisions/community_development/planning/plans_and_standards/east_side_innovation_district_vision_plan.php.

[3] United States Government, Census Data, available at: https://data.census.gov/cedsci/

The State of California, Department of Finance (DoF), has estimated the population of San Mateo County at 737,644 on January 1, 2023, and the City of San Carlos population at 29,496, with a total of 12,318 housing units, and persons per household of 2.48 (which accounts for group housing and vacancies).[4]

The recently adopted San Carlos General Plan Housing Element 2023-2031, utilizing population data from DoF and projections from Plan Bay Area 2050, estimated that the population of San Carlos would grow to an estimated 33,915 people by 2030 and 35,250 people by 2040, indicating a higher rate of growth before 2030 (7.8% projected change) than from 2030 to 2040 (3.9% projected change).[5]

Housing

The number of housing units in San Carlos increased from 12,018 in 2010 to 12,318 in 2023, an increase of only 2.5% over that time.[6] The projected housing need for the Bay Area, as determined by the California Department of Housing and Community and the Association of Bay Area Governments (ABAG), known as the RHNA, is that at least an additional 2,735 units need to be built in San Carlos between 2023 and 2031. The San Carlos General Plan Housing Element 2023-2031 indicates that at least 350 units were in the application or planning stages in 2021, and a site inventory shows that the City can adequately accommodate its RHNA. The maximum development projections included in the Housing Element 2023-2031 would result in the construction of 3,525 units, meeting and exceeding the RHNA goals if all were to be built.[7]

Employment

Plan Bay Area 2050 estimates there will be 5,408,000 total jobs in the Bay Area by 2050 (an addition of 1,403,000 jobs between 2015 and 2050). Plan Bay Area 2050 did not provide job projections by city but identified San Carlos as a Transit-Rich Area in its Growth Geography map, indicating it as a focus area for future housing and job growth.[8] Job projections for San Mateo County were estimated at a 29% growth between 2015 to 2050, increasing by 114,000 from 393,000 to 507,000 jobs.[9, 10]

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[4] State of California, May 2023, *Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2021-2023, with 2020 Benchmark*. Sacramento, California. Available at: https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/

[5] City of San Carlos, *San Carlos 2023-2031 Housing Element*, adopted January 23, 2023, available at: https://www.sancarlos2040.org/news_items/view/109.

[6] State of California, May 2023, *Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2010-2022, with 2010 Benchmark*. Sacramento, California, May 2022, and also *2021-2023, with 2020 Benchmark*. Sacramento, California. Available at: https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/.

[7] City of San Carlos, *San Carlos 2023-2031 Housing Element*, adopted January 23, 2023, available at: https://www.sancarlos2040.org/news_items/view/109.

[8] Plan Bay Area 2050 Growth Geography map available at: https://mtc.maps.arcgis.com/apps/webappviewer/index.html?id=af347b881594468a94ea85a67e972679

[9] Association of Bay Area Governments and Metropolitan Transportation Commission, October 2021, *Forecasting and Modeling Report*, "Projected Household and Job Growth, By County" table. Available at: https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_Forecasting_Modeling_Report_October_2021.pdf.

[10] Association of Bay Area Governments and Metropolitan Transportation Commission, January 2021, *Plan Bay Area 2050 Final Blueprint Growth Pattern*. Available at: https://www.planbayarea.org/digital-library/plan-bay-area-2050-final-blueprint-growth-pattern

The San Carlos General Plan Housing Element 2023-2031 utilized data from ABAG, which tracked employment data in San Carlos from 16,261 total jobs in 2002 to a low of 13,143 jobs in 2011 due to the economic downturn, increasing to 15,841 jobs in 2015 and 17,960 jobs in 2018.[11, 12] The COVID-19 pandemic subsequently resulted in some loss of jobs and total employment in San Carlos was estimated at 16,600 in 2021, with a rebound to 17,300 jobs in 2022.[13] The city's jobs to household ratio is similar to the county and Bay Area (1.57 in San Carlos, 1.59 in San Mateo County, and 1.47 in the Bay Area), and the unemployment rate is slightly lower (4.9 percent in San Carlos compared to 5.9 percent in the county and 6.6 percent in the Bay Area).[14]

The San Carlos General Plan Housing Element 2023-2031 did not present specific job projections for the City, but noted the following trends: San Carlos' job opportunities have changed significantly since 2002 due to a large decline in manufacturing jobs and a rapid increase in professional & managerial service jobs (which would include office/R&D jobs).

In October 2021, the City of San Carlos adopted the Vision Plan to shape the development of the east side of the city as the area moves from industrial usage to a denser research and development/life sciences usage. The project site is included in this area and identified in the Vision Plan as comprising approximately 1.5 net new million gross square feet of the approximately 1.7 million net new gross square feet anticipated by the Vision Plan.[15]

Existing Use Employment

Currently the project site contains 232,068 gross square feet of building space, including 50,256 gross square feet of warehouse, with the remainder being office space. This does not include the buildings formerly on the Kelly Moore property, which have been demolished. Existing project site employment is calculated based on occupied land uses. Warehouse employment is estimated at 500 square feet per employee, and office space is 300 square feet per employee. Using these numbers, the current employment at the project site is approximately 657 employees. The site would have historically had a larger number of employees, but this lower number is used for a conservative estimate of the increase in employees at the site.

IMPACTS AND MITIGATION MEASURES

CRITERIA OF IMPACT SIGNIFICANCE

Under the CEQA Guidelines, development of the project site as proposed would have a significant environmental impact if it were to result in:

[11] City of San Carlos, *San Carlos 2023-2031 Housing Element*, adopted January 23, 2023, available at: https://www.sancarlos2040.org/news_items/view/109.

[12] Association of Bay Area Governments and Metropolitan Transportation Commission, April 2021, *Housing Element Data Package*. Available at: https://abag.ca.gov/technical-assistance/abag-housing-needs-data-packets

[13] City of San Carlos, *Comprehensive Annual Financial Reports Fiscal Years 2020-2021*, p.150 and 2021-2022, p. 154. Available at: https://www.cityofsancarlos.org/city_hall/departments_and_divisions/administrative_services/finance/financial_reports_and_policies/index.php#outer-96

[14] City of San Carlos, *San Carlos 2023-2031 Housing Element*, adopted January 23, 2023, p. 159, available at: https://www.sancarlos2040.org/news_items/view/109.

[15] City of San Carlos, October 25, 2021, *East Side Innovation District Vision Plan*, pp. 6, 7, available at: https://www.cityofsancarlos.org/city_hall/departments_and_divisions/community_development/planning/plans_and_standards/east_side_innovation_district_vision_plan.php.

1. The inducement of 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)
2. The displacement of substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere

POPULATION GROWTH

1. Would the project 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)?

Impact Pop-1: **Induce Indirect Population Growth.** The project would result in increased employment opportunities and therefore contribute to indirect population growth. However, the project is identified in and/or consistent with relevant City and regional plans. The project's impact related to substantial unplanned population growth would be a ***less than significant*** impact.

While neither housing nor population would be directly created as a result of this project, employment opportunities can indirectly increase population growth.

Prior to full programming of a building, employee estimations are commonly made based on square footage per employee. For projects in the area, this is generally calculated at 500 square feet per employee for industrial and warehousing (existing uses), and tenant amenity and retail (proposed uses), and 300 square feet per employee for office/R&D (existing and proposed uses). As discussed in Chapter 3: Project Description, the project proposes a space that could be used either as an accessory office/R&D amenity or as a daycare. A daycare would be the highest intensity use of the designated space and was therefore used for the most conservative estimate. Using those calculations, the proposed project would have approximately 5,381 employees, representing an increase of 4,724 employees at the site compared to existing conditions. See **Table 14.1**, below, for a breakdown of employment projections by use and phase.

Table 14.1: Approximate Project Employee Projections

Phase	Land Use Type	Gross Floor Area	Square Feet per Employee	Employees
1	Office/R&D	516,962	300	1,723
2	Office/R&D	457,509	300	1,525
2	Retail	4,500	500	9
2	Amenity Space	2,100	500	4
2	Daycare*	9,443		24
3	Office/R&D	628,904	300	2,096
Total Jobs				5,381

Source: Phase and square foot information is for the project as currently proposed. Changes in phasing would reorganize when jobs were expected to become available without affecting the overall total or conclusions in this analysis. Employee projections are based on industry standards for office/R&D use, retail, and tenant amenity use. Daycare employees were based on applicant estimates.

*Note: A daycare is only one potential use of that space, however as the use with the highest potential impact, it was used for the most conservative estimate. The space could otherwise be used as accessory amenity space for the office/R&D use.

As indicated in the setting section above, the San Carlos General Plan Housing Element 2023-2031 estimated employment in San Carlos to be 17,300 in 2022, which represents a partial recovery from 2021's pandemic-era decrease from 17,960 in 2018. The estimated 4,724 new project jobs would represent a 27% increase in jobs compared to the most current 2022 estimates. The San Carlos General Plan Housing Element 2023-2031 did not include projections of future job growth or policies related to employment and jobs.

As discussed above, the project is an identified pipeline project included in the City of San Carlos adopted Vision Plan and is consistent with the land use and intensity envisioned for this site by that plan. The project would not expand infrastructure capacity to new areas or increase existing capacity in such a way as to induce unplanned growth.

To offset the potential indirect population growth and housing demands of new employment projects, the City recently adopted a Commercial Linkage Fee as part of the Commercial Development BMR Housing Program. This program requires new employment developers to pay a fee per net new square foot of new development to help fund the construction of additional Below Market Rate housing. The project would be required to pay the applicable fee. The nexus study for the fee indicates that the City has accounted for indirect growth from employment uses and such growth is not unplanned.

As indicated in the setting section above, Plan Bay Area 2050 estimated an addition of 1,403,000 total jobs to the Bay Area including 114,000 jobs to San Mateo County between 2015 and 2050. Plan Bay Area 2050 does not include projection down to the city level nor are its assumptions based on even job growth across all cities in a region. The estimated 4,724 new project jobs would represent a small portion of identified County and regional growth.

The project site is an employment center within a half-mile of major transit stops (see Chapter 15: Transportation), and is on a site partially within a designated Transit-Rich High Resource Area in Plan Bay Area 2050.[16, 17] The project does not obstruct any Plan Bay Area 2050 strategies and supports population/employment growth-related strategies relevant to this project by proposing commercial development within an area established as suitable for that growth (as specified in the Vision Plan) per strategy EN4, and encouraging more jobs near transit per strategy EC4.Because the project is consistent with local and regional plans and employment projections, as discussed above, employment growth and associated indirect population growth would not be considered "unplanned" growth, and the project would have a *less than significant* impact related to unplanned population growth.

DISPLACEMENT OF EXISTING HOUSING UNITS AND/OR PEOPLE

2. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

There is currently no housing and no residents at the site that would be displaced by the project. The project would have *no impact* related to displacement of housing or people.

[16] Transit-Rich Areas are areas where at least 50% of the area is within ½-mile of the minimum transit requirements that are not already identified as Priority Development Areas, i.e., areas marked by local government for housing or job growth. High-Resource Areas are State-identified places with well-resources schools and access to jobs and open space that may have historically rejected more housing growth.

[17] Plan Bay Area 2050 Growth Geography map available at: https://mtc.maps.arcgis.com/apps/webappviewer/index.html?id=af347b881594468a94ea85a67e972679

CUMULATIVE POPULATION AND HOUSING IMPACTS

The geographic context for cumulative impacts associated with population and housing considers existing development and growth projected and planned in the city and the region. If successive projects in the city or region were to result in displacement of housing units and/or people or unplanned population growth, these could compound to result in significant cumulative impacts.

This project does not displace housing units or people, so has no potential to contribute to a cumulative impact in that regard and it is therefore not further discussed.

Because population impacts occur from *unplanned* growth, cumulative population growth impacts are assessed by comparing them to local and regional planning efforts. As discussed above, the project is consistent with both City and regional planning efforts and employment growth projections.

The project site is included in the Vision Plan area and was one of ten development projects identified in that plan as pipeline projects that were either constructed, under review, or approved at the time of publication in October 2021. New job opportunities, including those within the East Side Innovation District and project site, could indirectly induce population growth by generating demand for new housing as a result of new business.

However, the 5,667 jobs (estimated at 1 job per 300 square feet) estimated for the identified newly built or proposed 1.7 million square feet of net new development identified in the East Side Innovation District would represent a small portion of identified County and regional growth projected in Plan Bay Area 2050 to occur between 2015 and 2050 (114,000 and 1,403,000 new jobs, respectively). Additionally, most of the East Side Innovation District is within a Transit-Rich Area as identified in Plan Bay Area 2050, and cumulative development in that area as outlined in the Vision Plan would not obstruct any of the strategies of Plan Bay Area 2050, and would further the Plan's aims of concentrating employment in transit-rich areas. Therefore, growth within the East Side Innovation District, including the project, would not be considered unplanned from a regional perspective, and would therefore not result in a significant cumulative impact with respect to unplanned population growth.

That being said, as part of increased employment opportunities and therefore a contributor to *planned* indirect population growth, the project and other similar projects in the City would be subject to the City's Commercial Linkage Fee to require development funding for new Below Market Rate housing to address planned need for housing from planned commercial development, resulting in a less than significant cumulative impact on housing.

15

TRANSPORTATION

INTRODUCTION

This chapter describes existing and future transportation and circulation within the study area, describes the analysis methodology and regulatory framework, identifies potential transportation-related impacts of the project, and identifies recommended mitigation measures for identified significant impacts.

This chapter utilizes information from the following report prepared for this analysis:

- W-Trans, Alexandria Center for Life Science CEQA Transportation Analysis, dated April 12, 2024 (included in Appendix H).

SETTING

This section describes the existing transportation conditions in the project study area, including the roadway network and transit, pedestrian, and bicycle facilities in the vicinity of the project site.

ROADWAY SYSTEM

Regional access to the project site is provided by U.S. 101 accessed via Holly Street or Brittan Avenue. Project site vehicular access is currently provided via 13 driveways on Industrial Road and Commercial Street.

U.S. 101 is an eight-lane highway and principal north-south roadway connection between San Francisco, San José, and intermediate San Francisco Peninsula cities. In San Carlos, U.S. 101 Access to and from the vicinity of the project site is provided via a full interchange at Holly Street and a southbound off- and on-ramp at Brittan Avenue.

Old County Road is a north-south two-lane arterial street that transitions from Pacific Boulevard at Laurie Meadows Drive in the north and transitions into Stafford Street in the south. It serves as an arterial from Brittan Avenue to Holly Street. The speed limit is 35 miles per hour (mph). There are not currently any driveways to the project site directly from Old County Road.

Industrial Road is a four-lane arterial street that runs in a north-south direction from Whipple Avenue in the south to Harbor Boulevard in the north. It serves as an arterial street from Brittan Avenue to Holly Street. The speed limit is 35 mph. Industrial Road provides direct access to the project site.

Commercial Street is an east-west two-lane local street from Industrial Road to Old County Road. On-street parking is provided along both sides of the street. The speed limit is 25 mph. Commercial Street provides direct access to the project site.

Brittan Avenue is an east-west four-lane arterial street located to the south of Holly Street extending the length of the city from U.S. 101 to Crestview Drive. Brittan is considered a primary entry and access

to San Carlos. The speed limit is 30 mph. Brittan Avenue provides access to the project site via its intersections with Industrial Road and Old County Road.

El Camino Real is a north-south five-lane state highway paralleling the railroad extending from Redwood City on the south to Belmont on the north. El Camino Real is considered a major transit corridor, with SamTrans bus stops and the San Carlos Caltrain Station. The speed limit is 35 mph.

TRANSIT FACILITIES AND SERVICE

Transit services are not located along the project's frontage, but there are transit options within walking distance of the project site. The San Carlos Caltrain Station is located approximately 0.46 miles from the project site. SamTrans provides fixed route bus service in San Carlos with a bus stop 0.1 miles from the project site at the El Camino Real/Brittan Avenue intersection.

REGIONAL TRANSIT SERVICE

The following transit services operate within San Carlos and are accessible from the project site. Descriptions provided in this section reflect existing conditions after the COVID-19 pandemic, which resulted in atypical travel behavior and changes to transit services. Transit services are regularly updated in response to changing levels of transit demand.

Caltrain is the commuter rail line serving the San Francisco Peninsula. It connects San Carlos with San Francisco to the north and San Jose and Gilroy to the south. On weekdays there are 61 trains servicing the San Carlos Station in the northbound and southbound directions, 15 of which provide limited-stop, express service. On weekends there are 32 trains that stop at the station in each direction. The San Carlos Caltrain Station is located just east of El Camino Real/San Carlos Avenue, approximately 0.4 miles from the closest portion of the project site, as measured from the corner of Commercial Street/Old County Road. Both bicycle racks and lockers are provided at the San Carlos station. Bicycle racks are available on a first-come-first-served basis, while lockers must be reserved. Furthermore, paid vehicle parking is available at the station for riders.

The San Mateo County Transit District (SamTrans) provides fixed route bus service in San Carlos and throughout San Mateo County. SamTrans buses are equipped with bike racks that can carry two bicycles. Bike rack space is on a first come, first served basis and riders must be able to load and unload their bicycles without any help from the operator. Two additional bicycles are allowed on SamTrans buses at the discretion of the driver and depending on passenger loads.

- **Route 295** provides service between the Hillsdale area (Hillsdale Shopping Center and Hillsdale Caltrain Station) and Redwood City Transit Center and primarily travels along Alameda de las Pulgas and El Camino Real. This route operates on weekdays only, from approximately 7:00 AM to 8:00 PM with 60-minute headways. The bus stop nearest the project site is near the intersection of El Camino Real/Arroyo Avenue, located approximately 0.1 miles from the project site.

- **Route 397** provides service between San Francisco and Palo Alto with stops on El Camino Real in San Carlos. Route 397 operates seven days a week with 60-minute headways. The northbound route operates three buses between 1:04 AM and 2:46 AM, while the southbound route operates four buses from 1:30 AM to 4:15 AM. This route does not operate midday or in the evening. The bus stop nearest the project site is at the intersection of El Camino Real/Brittan Avenue, located approximately 0.2 miles from the project site.

- **Route 398** provides service between San Francisco and Redwood City along El Camino Real within San Carlos. Route 398 operates with four buses traveling northbound departing the

Redwood City Transit Center at 6:00 AM, 7:50 AM, 5:50 PM and 7:45 PM and a southbound service departing the San Francisco Transbay Terminal at 7:48 AM, 9:48 AM, 4:48 PM and 5:48 PM each weekday. The bus stop nearest the project site is at the intersection of El Camino Real/Brittan Avenue, located approximately 0.2 miles from the project site.

- **Route ECR** provides service between Daly City and Palo Alto with stops on El Camino Real within the study area. Route ECR operates seven days a week with 15- to 30-minute headways between 4:00 AM and 1:30 AM on weekdays and 30-minute headways between around 5:00 AM and 2:00 AM on weekends. The bus stop nearest the project site is at the intersection of El Camino Real/Brittan Avenue, located approximately 0.2 miles from the project site.

Redi-Wheels and RediCoast, also known as paratransit, or door-to-door service, are available for those who are unable to independently use the transit system due to a physical or mental disability. Redi-Wheels is designed to serve the needs of individuals with disabilities within SamTrans and the greater San Carlos area. Trips must be scheduled at least one day in advance.

On-demand private vehicle services (e.g., taxi, Uber, Lyft, etc.) are available in the study area 24 hours a day. These vehicles can be used for trips near the project site and farther destinations, including nearby airports and major transit stations.

PEDESTRIAN FACILITIES

Pedestrian facilities in the vicinity of the project site include a network of sidewalks, crosswalks, pedestrian signals, and curb ramps, however there are several sidewalk gaps, obstacles, and barriers in the area as well. The following sidewalks currently exist in the project site vicinity:

- **Old County Road** – Continuous sidewalks are provided on both sides of Old County Road, except for the segment south of Montgomery Street where sidewalks are only available on the east side.
- **Commercial Street** – Intermittent sidewalks currently exist on both sides of Commercial Street between Old County Road and Industrial Road.
- **Industrial Road** – Continuous sidewalks are provided on Industrial Road within the vicinity of the project site.
- **Caltrain Pedestrian Tunnel** – A tunnel provides access under the above-grade Caltrain tracks, connecting El Camino Real and Old County Road. Access is restricted in the tunnel to pedestrians and cyclists only. The tunnel includes overhead lighting and is approximately 15 feet wide and 50 feet in length.

BICYCLE FACILITIES

Bicycle facilities consist of separated bikeways, bicycle lanes, routes, trails, and paths, as well as bicycle parking, bicycle lockers, and showers for cyclists. Caltrans recognizes four classifications of bicycle facilities as described below.

Class I— Shared-Use Pathway: Provides a completely separated right-of-way for the exclusive use of cyclists and pedestrians with crossflow minimized (e.g., off-street bicycle paths).

Class II— Bicycle Lanes: Provides a striped lane for one-way travel on a street or highway. May include a "buffer" zone consisting of a striped portion of roadway between the bicycle lane and the nearest vehicle travel lane.

Class III—Bicycle Route: Provides for shared use with motor vehicle traffic; however, are often signed or include a striped bicycle lane.

Class IV—Separated Bikeway: Provides a right-of-way designated exclusively for bicycle travel adjacent to a roadway and which are protected from vehicular traffic. Types of separation include, but are not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

Bicycle facilities in the immediate vicinity of the project site include Class II bike lanes on Industrial Road, and both Class II and Class III bike lanes along Old County Road. Bicyclists ride in the roadway and/or on sidewalks along all other streets near the project site. A number of planned improvements to bicycle facilities in the project vicinity are identified in the City of San Carlos Bicycle and Pedestrian Master Plan, 2020. **Table 15.1** summarizes the existing and planned bicycle facilities in the vicinity of the project site.

Table 15.1: Bicycle Facility Summary

Status	Facility	Class	Length (miles)	Begin Point	End Point
Existing	Alameda De Las Pulgas	II	1.5	San Carlos Ave	South City Limits
Existing	Brittan Ave	II	0.8	Alameda De Las Pulgas	Elm St
Existing	Industrial Rd	II	2.1	North City Limits	South City Limits
Existing	Old County Rd	II	1.0	Terminal Way	South City Limits
Existing	San Carlos Ave	II	1.0	Beverly Dr	Elm St
Existing	East San Carlos Ave	IIIB	0.3	Old County Rd	Industrial Rd
Existing	Arroyo Ave	III	0.8	Tamarack Ave	El Camino Real
Existing	Cedar St	III	1.9	Hull Dr	North City Limits
Existing	Old County Rd	III	1.2	North City Limits	Terminal Way
Existing	San Carlos Ave	III	0.2	Elm St	Laurel St
Planned	Bransten-Commercial Path	I	0.3	Old County Rd	Industrial Rd
Planned	Pulgas Creek Path	I	0.3	Old County Rd	Industrial Rd
Planned	Commercial St	II	0.3	Old County Rd	Industrial Rd
Planned	Arroyo Ave	IIIB	0.8	Tamarack Ave	El Camino Real
Planned	El Camino Real	IV	2.0	North City Limits	South City Limits
Planned	Old County Rd	IV	2.0	North City Limits	South City Limits
Planned	Industrial Rd	IV	2.1	North City Limits	South City Limits

Source: City of San Carlos Bicycle and Pedestrian Master Plan, 2020, as summarized by W-Trans, 2023.

EMERGENCY VEHICLE ACCESS

Emergency vehicles typically use major streets through the study area when heading to and from an emergency and/or an emergency facility. Arterial roadways allow emergency vehicles to travel at higher speeds and provide enough clearance space to permit other traffic to maneuver out of the path of the emergency vehicle and yield the right-of-way. The nearest fire station to the project site is Fire Station 13 located at 525 Laurel Street, approximately 0.8 miles northwest of the project site. Emergency vehicle access to the project site presently occurs via easements on Commercial Street and Industrial Road.

REGULATORY SETTING

SUMMARY

The City of San Carlos has jurisdiction over all local City streets and City-operated traffic signals within the study area. Several regional agencies, including the C/CAG, the Congestion Management Agency in San Mateo County, and the MTC, coordinate and establish funding priorities for intra-regional transportation improvement programs. Highways serving San Carlos (U.S. 101), associated local highway ramps and local surface highway segments are under the jurisdiction of Caltrans. Transit service providers, such as Caltrain and SamTrans, have jurisdiction over their respective services.

FEDERAL

Federal Highway Administration.

The FHWA is the agency of the DOT responsible for the federally funded roadway system, including the interstate highway network and portions of the primary state highway network, such as U.S. 101.

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the US Access Board, an independent federal agency created in 1973 to ensure accessibility for people with disabilities, has created accessibility guidelines for public rights-of-way. While these guidelines have not been formally adopted, they have been widely followed by jurisdictions and agencies nationwide in the last decade. These guidelines, last revised in July 2011, address various issues, including roadway design practices, slope and terrain issues, and pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, public transit, and other components of public rights-of-way. These guidelines would apply to proposed roadways in the study area.

STATE

California Department of Transportation

Caltrans has authority over the state highway system, including highways, interchanges, and arterial routes. Caltrans operates and maintains state highways in the project site vicinity. The Guide for the Preparation of Traffic Impact Studies (Caltrans 2002) used to provide information that Caltrans used to review impacts on state highway facilities, including highway segments, on- and off-ramps, and signalized intersections. This guidance was updated by the Local Development – Intergovernmental Review Program Interim Guidance published in November 2016 for consistency with SB 743, described below. This guidance was further updated by the Vehicle Miles Traveled-Focus Transportation Impact Study Guide ("TISG") (Caltrans 2020). The TISG replaces the Guide for the Preparation of Traffic Impact Studies (Caltrans 2002) and is for use with local land use projects, not for transportation projects on the state highway system. According to the TISG, its guidance is not binding on public agencies, and it is intended to be a reference and informational document. The City has determined that its local guidance related to analyzing vehicle miles traveled (VMT) impacts should be used rather than the guidance provided by Caltrans because it is more specific to the City.

Assembly Bill 32 and Senate Bill 375

With the passage of AB 32, the Global Warming Solutions Act of 2006, the state committed itself to reducing GHG emissions to 1990 levels by 2020. CARB is coordinating a response to comply with AB 32. In 2008, CARB defined its 1990 baseline level of emissions. On December 11, 2008, CARB

adopted its Proposed Scoping Plan for AB 32. This scoping plan included approval of SB 375 as the means for achieving regional transportation-related GHG targets. In 2011, CARB completed its major rulemaking for reducing GHG emissions. Rules on emissions, as well as market-based mechanisms such as the cap-and-trade program, took effect on January 1, 2012. AB 32 was updated and extended with SB 32.

SB 375 provides guidance regarding curbing emissions from cars and light-duty trucks to help the state comply with AB 32. Using the template provided by the State's Regional Blueprint program to accomplish this goal, SB 375 seeks to align transportation and land use planning to reduce VMT through modified land use patterns.

There are five major components to SB 375. First, SB 375 requires regional GHG emissions targets. CARB's Regional Targets Advisory Committee guides the adoption of targets to be met by 2020 and 2035 for each Metropolitan Planning Organization (MPO) in the state. These targets, which MPOs may propose themselves, must be updated every eight years in conjunction with the revision schedule of the housing and transportation elements of local general plans. Second, MPOs are required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. The SCS and the Regional Transportation Plan (RTP) must be consistent, including action items and financing decisions. If the SCS does not meet the regional target, the MPO must produce an alternative planning strategy that details an alternative plan for meeting the target. Third, SB 375 requires regional housing elements and transportation plans to be synchronized on eight-year schedules. In addition, Regional Housing Needs Assessment allocation numbers must conform to the SCS. If local jurisdictions are required to rezone land as a result of changes in the housing element, rezoning generally must take place within three years of adoption of the housing element. Fourth, MPOs must use transportation and air emissions modeling techniques that are consistent with the guidelines prepared by Caltrans. Regional transportation planning agencies, cities, and counties are encouraged, but not required, to use travel demand models that are consistent with Caltrans's guidelines. Fifth, SB 375 created CEQA exemptions and streamlining for projects that conform to the SCS. The adopted RTP, per SB 375, which is Plan Bay Area, is discussed under that header below.

Complete Streets (AB 1358)

AB 1358, also known as the California Complete Streets Act of 2008, requires cities and counties to include "complete street" policies in their general plans. These policies address issues regarding the safe accommodation of all users, including bicyclists, pedestrians, motorists, public transit vehicles and riders, children, the elderly, and persons with disabilities. These policies can apply to new streets as well as the redesign of transportation corridors.

Senate Bill 743

SB 743 was signed into law in 2013 and is codified in Section 21099 of the California Public Resources Code with the intent to better align CEQA transportation impact analysis practices and mitigation outcomes with the State's goals to reduce GHG emissions, encourage infill development, and improve public health through more active transportation. SB 743 created several key statewide changes to CEQA. This discussion focuses on changes related to the assessment of transportation and parking impacts under CEQA.

As required by SB 743, the Office of Planning and Research (OPR) amended CEQA Guidelines Section 15064.3 to provide an alternative to automobile delay, as described by level of service (LOS) or similar measures of vehicular capacity or traffic congestion, for evaluating traffic impacts of proposed projects. The new metric, VMT, measures the total number of miles traveled by vehicles daily on the roadway network and thereby the impacts on the environment from those miles traveled (e.g., through GHG

emissions). In other words, SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts on drivers to measuring the impact of driving on the environment, particularly as it relates to climate change. Land use projects with one or more of the following characteristics would generally have lesser VMT impacts relative to projects without these characteristics:

- A mix of project uses;
- Support for a citywide jobs/housing balance;
- Proximity to high-quality transit service; and
- Locations in highly walkable or bikeable areas.

Additionally, CEQA Guidelines Section 15064.3(b)(1) states that lead agencies generally should presume that projects within 0.5 mile of an existing major transit stop or an existing stop along a high-quality transit corridor will have a less-than-significant impact on VMT. This presumption would not apply, however, if project-specific or location-specific information indicates that the project will still generate significant levels of VMT. For transportation infrastructure projects, such as bicycle lanes, projects that reduce or have no impact on VMT are presumed to have a less-than-significant impact on VMT.

This shift in transportation impact criteria is expected to align transportation impact analysis and mitigation outcomes with state goals to reduce GHG emissions, encourage infill development, and improve public health through more active transportation. Although OPR provides recommendations for adopting new VMT analysis guidelines, lead agencies retain discretion in designing their methodology. Lead agencies must select their preferred method for estimating and forecasting VMT, their preferred significance thresholds for baseline and cumulative conditions, and the mitigation strategies they consider feasible. Lead agencies must prove that their selected analysis methodology aligns with SB 743's goals to promote infill development, reduce GHGs, and reduce VMT. To aid in SB 743 implementation, the following state guidance has been published:

- OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA
- CARB's 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals
- Caltrans' Local Development–Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015–2020 Consistent with SB 743 and the TISG in 2020
- Public Resources Code section 21099 contains provisions applicable to certain projects in Transit Priority Areas (TPAs). TPAs are areas 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 or applicable RTP. Under Public Resources Code section 21099, aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a TPA shall not be considered significant impacts on the environment. An employment center project is defined as a project located on property zoned for commercial uses with a FAR of no less than 0.75 and that is located within a TPA. According to MTC's online map, the project site is located in a TPA and the estimated FAR for the project is 2.18. The project site is zoned for commercial uses and the project would be considered an employment center project.

REGIONAL

Plan Bay Area 2040 and Plan Bay Area 2050

Plan Bay Area 2040 was adopted in 2017 by the MTC and ABAG. As a single plan for the nine-county San Francisco Bay Area that includes the RTP and SCS, Plan Bay Area 2040 sets forth regional transportation policy and provides capital program planning for all regional, State, and Federally funded projects.

As the RTP, Plan Bay Area 2040 provides strategic investment recommendations to improve regional transportation system performance, including investments in regional highway, transit, local roadway, bicycle, and pedestrian facilities. These projects were identified through regional and local transportation planning processes.

While Plan Bay Area 2050 was adopted in 2021, it has not yet been integrated into regional planning modeling tools. The forecast used to estimate VMT and vehicle traffic demands in the CEQA Transportation Analysis were based on the San Carlos General Plan and C/CAG travel demand forecast model, both of which are based on land use assumptions from Plan Bay Area 2040. Besides forecasting further, Plan Bay Area used more variables and data points when modeling its land use assumptions. Plan Bay Area 2040 assumed a regional growth forecast of 2.4 million new residents and 1.3 million new jobs by 2040 from a base year of 2010; Plan Bay Area 2050 assumed a regional growth forecast of 3.5 million new residents and 1.4 million new jobs by 2050 from a base year of 2015. The SCS of Plan Bay Area 2040 aimed to support a growing economy, provide more housing and transportation choices, and reduce pollution caused by transportation. The SCS of Plan Bay Area 2050 aims to reduce GHG emissions from cars and light trucks by coordinating land use and transportation planning.

While the transportation modeling for this analysis was not based on Plan Bay Area 2050, discussion of updated regional forecasting is helpful to understand emerging patterns. Under Plan Bay Area 2050's strategies, just under half of all Bay Area households would live within one half-mile of frequent transit by 2050, with this share increasing to over 70 percent for households with low incomes. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from 50 percent in 2015 to 33 percent in 2050. GHG from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19 percent reduction in per capita emissions by 2035. Plan Bay Area 2050's strategies also aim to increase commercial density and job growth near frequent transit areas.

San Mateo County Comprehensive Bicycle and Pedestrian Plan

The San Mateo County Comprehensive Bicycle and Pedestrian Plan (CBPP) (adopted June 10, 2021) provides a framework to help the C/CAG improve walking and bicycle conditions in San Mateo County. By recommending a connected network of biking and walking facilities based on the best practices in the field, the CBPP will make biking and walking safer and more comfortable for all, and improve health, accessibility, and livability throughout the county. The CBPP has established goals to create a system of safe facilities for bicyclists and pedestrians, to increase the number of people walking and riding for transportation and recreation, and to raise awareness for local support of non-motorized transportation options.

C/CAG is the County's Congestion Management Agency (CMA) and is responsible for transportation planning, programming, and funding. This includes developing and updating the region's Congestion Management Plan and bicycle and pedestrian plans. The CBPP builds on previous walking and bicycling planning efforts, including the San Mateo County Comprehensive Bicycle Route Plan (2000) and prior CBPP (2011).

The CBPP presents countywide priorities and provides project lists and program and design guidance which C/CAG and local jurisdictions can use to make roadways safer, reduce congestion, and encourage more people to walk and ride a bicycle.

Congestion Management Program

The 2021 Congestion Management Program (CMP) Update is a document of the C/CAG, the designated Congestion Management Agency (CMA) for San Mateo County. The 2021 biennial update is required by State statute.

In 1990, California voters approved Propositions 111 and 108, which included a requirement that every urban county within California designate a CMA that would prepare, implement, and biennially update a CMP. In San Mateo County, C/CAG was designated as the CMA. Subsequent legislation (AB 2419) allowed existing CMAs to discontinue participation in the Program; however, C/CAG voted to continue to participate in and adopt a CMP.

According to the state legislation, the purpose of CMPs is to develop a procedure to alleviate or control anticipated increases in roadway congestion and to ensure that "federal, state, and local agencies join with transit districts, business, private and environmental interests to develop and implement comprehensive strategies needed to develop appropriate responses to transportation needs." The first CMP for San Mateo County was adopted by C/CAG in 1991. It has been updated and amended on a biennial basis. The last CMP update was in 2019.

The CMP is required to be consistent with the MTC planning process that includes regional goals, policies, and projects for the RTIP. In order to monitor attainment of the CMP, the C/CAG adopted the roadway LOS standards. The LOS standards established for San Mateo County vary by roadway segments and conform to current land use plans and development differences among the coast, bayside, older downtowns, and other areas of San Mateo County. The CMP also requires new development projected to generate 100 or more peak hour trips to implement Travel Demand Management (TDM) measures that would reduce project impacts.

Metropolitan Transportation Commission

The MTC is the transportation planning, coordinating, and financing agency for the nine-county Bay Area, including San Mateo County. It also functions jointly as the federally-mandated metropolitan planning organization (MPO) for the region along with ABAG. It is responsible for regularly updating the RTP, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities.

LOCAL

City of San Carlos General Plan

The San Carlos General Plan (General Plan), adopted in 2009, provides a vision for long-range physical and economic development of the City, provides strategies and specific implementing actions, and establishes a basis for judging whether specific development proposals and public projects are consistent with the City's plans and policy standards. The General Plan includes the following policies that are applicable to the CEQA analysis of transportation and circulation:

Goal CSH-1: To develop a circulation system that is safe, environmentally-friendly and responsive to the needs of various land uses planned within the City of San Carlos.

Policies:

CSH-1.1: Widths of streets and highways should be sufficient to address existing and projected traffic volumes, while providing positive pedestrian and bicycle experiences.

Goal CSH-2: To provide a safe, efficient and aesthetically pleasing circulation network for various transportation modes in addition to the automobile.

Policies:

CSH-2.2: Continue to support operation of adequate public bus service throughout San Carlos.

CSH-2.3: Access to public transportation facilities should be convenient and designed to encourage use of public transit.

Goal CSH-4: Provide for safe walking and bicycle riding for transportation and recreation.

Policies:

CSH-4.2 Reduce potential conflicts, safety hazards and physical obstacles between bicyclists, automobiles and pedestrians and ensure compliance with the Americans with Disabilities Act.

CSH-4.3 The safety of bicyclists, pedestrians, as well as motorists shall be considered in street design wherever possible.

Goal CSH-5: Ensure all modes of transportation connect safely and efficiently both within San Carlos and with neighboring jurisdictions.

Policies:

CSH-5.1: Connect neighborhoods, school sites, activity centers, transportation centers, recreational sites and other important community amenities with sidewalks, pedestrian paths, trails and bikeways.

Goal CSH-6: Integrate transportation and land use.

Policies:

CSH-6.1: Bicycling and walking facilities should be incorporated into all new development projects to the maximum extent feasible.

CSH-6.2: Support transit-oriented development with mixed, dense land use that reduces the need to travel and that is linked to good transit. The City shall work with local, regional and State representatives to encourage the support and funding of transit-oriented development projects.

Additional related policies that may not be directly applicable to the project:

CSH-3.1: Strive to reduce base-line and development-related traffic by 20 percent through public-private partnership efforts.

CSH-3.2: Support city-wide efforts to reduce vehicular trips within and through the community.

CSH-3.3: Support the incorporation of Transportation Demand Measures in new development to reduce traffic impacts.

CSH-3.4 Support Smart Growth and Sustainability principles to reduce travel time from housing to jobs, provide affordable transportation to all members of the community, allow compact mixed-use development and decrease dependency on automobiles.

CSH-3.5 Street and right-of-way widths should be designed and constructed in accordance with the street standards established in this plan, the City Subdivision Ordinance and Standard Details. However, flexibility for street widths should be permitted with sensitivity to slope, neighborhood character, traffic volume and pedestrian/bicycle needs.

CSH-3.7 Public sidewalks and walkways shall be designed to accommodate access in accordance with the Americans with Disabilities Act and shall be kept clear of obstruction.

CSH-3.11 New developments and businesses shall be required to provide adequate loading, unloading and delivery areas, and/or shall be required to conduct such activities during nonbusiness/peak hours.

CSH-3.12: The City should preserve its existing alley and pedestrian path systems to the maximum extent feasible.

Bicycle and Pedestrian Master Plan

The City of San Carlos Bicycle and Pedestrian Master Plan (adopted June 9, 2020) establishes a long-term vision for improving walking and bicycling in San Carlos and provides a strategy to develop a comprehensive bicycling and walking network that provides access to transit, schools and downtown. This document also identifies a plan to implement these projects and programs through prioritization and phasing to ensure projects are management and fundable. The plan has stated goals to maintain and expand the pedestrian and bicycle network, increase support for walking and bicycling, and improve access and safety for pedestrians and bicyclists.

This plan is an essential tool for guiding city staff and the development community in building a balanced transportation system where active modes are supported and accessible. The goal of the plan is to promote walking and bicycling through the creation of safe, comfortable, and connected networks, and to encourage alternatives to single-occupancy motor vehicle trips.

East Side Innovation District Vision Plan

The Vision Plan (adopted October 25, 2021) presents planning strategies, goals, principles, and action items to achieve the desired characteristics for the future East Side Innovation District area. The goal of the Vision Plan is to maximize the City's ability to shape infrastructure, urban design, transportation circulation management and mobility, service provision, open space, community facilities, present and future land uses, economic development, and community benefits. This plan is meant to be used at the beginning stages of project development to determine how a project can be conceptualized and programmed so that a portion of the plan can be fulfilled with each act of new construction or public involvement. As related to transportation, the Vision Plan has several "Big Moves," including to: (1) promote safe and accessible walking and bike trips to, from, and within the East Side Innovation District for all users, while balancing the freight circulation and loading needs of industrial commercial uses; (2) incorporate holistic transportation strategies at a range of scales to help address long-term District and Citywide transportation objectives; and (3) develop and define East Side Innovation District parking requirements that address the range of existing and future East Side Innovation District users.

San Carlos Transportation Demand Management Ordinance

The City's TDM Ordinance, which is specified in Title 18 of the City's Municipal Code in Chapter 18.25, Transportation Demand Management, seeks to reduce the amount of traffic generated by new development and the expansion of existing development and maximize alternative transportation usage. The ordinance establishes a performance target of trip generation rates that are a minimum 20 percent

lower than the standard rates published in the latest edition of the Institute of Transportation Engineers (ITE) trip generation manual.

Per the ordinance, all projects are required to submit annual documentation of their TDM activities and results. Programs will be evaluated for effectiveness every 5 years under the ordinance. New or modified activities can be suggested to meet the program's objectives, subject to review and approval.

CHARACTERIZATION OF PROJECT TRAFFIC

Through empirical research, data have been collected that quantify the estimated amount of traffic produced by many types of land uses. The data are published in the ITE manual. Because the project site is currently occupied by commercial uses, the trip generation of those businesses was estimated and deducted from the trip generation of Phases 2 and 3 of the proposed project when demolition of the existing buildings would occur. There is no current use of the Phase 1 area. The proposed project would fit under both "Research and Development Center" and "General Office Building" land uses listed in the Trip Generation Manual. For a conservative analysis, and to be consistent with other recently analyzed Life Sciences office projects in San Carlos, the higher daily trip generation rate for "Research and Development Center" and the peak hour trip generation rates for "General Office Building" were applied to approximate the number of vehicle trips generated by the proposed project based on the proposed square footage. Rates for "Convenience Market" and "Day Care Center" were applied to the proposed retail space and optional day care facility, respectively. Daily trip rates for "Recreational Community Center" and peak hour trip generation rates for "General Office Building" were applied to the proposed community/amenity center. The community/amenity center could serve as an ancillary space for the office use during business hours, including the AM and PM peak hours, therefore the peak hour rates for "General Office Building" were applied for this space. These estimates include adjustments for internal trip capture. The "Day Care Center" represents the highest trip rate generation of the potential uses for the community/amenity building. **Table 15.2** shows the estimated total for each Phase.

Table 15.2: Project Trip Generation (Unmitigated)

Phases	Net New Daily Trips[1]	AM Peak Hour Trips[2]			PM Peak Hour Trips[2]		
		Total	In	Out	Total	In	Out
Phase 1	5,821	600	516	84	595	95	500
Phases 1 + 2	13,378	1,183	961	222	1,260	285	975
Phases 1 + 2 + 3	19,532	1,788	1,486	302	1,865	382	1,483

Note: Trip rates from the 10th Edition of the ITE Trip Generation manual were used, as that was the most current edition at the time of the EIR NOP.

1 All trip rates for existing uses (in trips per 1,000 square feet) are from ITE Trip Generation (10th Edition) land use category 710 (General Office Building) and category 150 (Warehousing).

2 All trip rates (in trips per 1,000 square feet) are from ITE Trip Generation (10th Edition) land use category 710 (General Office Building), category 760 (Research and Development Center), category 851 (Convenience Market), category 565 (Day Care Center) or category 495 (Recreational Community Center).

Source: W-Trans, 2024, Table 1 (Appendix H)

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Under the CEQA Guidelines, Appendix G – Environmental Checklist Form, development of the project site as proposed would have a significant environmental impact if it were to:

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

ROADWAY AND INTERSECTION OPERATIONS

2. Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?

Impact Trans-1: Increased Demand for Transit, Bicycle, and Pedestrian Facilities. The project would improve pedestrian and bicycle facilities at the site and while it would result in increased use of bicycle, pedestrian, transit, and roadway facilities, it would not conflict with applicable plans and policies. This is a ***less than significant*** impact.

The project proposes to include numerous changes to the existing pedestrian and bicycle facilities in the area in order to enhance pedestrian and bicycle comfort and mobility and provide improved and continuous access between the project site and the nearby transit stops, including the San Carlos Caltrain Station and the SamTrans stops along El Camino Real. All improvements would be designed and constructed to current City standards and be consistent with local policies and ordinances. Details of improvements, where available, are provided below.

Pedestrian Facilities

Pedestrian access within the project site would be available through the network of internal roads and pathways. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the vicinity of the proposed project site; however, sidewalk gaps, obstacles, and barriers can be found along some of the roadways connecting to the project site. The following improvements are proposed:

- In Phase 1, continuous sidewalks would be provided on the project Phase 1 frontage along Old County Road and Commercial Street. High visibility crosswalks would be installed across both north and east legs of Commercial Street/Old County Road to better serve the existing pedestrian tunnel. A sidewalk and pick-up/drop-off area would be provided on Old County Road. A new pedestrian path on the west half of the project site along Pulgas Creek will be built.
- In Phase 2, a pick-up/drop-off area would be provided on Industrial Road, and sidewalks would be provided on the project Phase 2 frontage along Commercial Street and Industrial Road. Crosswalks would be striped across the north and east legs of Commercial Street/ Industrial Road.

- In Phase 3, the pedestrian path on the east half of the project site along Pulgas Creek will be built and will connect to the west half built during Phase 1. A sidewalk would be provided along the Phase 3 frontage of Industrial Road.

Completion of these planned sidewalks would improve upon the network of pedestrian facilities already present in the study area and be consistent with the City's General Plan, Bicycle and Pedestrian Master Plan and the Vision Plan. All of these changes are required to be designed and constructed to meet City standards and would not increase hazards due to a geometric design feature or incompatible use. Therefore, the impact to pedestrian facilities would be *less than significant*.

Bicycle Facilities

The project plans include 68 long-term bicycle parking spaces within both parking garages and 382 short term spaces available throughout the site. Bicycle access within the project site would be available through the network of internal roadways. Existing bicycle facilities in the vicinity of the project site include Class II bike lanes on Old County Road and Industrial Road. Bicyclists ride in the roadway and/or on sidewalks along all other streets near the project site. A number of planned improvements to bicycle facilities in the project vicinity are identified in the *City of San Carlos Bicycle and Pedestrian Master Plan*, 2020. The following improvements would be consistent with the City's Bicycle and Pedestrian Master Plan and are proposed as part of the project:

- In Phase 1, a two-way Class IV Bikeway would be installed on the west side of Old County Road between Commercial Street and the proposed project driveway north of Pulgas Creek. In addition, a two-way Class IV Bikeway would be installed along the Phase 1 frontage of Commercial Street.

- In Phase 2, a two-way Class IV Bikeway would be installed along the Phase 2 frontage of the project site along Commercial Street and will connect to the Bikeway built during Phase 1.

Detailed design of the transition between the Class IV Bikeway to Class II bike lanes at the intersection of Old County Road and Commercial Street has not been finalized. The current plan calls for the Class IV Bikeway to continue northward until Bransten Street where northbound traveling bicycles would use a crosswalk to transition between the Bikeway and Class II Bike Lanes. Upon completion of the review and refinement process by City staff and design team members, as required by standard procedure and formalized as a Condition of Approval for the project, the design of this bicycle facility transition would meet City design standards, and would not substantially increase hazards due to a geometric design feature or incompatible use.

Completion of these planned bikeways would improve upon the network of bicycle facilities already present in the study area and be consistent with the City's General Plan, Bicycle and Pedestrian Master Plan and the Vision Plan. Therefore, the impact to bicycle facilities would be *less than significant*.

Transit

As described in detail above, existing transit service to the study area is provided by Caltrain and SamTrans. The project site is located approximately 0.46 miles from the San Carlos Caltrain Station, and 0.2 or fewer miles from bus stops offering service from Route 295, Route 397, Route 398 and Route ECR. As a project close to transit stops, the project is expected to generate trips via transit services and is consistent with Plan Bay Area 2050's goal to increase development near transit. According to state CEQA guidelines, the addition of new transit riders should not be treated as an adverse impact because such development also improves regional flow by adding less vehicle travel onto the regional network. Therefore, the project is anticipated to have a ***less than significant*** impact on transit facilities and services.

Local Residential Streets

The City is working separately with local residents of the East San Carlos Neighborhood who are concerned about cut through traffic on their local streets. Based on analysis of the project trip generation, TDM plan reduction, trip distribution pattern and likely paths of travel, the number of cars from this project estimated to use local streets to travel between Old County Road and Industrial Road does not exceed the standards set by the City of San Carlos Neighborhood Traffic Management Program for a local street, and therefore does not qualify as a significant impact under CEQA. (See additional details in Appendix H).

The project would not conflict with any plans or policies associated with bicycle and pedestrian facilities, transit operations or roadway operations including the City's Bicycle and Pedestrian Master Plan. The impact would be *less than significant*.

VEHICLE MILES TRAVELED

2. *Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?*

Impact Trans-2: **Vehicles Miles Traveled**. The VMT per project employee would exceed the City's adopted threshold of 15 percent below the Countywide average if employee trips were not reduced. With successful implementation of a TDM program, the VMT per employee would be brought more than 15 percent below the Countywide average. This impact is ***less than significant with mitigation***.

Consistent with both OPR's publication Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory (2018) and the City of San Carlos' Transportation Significance Criteria Implementing Vehicle Miles Traveled (2020), a proposed project exceeding a level of 15 percent below existing regional VMT per employee may indicate a significant transportation impact. Under OPR's publication, as well as CEQA Guidelines Section 15064.3(b)(1), "generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact." The project is located within 0.5 miles of the El Camino Real transit corridor (a high-quality transit corridor). However, under the City's policies, as an office project, the VMT should be analyzed for a potentially significant impact. The C/CAG-VTA Bi-County Model was used to determine the VMT per service population baseline for the project site, based on the "existing" year of 2019, to be 17.0 miles per day. At the time of the study, the most recent model provided by C/CAG was for the 2015 base year. This model was updated to reflect changes in regional facilities and land use assumptions in San Mateo County to more accurately reflect 2019 (pre-COVID) conditions. Using a threshold of 15 percent below existing VMT, the significance threshold for the City of San Carlos would be an average of 14.5 miles per day per service population. (See Appendix H for additional detail.)

Overall, once fully built-out, this project as forecasted by the C/CAG-VTA Bi-County model would have an average VMT per service population of 17.3 for the total completed project. Because of the size of the project and potential time spans between the phases, interim numbers for Phase 1, then Phases 1 and 2 combined were also quantified, as shown in **Table 15.3**.

Table 15.3: Project VMT (Employment-based VMT per Service Population)

Project Phase	Baseline VMT Rate	Significance Threshold	Project Base VMT Rate	Project VMT Rate with TDM Plan Implementation*
Phase 1	17.0	14.5	18.4	14.0
Phase 1 + 2	17.0	14.5	16.7	12.7
Phase 1 + 2 + 3	17.0	14.5	17.3	13.2

Source: W-Trans, 2024, Table 5 (Appendix H)

* Projected VMT rates are based upon assessment of the effectiveness of the TDM Plan currently proposed. Note that as shown in the table, the currently proposed TDM Plan would meet and exceed required VMT reductions. See Appendix H for additional detail.

The timeline and phasing of construction could change according to market conditions and would not change overall conclusions related to VMT. The phasing assumptions shown in the table above are appropriate to demonstrate a couple of factors that affect VMT, as follows:

- **Retail/local services have lower VMT than office/R&D**. The decrease in VMT between Phase 1 and Phase 1 and 2 in the table is a reflection of the retail and local services components, which are associated with lower trip lengths. Whenever the retail/local services are operational, there would be a dip in the overall VMT rate (it is shown in the above table to occur in Phase 2).
- **VMT for office/R&D will increase over time as the density of those uses increases**. The increase in overall VMT between build out of the first two Phases (assumed to occur by the year 2030 and include other regional land uses changes) and completion of the third and final Phase reflects primarily two factors. The first is that there would be more of the higher trip length life science/office use added compared to the relative amount of the lower-trip rate retail and local services component. The second is that as more life science/office jobs are available in a given area, the model assumes employees would travel from farther locations to meet the demand. This reflects projections for population and job growth consistent with Plan Bay Area 2040 land use assumptions, including a larger pool of workforce expected to be pulled from a larger geographic area. In the future, as employment growth projections are fulfilled and more jobs are added in the cumulative 2040 scenario throughout the region, the base VMT per service population for projects of this type are projected to increase. No matter whether and how the timeline and phasing of project build-out were to change, the final number with respect to project VMT for all phases (1, 2, and 3) combined as shown in the table above would remain accurate. Note that regional planning efforts to increase housing availability near jobs and transit accessibility for both housing and employment centers could serve to mitigate or reverse the increasing VMT trend in the future, but the analysis in this document is consistent with current modeling parameters.

Implementing a TDM plan that reduces trips by 20% from ITE rates is required as a Standard Condition in San Carlos per City's Municipal Code section 18.25.030: "Performance requirements", as detailed below:

> Standard Condition
> Transportation Demand Management (TDM). Pursuant to Chapter 18.25 of the City of San Carlos Municipal Code and San Mateo County Congestion Management Program Land Use Implementation Policy (C/CAG TDM Policy), a Transportation Demand Management Plan shall be implemented for the life of the project as presented to and approved by the Planning and Transportation Commission. The owner and/or future tenants shall be responsible for supplying Planning Staff with the contact information for the Designated TDM Contact person.

A report documenting the TDM activities undertaken and their results shall be submitted to the Community Development Director annually at the responsibility of the applicant. The Director may impose reasonable changes to assure the program's objectives will be met. The owner and/or future tenants shall be responsible for ensuring that C/CAG TDM Policy requirements and monitoring and reporting are met.

As new, more efficient and effective TDM measures become available to reduce vehicle trips, these measures may be included or substituted to maintain the trip reduction levels described in the Plan. Any such substitutions shall be to the satisfaction of the Community Development Director. Any changes determined to be substantive or inconsistent with the TDM Plan by the Community Development Director shall require review and approval by the Planning and Transportation Commission.

In order to bring VMT below significance thresholds, the project must implement a TDM plan that is designed to reduce VMT to at least 14.5 per service population (total employee count at the applicable phase). Trip reductions and VMT rate reductions do not exactly equate, and the effectiveness of TDM plan measures to reduce VMT are forecast according to calculations developed for the California Air Pollution Control Officers Association (CAPCOA). While the project's currently-proposed TDM plan was assessed and determined to result in a greater than required VMT reduction as shown in Table 15.3, the City's current Standard Condition TDM plan requirement does not include a VMT requirement and therefore would not necessarily serve to also reduce VMT below threshold levels. Therefore, the following Mitigation Measure outlines requirements for the project's TDM plan to reduce VMT to meet or exceed VMT reduction targets. (See Appendix H for additional detail.)

Mitigation Measure

Trans-2: **Implementation of Transportation Demand Management Program for Vehicle Miles Traveled Reduction.** A TDM Plan shall be prepared prior to any building occupancy that includes a description of the TDM measures listed in Municipal Code section 18.25.040 to be implemented such that it achieves the code-required 20% trip reduction on a daily, AM peak hour, and PM peak hour basis, and reduces average VMT per service population to 14.5 or lower, and includes, at a minimum, the following elements:

1. The project applicant will designate an on-site Transportation Coordinator that will be responsible for implementation of the TDM Plan, including providing relevant TDM trip reduction and program information to all employees on site, and arranging for independent annual monitoring and employee surveys.
2. The project applicant and the project's Transportation Coordinator will be responsible for ensuring that the TDM Plan is implemented each year and an annual monitoring report is submitted to the City of San Carlos.
3. The Transportation Coordinator shall facilitate a site inspection by City staff to confirm that all approved physical measures in the project's TDM Plan have been implemented and/or installed prior to the first and any subsequent certificates of occupancy that include physical TDM features or as a part of annual monitoring if new physical TDM features have been indicated in the plan since the last site inspection.
4. The TDM Plan monitoring will be conducted per Municipal Code Section 18.25.080. Annual reporting of the effectiveness of the measures will verify if the implemented TDM measures are effective and achieving the vehicle trip and VMT reduction goals. As required by Section 18.25.080, a five-year review shall evaluate the overall effectiveness of all of the TDM activities and

may suggest new or modified activities or substitute activities to meet the program's objectives, per the Community Development Director's review and approval. The Director may impose reasonable changes to assure the program's objectives will be met.

5. Consistent with common traffic engineering data collection principles, to ensure that trip reduction measures are meeting the requirements of the City's TDM ordinance, traffic conditions will be monitored annually by means of daily and AM and PM commute hour driveway counts at each project access point. The counts will include daily as well as peak hour traffic counts to be conducted between 7:00 AM and 9:00 AM and between 4:00 PM and 6:00 PM on three non-consecutive days per year on typical weekdays (Tuesday, Wednesday, or Thursday) during the fall when school is in session. Mechanical tube counts, hand counts, or video counts may be used. The peak 60-minute period will be calculated for each two-hour traffic count period.
6. An annual employee survey will be conducted by an independent consultant to determine employee transportation mode choice (e.g., drive alone, carpool, bus, Caltrain, etc.). This annual commuter survey should be formatted as a general survey including non-transportation questions (e.g., satisfaction with property management, activities, etc.) to increase the response rate.
7. The project's Transportation Coordinator will work with an independent consultant to obtain traffic count data, implement the annual employee commuter surveys, and document all findings in a TDM monitoring report. The annual monitoring report will be submitted to the City of San Carlos by the Transportation Coordinator. The TDM Plan monitoring data will be reviewed by the City to assess whether the vehicle trip and VMT reduction goals are being met. This will be assessed by comparing the driveway counts to the trip targets of this TDM plan report.
8. For the life of the project, upon occupancy of any portion of the project site, a monitoring form must be completed and approved for the entire site on an annual basis to verify that both vehicle trip and VMT reduction goals are being achieved. If the annual monitoring report shows that the applicable targets have not been achieved for the project, the applicant shall submit a list of TDM Plan modifications to the Community Development Director for approval within 60 calendar days of the report submittal. The Community Development Director shall review the list of modifications and may also recommend modifications to the TDM Plan, as appropriate, in order to ensure that the applicable targets are achieved. Upon approval of the requested changes, the applicant shall have 30 calendar days to implement the approved measures. The applicant shall then submit a follow-up monitoring report within six months of implementation of the new measures.
9. If the project continues to not achieve the applicable targets, the City may require the applicant to enact other measures as appropriate to achieve the vehicle trip and VMT reduction goals.
10. The TDM Plan monitoring will include documentation of the total number of vehicle trips accessing the site on a daily basis as well as a mode split survey of building occupants used to estimate the site specific VMT per service population. The exact methodology for the monitoring plan must be reviewed and approved by City staff prior to the first monitoring period.

With implementation of the TDM plan as required by Mitigation Measure Trans-2, the project's estimated VMT per service population for the project would be below the 14.5 VMT threshold for office projects, resulting in a *less than significant impact with mitigation*.

In addition to the TDM plan, and as part of its community benefits offering, the project applicant proposes to develop a Transportation Management Association (TMA) Plan for all the developments in the East Side Innovation District to increase efficiency and effectiveness of transportation demand management through various strategies that discourage single occupant vehicle ("SOV") trips. A TMA is typically either a private/non-profit or public-private partnership member-controlled organization that is established to promote commute alternatives to driving alone. TMAs are controlled and funded through membership with the goal of reducing vehicle trips and congestion. Typically, TMAs allow for businesses of all different sizes to collectively provide commute reduction services to a broader range of professionals. TMAs allow multiple companies within a geographic area to collectively provide TDM services and measures to employees, rather than each company providing services individually. Residential projects are also included in TMAs, enabling local residents to take advantage of these services and the incentives to walk, bike, carpool, vanpool or use transit to reach their destinations. The proposed TMA would potentially increase the efficacy of the project's TDM plan, as well as the TDM plans for other developments in the East Side Innovation District. The level of financial contribution of the participants in the TMA would be based on an equitable measure such as square footage (or similar metric) as agreed upon by the participants. As the TMA is not yet established, no trip reductions were factored into the VMT analysis discussed above for implementation of a TMA. A review of Bay Area TMAs indicates that a trip reduction of 40% is a reasonable expectation for a robust TMA and when tested in the traffic model for this area of San Carlos, was shown to achieve congestion reduction and other multi-modal benefits.

SITE DESIGN HAZARDS

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)?

Impact Trans-3: **Meets Safety Standards.** The proposed project would not substantially increase hazards due to a geometric design feature or incompatible uses. This is a ***less than significant*** impact.

Detailed design of the site and adjacent roadways continues to be refined and is undergoing review by City staff and project stakeholders. The finalized design would have to meet or exceed City design standards in terms of placement and configuration of pedestrian and bicycle pathways and also vehicle access roads and approach lanes.

Vehicular Site Access

At the completion of the project, the site would be accessible via five driveways: one on Old County Road, three on Commercial Street, and one on Industrial Road. In addition, there would be two formal curbside drop off areas, with one on Old County Road and the other on Industrial Road. Vehicles would enter and exit the Phase 1 parking garage, located along Old County Road near Pulgas Creek, by means of one driveway on Old County Road, and one driveway on Commercial Street. Each of these driveways would allow for both left- and right-hand turns. Approximately 43-percent of all vehicle trips attributable to the project would use the Phase 1 parking garage, based on the number of parking stalls compared to the overall total parking supply for the entire project site.

Access to the Phase 2 parking garage would be provided by two driveways on Commercial Street. Each of these driveways would be used for both entry and exits, and both would have left- and right-turn movements. The Phase 2 garage would contain the highest number of parking spaces on-site and as

such would be expected to accommodate approximately 53-percent of all project-related vehicle traffic. Vehicles using the driveways along Commercial Street would cross a Class IV Bikeway and sidewalk to access the project site.

Vehicle access to the surface parking lot would be provided via a full access driveway off of Industrial Road just north of the Pulgas Creek crossing with Industrial Road. This parking lot would primarily serve visitor parking and other service-related uses. As such, approximately four-percent of all vehicle trips attributable to the project would use this parking lot. Vehicles using the driveway at Industrial Road would cross the Class II bike lane and sidewalk to access the project site.

Sight Distance

The proposed driveway locations were evaluated to determine if the sight distance at the driveways would be adequate. Adequate sight distance reduces the likelihood of a collision at driveways and provides drivers with the ability to locate sufficient gaps in traffic to exit a driveway. Sight distance of a driveway is evaluated based on the stopping sight distance recommended by Caltrans in the *Highway Design Manual,* using the approach travel speed as the basis for determining the recommended sight distance.

Commercial Street has a posted speed limit of 25 mph, leading to a Caltrans stopping sight distance of 150 feet. Industrial Road and Old County Road both have speed limits of 35 mph, with a Caltrans stopping sight distance of 250 feet. Sight distances would be at least 700 feet at each of the project driveways on Commercial Street, 250 feet at the driveway on Old County Road, and over 500 feet at the driveway and curbside drop off area along Industrial Road. For vehicles traveling westbound on Commercial Street intending to turn left into a project driveway, the stopping sight distance looking west along Commercial Street would also be greater than 150 feet, which is adequate for the posted speed limit of 25 mph. Likewise, a vehicle traveling along Old County Road in the southbound direction intending to turn left into the project driveway would have at least 250 feet of clear sight lines, that would be adequate for the speed limit of 35 mph.

Bike and Pedestrian On-Site Circulation

A network of pathways across the project site would provide pedestrian and bicycle access to all buildings and areas of the site, and to the Class IV Bikeway on Commercial Street. While there is a potential for conflicts between vehicles, pedestrians and bicyclists where pathways cross internal private roadways/drive aisles, vehicle speeds on internal roads/aisles would be relatively slow and the conflicts would be typical for shared use spaces. Vehicle operators, pedestrians and bicyclists would have unobstructed sight lines along their respective paths of travel at access driveways and parking lots.

Queuing at Vehicular Access Points

The increase of vehicular traffic along local roadways would potentially increase queues at project driveways and nearby intersections. While this would increase congestion, it would be less likely to increase safety concerns, as the average vehicle speed would lessen.

Incompatible Uses

The project would not include any uses that are incompatible with the surrounding land use or the existing roadway system; trips generated by office/R&D uses are consistent with the surrounding mix of office/R&D and industrial land uses.

All roadway modifications proposed by the project would be designed and constructed to meet current City standards. None of the proposed changes, including new driveways or changes to sidewalks, crosswalks, bicycle facilities, and travel lanes would increase hazards due to geometric design features. Overall, the project would have a *less than significant* impact.

EMERGENCY ACCESS

4. Would the project result in inadequate emergency access?

Impact Trans-4: **Adequate Emergency Access.** The design of the project would meet all applicable City and safety standards related to circulation and emergency access and would not result in inadequate emergency access for the surrounding environment. This is a ***less than significant*** impact.

To be in compliance with California Fire Code, Section 503.1.1, all portions of the facility and all portions of the exterior walls on the first story of a building must be within 150 feet of a public street or qualified fire apparatus access road. The project site plan provides adequate access to each building via the primary internal access road or via a public street, either Commercial Street, Old County Road, or Industrial Road.

Emergency response vehicles would access the project site via driveways on Old County Road, Commercial Street, and Industrial Road. All driveways and internal roads would be designed to meet current City standards for access requirements and accommodating both passenger and emergency vehicles. The project would not include features that would alter emergency vehicle access routes or roadway facilities; fire and police vehicles would continue to have access to all facilities around the entire City. The added traffic generated by the project would not decrease emergency vehicle access on public roads, as all roadway users must yield right-of-way to emergency vehicles when using their sirens and lights.

With adequate project site access and no impediment to emergency vehicles on public roads, the impact on emergency access would be *less than significant*.

CUMULATIVE TRANSPORTATION IMPACTS

VMT impacts relate to regional traffic, and therefore, the geographic context for cumulative impacts associated with VMT considers existing development and growth projected in the city and the entire Bay Area region. Development of past, current, and future projects within the city and region have the potential to result in significant cumulative VMT impacts.

As more life science/office jobs are available in a given area, the VMT model assumes employees would travel from farther locations to meet the demand for that type of employee. In the future, as projected regional growth under the policies and projections of the regularly updated Plan Bay Area is fulfilled and more jobs are added in this sector in the cumulative scenario throughout the region, the base VMT per service population for projects of this type would be expected to increase. That being said, required implementation of TDM Plans for individual projects, and development of a TMA for the East Side Innovation District, would continue to minimize VMT for this and cumulative new projects in this area, effectively reversing the regional trend toward higher VMT for projects in this area, and with implementation of transportation demand management measures identified in Mitigation Measure Trans-2, the project would not make a cumulatively considerable contribution to the significant cumulative regional VMT.

The geographic context for cumulative impacts for consistency with alternative-mode plans and policies, site design hazards and emergency access are more localized, and mainly considers past, current and future projects in the East Side Innovation District. Localized transportation impacts, such as consistency with alternative-mode plans and policies, site design hazards, and emergency access would continue to be assessed for each new cumulative project proposed in the vicinity. All projects in the East Side Innovation District would be required to incorporate relevant alternative-mode planning, such as this project's implementation of the bikeway along the project's frontages on Old County Road

and Commercial Street, as well as project design features affording appropriate site design and emergency access. With minimization of any potential localized transportation impacts through review of individual projects, the project, when considered with past, current, and probably future projects, would not create a significant cumulative impact in these topics.

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TRIBAL CULTURAL RESOURCES

INTRODUCTION

This chapter describes existing tribal cultural resources setting at the project site and assesses whether implementation of the project would cause a substantial adverse change in the significance of such resources.

This chapter utilizes information from the following reports prepared for this project or analysis:

- A records search was conducted at the Northwest Information Center (NWIC), at Sonoma State University, File No. 20-0887, dated November 13, 2020, for this analysis (included in Appendix D)
- A search of the Sacred Lands File was conducted by the Native American Heritage Commission (NAHC), dated November 12, 2020, for this analysis (included in Appendix D)
- Environmental Science Associates, Archaeological Testing Results Report for the Alexandria Center for Life Science Project, September 24, 2022, prepared for the applicant (included in Appendix D).

Public Resources Code Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is:

(A) 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

(B) 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 these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

ENVIRONMENTAL SETTING

ETHNOGRAPHIC SETTING

The City of San Carlos is part of the greater San Francisco Bay Area. The areas surrounding San Francisco Bay were some of the most densely populated by the indigenous populations of North America.

The project site is located along the historic bayshore margins of San Francisco Bay and its associated wetland, and adjacent to Pulgas Creek. In addition, the western portion of the project site contains Holocene alluvial fan deposits, a soil type that is generally sensitive for prehistoric archeological resources. Native American archeological resources in this part of San Mateo County have been found

in areas marginal to the San Francisco bayshore and inland near intermittent and perennial freshwater courses.

Ethnohistorical, historical, and archeological data indicate that, prior to Euroamerican settlement of the area, the project site and vicinity was inhabited by a group known as the Ohlone. The Ohlone territory extended along the Pacific Coast from south of Monterey Bay to the north end of the San Francisco Peninsula, and inland to the Coast Ranges, from the east side of San Francisco Bay to the Carquinez Straits. Though varied, contact-era population estimates for the Ohlone range from between 7,000 and 16,000.

Linguistically, Ohlone (also known as Costanoan) is a subfamily of the Penutian stock, with an estimated six separate languages or dialect clusters. Though traditional anthropological literature portrayed the Ohlone culture as static, today it is better understood that many variations of culture and ideology existed within and between village communities. The use of static descriptions allowed for easier ethnographic classification of California native cultures, but inherently masked Native adaptability and self-identity; California Native Americans rarely viewed themselves as members of larger cultural groups, which were posited by anthropologists. Rather, the village community tended to be the primary identifier of origin, with marriage and kinship providing additional sources.

The basic political unit of organization for the Ohlone was one or more associated villages or camps holding a specific territory; this unit is often referred to as a village community. Overall, village communities were multi-family, independent landholding groups. Ohlone regional communities consisted of fairly autonomous units of between 150 and 400 people led by a chief (man or woman) and council. Other key roles in the community were shamans and war leaders. Permanent villages tended to be situated along or near waterbodies, with temporary camps in prime resource-processing areas.

Economically, the Ohlone engaged in hunting, fishing, and gathering. Their territory included coastal as well as open valley environments that yielded a wide variety of resources, such as acorns, grasses, bulbs, tubers, deer, elk, antelope, bear, and a variety of birds, fishes, shellfish, and small mammals. Private ownership of natural and cultural resources was acknowledged, with ownership at the village level. The Ohlone apparently aggressively protected territories, requiring monetary payment (e.g., clam shell beads) for access rights.

The most common Ohlone house type was circular and grass-/rush-thatched. Other common structures were the sweathouse, dance plazas, and assembly house. The Ohlone used a variety of stone tools, ranging from flaked-stone knives, arrow points, and spear points, to ground-stone handstones, millingslabs, mortars, pestles, net sinkers, anchors, and pipes. Flaked-stone tools were most often made from locally available chert or imported obsidian. Other common Ohlone material goods included: tule canoes, mats, and baskets; plant fiber cordage, nets, and baskets; animal skin blankets (e.g., sea otter, rabbit, duck); wood bows and arrow shafts; and shell beads and ornaments. There is no evidence that the Ohlone used or made ceramics prior to Euroamerican contact. The Ohlone traded extensively with neighboring groups.

During the Mission Period (1770 to 1835), California Native Americans, particularly along the coast, were brought, usually by force, to the missions by Spanish missionaries to supply labor demands. The missionization resulted in immediate and devastating changes to Ohlone lives and traditional lifeways, including a massive population decline due to introduced diseases (e.g., measles epidemic of 1806, during which almost 25 percent of the indigenous population died) and declining birth rates. Following the secularization of the missions by the Mexican government in the 1830s, most Native Americans gradually left the missions and established rancherias in the surrounding areas. Today, the Ohlone still

have a strong presence in the San Francisco Bay Area and are very interested in their past and in maintaining their culture.

REGULATORY SETTING

FEDERAL REGULATIONS

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) requires federal agencies and institutions that receive federal funds, including museums, universities, state agencies, and local governments, to repatriate or transfer Native American human remains and other cultural items to the appropriate parties upon request of a culturally affiliated lineal descendant, Indian tribe, or Native Hawaiian organization (43 Code of Federal Regulations [CFR] Section 10.10). Federal NAGPRA regulations (43 CFR Part 10) provide the process for determining the rights of culturally affiliated lineal descendants, Native American tribes, and Native Hawaiian organizations to certain Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony, which are indigenous to Alaska, Hawaii, and the continental United States but not to territories of the United States, that are (i) in federal possession or control,(ii) in the possession or control of any institution or state or local government receiving federal funds, or (iii) excavated intentionally or discovered inadvertently on federal or tribal lands.

National Historic Preservation Act, Section 106

The NHPA (54 U.S.C. Section 300101 et seq.) created the NRHP and the list of National Historic Landmarks. Section 106 of the NHPA requires federal agencies to consider the impact of their actions on historic and archeological properties and provide the Advisory Council on Historic Preservation with an opportunity to comment on projects before implementation (Section 306108). The NRHP and federal guidelines related to the treatment of traditional cultural properties are relevant for the purposes of determining whether significant tribal cultural resources, as defined under CEQA, are present and guiding the treatment of such resources.

STATE REGULATIONS

CalNAGPRA

The California Native American Graves Protection and Repatriation Act of 2001 (CalNAGPRA), as amended, requires all state agencies and state-funded museums that have possession or control over collections of California Native American human remains or cultural items to provide a process for the identification, inventory, and repatriation of these items to the appropriate tribes. Lineal descendants of human remains or cultural items may file a claim for the return of the materials by demonstrating the relationship between the lineal descendent and the materials.

California Native American Historic Resources Protection Act

The California Native American Historic Resources Protection Act of 2002 imposes civil penalties, including imprisonment and fines of up to $50,000 per violation, for persons who unlawfully and maliciously excavate, remove, destroy, injure, or deface a Native American historic, cultural, or sacred site that is listed in or may be listed in the California Register of Historic Resources.

California Environmental Quality Act

Section 15064.5 of the CEQA Guidelines addresses human remains and specifies procedures to be used when human remains, including Native American remains are discovered. Subdivision (e) of Section 15064.5 states:

> In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:
>
> (1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
>
> (A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and
>
> (B) If the coroner determines the remains to be Native American:
>
> 1. The coroner shall contact the Native American Heritage Commission within 24 hours.
>
> 2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
>
> 3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or
>
> (2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
>
> (A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
>
> (B) The descendant identified fails to make a recommendation; or
>
> (C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

California Health and Safety Code Sections 7050.5, 7051, and 7054

These sections collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during and after evaluation, and reburial procedures.

Public Resources Code Section 5097.98

Section 5097.98 of the PRC stipulates that whenever the commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The decedents may, with the permission of the owner of

the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and recommend to the owner or the person responsible for the excavation work means for treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 24 hours of their notification by the NAHC. The recommendation may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

SB 18 (Government Code Sections 65352.3, 65352.4, and 65562.5)

As approved into State law in 2004, this bill includes guidelines for consulting with California Native American tribes during the preparation of a General Plan for purposes of the preservation of, or the mitigation of impacts to specified Native American places, features, and objects. The bill addresses procedures for identifying the appropriate California Native American tribes, for continuing to protect the confidentiality of information concerning the specific identity, location, character, and use of those places, features, and objects, and for facilitating voluntary landowner participation to preserve and protect the specific identity, location, character, and use of those places, features, and objects. The bill also requires that, prior to the adoption or amendment of a city or county General Plan, the city or county conduct consultations with California Native American tribes for the purpose of protecting or developing treatment with appropriate dignity of specified places, features, and objects that are located within the city or county's jurisdiction. The project does not propose adoption or amendment of the San Carlos General Plan, and this regulation is therefore not applicable to the project.

Assembly Bill 52

In September of 2014, the California Legislature passed AB 52, which added provisions to the PRC regarding the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. In particular, AB52 requires lead agencies to analyze project impacts on "tribal cultural resources" separately from archeological resources. As defined under AB 52, a tribal cultural resource is, "a site feature, place, cultural landscape, sacred place or object, which is of cultural value to a Tribe, and is either on or eligible for the CRHP or a local historic register, or the lead agency, at its discretion, chooses to treat the resource as a tribal cultural resource." AB 52 also requires lead agencies to engage in consultation procedures with respect to California Native American tribes (PRC Section 21080.3.1, 21080.3.2, 21082.3). See discussion of tribal contact under Impact Tribal-1, below.

LOCAL

City of San Carlos General Plan

The San Carlos 2030 General Plan outlines various goals, policies, and actions relevant to tribal cultural resources in San Carlos in the Land Use Element, as excerpted below.

Policies:

LU-12.1: Evaluate historical and cultural resources in the development review process through consultation with interested parties.

LU-12.5: Treat with respect and dignity any human remains discovered during implementation of public and private projects within the city and fully comply with the California Native American Graves Protection and Repatriation Act and other appropriate laws.

IMPACTS AND MITIGATION MEASURES

CRITERIA OF IMPACT SIGNIFICANCE

Under the CEQA Guidelines, Appendix G – Environmental Checklist Form, a significant impact will occur if the proposed project would:

1. 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:
    a. Listed or eligible for listing in the California Register of Historical Resources, or included in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
    b. A resource determined by a 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

TRIBAL CULTURAL RESOURCES

1. Would the project 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:

a. Listed or eligible for listing in the California Register of Historical Resources, or included in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

b. A resource determined by a 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Impact Tribal-1: **Tribal Cultural Resources.** During ground disturbing activities associated within the project site, it is possible that currently unidentified tribal cultural resources could be discovered and disturbed. This impact is ***less than significant with mitigation***.

A search of the Sacred Lands File (included in Appendix D) did not identify any Sacred Lands that could be impacted by the project. A records search performed by the NWIC (included as Appendix D) confirmed there are no known Native American resources on the site, but provided the following further assessment of the likelihood undiscovered Native American archeological resources could be located at the site.

Native American archeological resources in this part of San Mateo County have been found in areas marginal to the San Francisco bay shore and inland near intermittent and perennial freshwater courses. No archeological sites have been recorded within or adjacent to the project site; however, the project site has not been previously studied for its archeological resource potential. The project site is along the

historic bay shore margins of San Francisco Bay and its associated wetland, and adjacent to Pulgas Creek. In addition, the western portion of the project site contains Holocene alluvial fan deposits, a soil type that is generally sensitive for prehistoric archeological resources. Given these environmental factors and the ethnographic sensitivity of the area, there is a moderately high sensitivity for unrecorded Native American archeological resources to be within the western portion of the project site, west of the former bay shore. East of the former bay shore, within the former tidal marsh, encompassing the eastern portion of the site, there is a low sensitivity for prehistoric archeological resources, and a low potential to encounter Native American archeological resources during project implementation.

Construction of the project involves ground disturbance and if unknown tribal cultural resources or Native American human remains are encountered, there is the potential for a significant impact to tribal cultural resources.

Since the Initial Study was released, the previously recommended Mitigation Measure Culture-1: Further Site Assessment was completed. Environmental Science Associates completed further archival research and archaeological testing at 50-meter horizontal intervals throughout the project site, with a depth of approximately 10 feet below ground surface, which is the estimated depth of excavation for the portions of the project requiring excavation. Archival research determined that based on the site location and history of site development, the potential to encounter prehistoric archaeological resources - which includes tribal cultural resources - was low on the eastern portion of the site but moderately high on the western portion of the site, west of the former bay shoreline. Further archaeological testing found no evidence of prehistoric archaeological resources during testing anywhere on the site, including the western portion. Based on the absence of previously-identified buried archaeological resources in the project site, combined with the negative findings during the tests, further archaeological identification efforts for buried archaeological resources, including construction monitoring, is no longer recommended, and this previously identified Mitigation Measure Culture-1 has been fully satisfied and is no longer applicable to the project.

While no tribes have requested consultation for a project in this area pursuant to AB 52 and PRC Section 21080.3.1, at the recommendation of the NAHC, notice was sent in January 2022 to the local tribes historically active in the area, including a summary of the archeological testing report by ESA. No requests for consultation were received during or after the 30-day response period.

There are no known human remains that would be disturbed by the proposed project. If human remains were to be found during construction activities at the project site, they would be handled according to Section 7050.5 of the Health and Safety Code and, if the remains are Native American, Section 5097.98 of the Public Resources Code as per CEQA Section 15064.5(d). These requirements are implemented as standard conditions on all projects (see Standard Condition: Protection of Human Remains in Chapter 7: Cultural Resources).

Given that the possibility for unrecorded Native American resources to be discovered cannot be entirely discounted, the following Mitigation Measures Culture-2a and -2b (renumbered from the Initial Study) shall be applicable.

Mitigation Measures Culture-2a and Culture-2b detailed in Chapter 7: Cultural Resources, require cultural sensitivity training for construction workers to be familiar with indications of the presence of cultural resources during ground disturbing activities and require halting of construction activity and appropriate actions in the event any unknown cultural resources, including tribal cultural resources, or remains are discovered. This measure would be applicable to mitigate Impact Tribal-1 as well.

The San Carlos GP EIR evaluated the potential of future development to impact tribal cultural resources. A mitigation measure was included in the EIR, intended to ensure that any discovered tribal cultural resources would be handled appropriately, resulting in less than significant impacts. This project would implement the relevant San Carlos GP EIR mitigation measure (indicated as "GP-MM") requiring all discovered tribal cultural resources to be treated as significant until determined to be otherwise.

GP-MM TRIB-1: Consider all Native American Archaeological Discoveries to be Significant Resources. All Native American artifacts (tribal finds) shall be considered as a significant Tribal Cultural Resource, pursuant to PRC 21074 until the lead agency has enough evidence to make a determination of significance. The City shall coordinate with an archaeologist who meets the U.S. Secretary of the Interior's Professional Qualifications, as well as an appropriate tribe or tribes, as determined by the NAHC, to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing and analysis. An archaeological report shall be written detailing all archaeological finds and submitted to the City and the Northwest Information Center.

Implementation of Mitigation Measures Culture-2a, Culture-2b and GP-MM TRIB-1 would reduce the impacts associated with possible disturbance of unidentified tribal cultural resources at the project site to a level of *less than significant with mitigation*.

CUMULATIVE TRIBAL CULTURAL RESOURCES IMPACTS

The geographic context for cumulative impacts associated with tribal cultural resources considers existing development and growth projected in the City and the region. Development of past, current, and future projects within the City and region have the potential to result in development-related impacts on tribal cultural resources. However, new development would be subject to existing federal, State, and local regulations as well as general plan goals, policies, and programs, which would, to the maximum extent practicable, reduce cumulative development-related impacts on tribal cultural resources.

Tribal Cultural resource impacts could be considered cumulatively significant if this project and the other recent, concurrent and planned development in this area were all to affect a common resource or type of resource.

The San Carlos GP EIR included assessment of this topic for development in the City, which would include the current project, and concluded that future development in areas both within and outside the City would be subject to federal and/or state laws protecting tribal cultural resources. The goals and polices of the City's General Plan Land Use Element protecting tribal cultural resources and human remains – in combination with the actions put forth in the Land Use Element and GP-MM TRIB-1 and mitigation in subsequent analyses for future projects to address site specific conditions and records for known resources – would result in less-than-significant cumulative impacts to tribal cultural resources.

As discussed in this chapter, all project-specific impacts would be less than significant or reduced to that level through implementation of identified mitigation or compliance with applicable regulations. Therefore, the project is consistent with the assumptions in the San Carlos GP EIR, and the less than significant conclusion with respect to cumulative tribal cultural resources. In summary, the project when combined with past, present, and probable future development would not cause a significant cumulative impact on tribal cultural resources.

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UTILITIES AND SERVICE SYSTEMS

INTRODUCTION

This chapter describes existing public utilities at and near the project site. This chapter also evaluates the impact of the proposed project on the provision of public utilities and possible adverse physical impacts on the environment that could result from constructing expanded facilities.

This chapter utilizes information from the following reports prepared for this project or analysis:

- EKI Environment & Water, Water Supply Assessment, 2022, prepared for the project (included as Appendix I).
- Mott Macdonald for City of San Carlos, Task Order #10 Amendment: Various San Carlos Development Alternatives - Sewer Capacity Model Update, available as part of the project application.

SETTING

WASTEWATER

The wastewater collection within the San Carlos city limit and sphere of influence is provided by the San Carlos Public Works Department. Wastewater is then pumped to the Silicon Valley Clean Water's (SVCW) regional wastewater treatment facility.

City of San Carlos Public Works Department

The City of San Carlos Public Works Department operates and maintains the wastewater collection system. There are approximately 104 miles of sewer in San Carlos, with sewer pipes ranging in size from 5 inches to 36 inches in diameter, and 6 sewer lift stations.[1] The sewer system has been undergoing capacity improvements in the last ten years to address sanitary sewer overflows during wet weather events due to stormwater infiltrating the sewage system, replacing major structural defects.

The San Carlos sewer collection system also serves several outside sewer districts: Devonshire Canyon, Scenic Heights, Emerald Lake and the unincorporated portion of the Harbor Industrial Area. The average daily flow for San Carlos is 2.0 million gallons per day (MGD). The GPU EIR forecast the flow wastewater for residential and existing non-residential uses by the year 2035 is 3.16 MGD, which would result in 1.31 MGD of capacity remaining within San Carlos allocation.[2]

[1] City of San Carlos, October 2022, *City of San Carlos Focused General Plan Update EIR*, p. 4.15-23.

[2] City of San Carlos, *Sewer System General Information*, available at: https://www.cityofsancarlos.org/city_hall/departments_and_divisions/public_works/view_documents.php#outer-73sub-78

Silicon Valley Clean Water

Wastewater collected within San Carlos is treated at a plant operated by SVCW (formerly named the South Bayside Sewer Authority), a Joint Powers Authority managed by one elected official each from Belmont, Redwood City, San Carlos and the West Bay Sanitation District. SVCW provides wastewater treatment for Belmont, Redwood City, San Carlos, Menlo Park, Portola Valley, and portions of Atherton, Woodside, East Palo Alto and San Mateo County. SVCW serves about 220,000 people and businesses in an area that covers about 45 square miles.[3]

The capacity of the SVCW treatment plant is 29.5 MGD (average dry weather flow), and currently receives approximately 20.0 MGD. Of this total, the City of San Carlos is allocated a total treatment capacity of 4.47 MGD. Wastewater from San Carlos is delivered to a pump station and is then pumped to the SVCW treatment plant located in Redwood Shores. The San Carlos flow wastewater projection for residential and existing nonresidential uses by the year 2035 is 3.16 MGD. The projected demand for non-residential uses is 0.157 MGD.[4,5] The SVCW treatment plant is currently undergoing a Regional Environmental Sewer Conveyance Upgrade to improve its conveyance and pumping systems, which have degraded due to age. One of the goals of the program is to add capacity to deal with stormwater and handle future wastewater wet weather flows of up to 108 MGD.[6]

WATER

San Carlos receives its water from two local domestic water providers: the California Water Service Company (Cal Water) and the Mid-Peninsula Water District. Cal Water utilizes the City's water infrastructure to distribute water. The Mid-Peninsula Water District, on the other hand, utilizes its own infrastructure, and does not service the project site. These two local domestic water providers purchase water from the San Francisco Public Utilities Commission (SFPUC). Cal Water would be the water supplier for the project.

SFPUC

The primary source of SFPUC's water is spring snowmelt from the Tuolumne River. This water is stored at the Hetch Hetchy Reservoir. The projected wholesale non-drought water supply from the SFPUC for the year 2030 is 300 MGD. During normal precipitation years, the SFPUC is expected to have adequate supplies to meet customers' water demands, including water supplied to Cal Water and the Mid-Peninsula Water District. [7]

As of June 2021, the SFPUC is pursuing several strategies to uphold its supply agreements, including strategies involving voluntary agreements, drought planning, alternative water supplies, and litigation. The SFPUC has initiated an Alternative Water Supply Planning Program to ensure that San Francisco can meet the water needs of its retail and wholesale customers, address shortages in projected dry years, and limit rationing to a maximum 20 percent system-wide, in accordance with adopted SFPUC policies. This program, which is in its early planning stages, is intended to meet future water supply challenges

[3] Silicon Valley Clean Water, *About Us*, https://svcw.org/about/, accessed on December 28, 2021.

[4] City of San Carlos, June 25, 2009, *San Carlos 2030 General Plan EIR*, Chapter 4.13: Utilities and Infrastructure.

[5] California Water Service, June 2021, *2020 Urban Water Management Plan, Mid-Peninsula District.* Available at: https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf.

[6] U.S. EPA, Redwood City Regional Environmental Sewer Conveyance Upgrade (RESCU) Program, https://www.epa.gov/wifia/redwood-city-regional-environmental-sewer-conveyance-upgrade-rescu-program

[7] Ibid.

and vulnerabilities (e.g., environmental flow needs and other regulatory changes; earthquakes, disasters, and emergencies; increases in population and employment; climate change). Because the region faces future challenges, both known and unknown, the SFPUC is considering a suite of diverse, nontraditional supplies and leveraging regional partnerships to meet retail and wholesale customer needs through 2045.

California Water Service Company

Cal Water is a San Jose-based water utility company with more than 489,000 customers throughout California and is the main water provider in San Carlos. Water service in San Carlos is managed by Cal Water's Mid-Peninsula District. Demand in the Mid-Peninsula District is projected to increase from 14,418 acre-feet per year (AFY) in 2025 to approximately 15,279 AFY in 2045. The Mid-Peninsula District is expected to have adequate water supplies during normal years to meet its projected demands through 2045.[8] Cal Water projects water supply shortfalls during some future dry year scenarios in the Mid-Peninsula District. As described in more detail below, the severity of those shortfalls depends on the reliability of Cal Water's water supplies available from the City and County of San Francisco's Regional Water System.

Cal Water's Bear Gulch, Mid-Peninsula, and South San Francisco Districts share one contractual allocation of supply (referred to as their Individual Supply Guarantee or ISG) from the City and County of San Francisco's Regional Water System (RWS), and thus Cal Water manages the supplies for all three Districts collectively. Cal Water's ISG for the three Peninsula Districts is 39,993 AFY. The Regional Water System has historically met demand in its service area in all year types. Future water availability is constrained by hydrology, physical facilities, and the institutional parameters that allocate the water supply of the Tuolumne River. In addition, statewide regulations and other factors can impact the system reliability. For example, the adoption of the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment), which would require the release of 30-50% of the "unimpaired flow" on the Tuolumne River from February through June in every year type,[9] is anticipated to reduce water supply reliability during drought years in the future. The Cal Water Mid-Peninsula District Water Shortage Contingency Plan and Development Offset Program (discussed below) are being implemented to address future supply reliability.

Implementation of the Bay-Delta Plan Amendment is uncertain for many reasons.[10] If the Bay-Delta Plan Amendment is not implemented, SFPUC would be able to supply 100 percent of projected RWS demands in all year types through 2045, except for the 4th and 5th consecutive dry year in 2045, during which 90 percent of projected RWS demands (85 percent of the Wholesale demands) would be met.[11]

If the Bay-Delta Plan Amendment is implemented, the SFPUC will be able to meet the projected water demands presented in the 2020 Mid-Peninsula District Urban Water Management Plan (UWMP) in normal years but would experience supply shortages in single dry years or multiple dry years.

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[8] Ibid.

[9] "Unimpaired flow represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds." (California Water Boards State Water Resources Control Board, *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Dec. 12, 2018) p.17, fn. 14, available at https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf.)

[10] California Water Service, June 2021, *2020 Urban Water Management Plan, Mid-Peninsula District*. In November 2022, SFPUC signed onto a memorandum of understanding with the State of California and several other parties outlining terms for a potential voluntary agreement that, if implemented, would likely improve RWS supply reliability.

[11] Ibid.

Implementation of the Bay-Delta Plan Amendment would require rationing in all single dry years and multiple dry years. If the "worst-case" supply scenario under the Bay-Delta Plan Amendment is implemented, water supply shortfalls of up to approximately 53% are projected during drought years. To address these future dry-year shortfalls, Cal Water would enact its Water Shortage Contingency Plan, which includes Mandatory Staged Restrictions of Water Use. The overall reduction goals in the Water Shortage Contingency Plan are established for six drought stages and address water demand reductions over 50%. The Water Shortage Contingency Plans for all three Peninsula Districts were revised as part of the 2020 UWMP update process and include detailed information about how drought risks are evaluated by Cal Water on an annual basis to determine the potential need for reductions. In July 2021, Cal Water began development of a Development Offset Program for its three Peninsula Districts. The purpose of the Development Offset Program is to ensure that overall customer demand for water does not exceed available current or future supply under a range of hydrologic conditions, and to ensure the availability of water for residential, commercial, and other purposes for future water use in the three Peninsula Districts. As approved by the California Public Utilities Commission, the Development Offset Program will require any new residential, commercial, or industrial development within any of the three Peninsula Districts that is projected to increase demand by more than 50 AFY to pay a special facilities fee, referred to as a developer offset fee, consisting of a fee of $15,400 per acre-feet of net demand increase. Proceeds of the fee program would be used by Cal Water to fund alternative water supply and conservation projects that would increase water supplies available for use within its three Peninsula Districts.

STORMWATER

The City of San Carlos maintains all stormwater facilities within the city. There are approximately 27 miles of closed conduits in the city that receive stormwater drainage with 680 inlets. The drainage system dates to the early twentieth century, and as such does not meet today's design standards. Repairs are completed as needed. Developers or property owners are responsible for adding extensions to the stormwater system when new development occurs and necessitates such extensions, and are responsible for necessary repairs.[12] Stormwater on the project site infiltrates into landscaped areas or flows over impervious surfaces and into catch basins that discharge to the municipal storm sewer system located on Commercial Road and Industrial Road. Storm drains in the southeastern parking area discharge directly to Pulgas Creek, and eventually to the Bay. Under the former Kelly Moore area of the project site are two stormwater collection vaults and stormwater is discharged to the storm sewers or Pulgas Creek.

SOLID WASTE

Solid waste and recyclables are collected within the city by a provider contracted through the South Bay Waste Management Authority (SBWMA). This is a joint powers agreement with 12 member agencies, including the City of San Carlos. Since January 1, 2011, Recology San Mateo County (Recology) provides Recycle, Compost and Garbage collection services for the 428,000 residences and 11,000 businesses in this area.[13]

The Shoreway Environmental Center in San Carlos is owned by the SBWMA and operated by South Bay Recycling (SBR) on their behalf. The Shoreway Environmental Center is located on the border of San Carlos and Redwood City at 225 and 333 Shoreway Road, on the east side of U.S. 101, north of Holly Street/Redwood Shores Parkway. Shoreway Environmental Center serves as a regional solid waste and recycling facility for the receipt, handling and transfer of refuse, recyclables and organic materials.

[12] Ibid

[13] South Bayside Waste Management Authority, *Rethink Waste*, available at: https://rethinkwaste.org/about/rethinkwaste/about/, accessed September 17, 2023.

Residential and commercial solid waste recyclable and organic materials that are collected by the franchise hauler, Recology, are taken to the Shoreway Environmental Center for processing, staging and shipment. The site operations are regulated by a number of local and State agencies with regular facility inspections. The facility is separately permitted by the California State Integrated Waste Management Board (CIWMB) to receive 3,000 tons per day of refuse and recyclables. [14]

GreenWaste Zanker Resource Recovery Facility in San Jose processes and recycles waste, specializing in construction and demolition debris. They divert over 80% of the waste they receive.[15] They act as a green material composting facility and large volume transfer/processing facility. They no longer operate as a landfill.[16]

Materials that cannot be recycled or composted are transferred to the Ox Mountain Sanitary Landfill, near Half Moon Bay. As San Mateo County's only landfill, it is expected to reach capacity by 2034.[17] The landfill has a permitted maximum disposal of 3,598 tons per day. As of January 2019, it had a remaining capacity of approximately 18 million cubic yards. In 2018 the landfill received an estimated 1,242,840 tons of solid waste per year.[18] In 2018 San Carlos disposed of 7 percent less solid waste than in 2005, largely because of increased recycling and composting.[19]

In 2018, the City of San Carlos was not meeting disposal rate targets of 7.5 pounds per day per population and but was meeting the target of 14.4 pounds per day per employment at 7.8 and 12.9 pounds per day respectively.[20] In 2021, San Carlos was exceeding both disposal rate targets at 6.3 pounds per day per population and 11.1 pounds per day per employment.[21]

ELECTRICITY, NATURAL GAS, AND TELECOMMUNICATIONS

Electricity for the project would be provided by PCE. Electric lines are available for connection to the project site. Although PCE would provide the electricity, it uses PG&E's distribution system and infrastructure. Natural gas has been provided to the site by PG&E. The project does not propose to use natural gas for utilities, though it may be used in R&D processes. Any unused gas lines would be left as stubbed connections. Telecommunications would be provided by a telecommunications provider, such as Verizon, that has existing facilities available to serve the project.

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[14] CalRecycle, *SWIS Facility/Site Activity Details*, available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1575?siteID=3236, accessed August 21, 2022.

[15] Greenwaste, *Greenwaste Zanker Resource Recovery Facility*, available at: https://www.greenwaste.com/facilities/san-jose-c-and-d-recycling/, accessed October 1, 2023.

[16] CalRecycle, *SWIS Facility/Site Activities for Zanker Road Recovery Operations*, available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Index/3392. Accessed on October 1, 2023.

[17] Sustainable San Mateo County, Waste to Energy and Waste Management, available at: https://sustainablesanmateo.org/home/indicators/2020-key-indicator/waste-to-energy-and-waste-management/, accessed August 21, 2022.

[18] Republic Services, July 16, 2019, *Report of Landfill Activity Corinda Los Trancos Landfill (Ox Mountain)*. Available at: https://www.smcsustainability.org/wp-content/uploads/Ox-Landfill-Capacity.pdf.

[19] City of San Carlos, September 27, 2021, *City of San Carlos Climate Mitigation and Adaptation Plan*, p. 62.

[20] CalRecycle, *Jurisdiction Diversion/Disposal Rate Detail – 2018*, available at: https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/slcp/capacityplanning/recycling/JurisdictionDiversionDetail?year=2018&jurisdictionID=431, accessed August 21, 2022.

[21] CalRecycle, *Jurisdiction Diversion/Disposal Rate Detail – 2021*, available at: https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/slcp/capacityplanning/recycling/JurisdictionDiversionDetail?year=2021&jurisdictionID=431, accessed September 25, 2023.

REGULATORY SETTING

FEDERAL

Corporate Average Fuel Economy Standards

The NHTSA sets CAFE standards to improve average fuel economy (i.e., reduce fuel consumption) and reduce GHG emissions generated by cars and light-duty trucks. On March 31, 2020, NHTSA and the EPA finalized the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, which set fuel economy and carbon dioxide standards that would increase 1.5 percent in stringency each year from MYs 2021 through 2026. These standards applied to both passenger cars and light trucks. On December 21, 2021, NHTSA published its CAFE Preemption rule, which repeals 2019's SAFE Vehicles Rule Part One: One National Program. That rule had codified the preemption of state and local laws related to fuel economy standards. Specifically, the 2019 rule had targeted California's preemption waiver as applied to the greenhouse gas emissions standards and zero-emission vehicle mandate. NHTSA's 2021 rule thus reopens pathways for state and local fuel economy laws.

On March 31, 2022, NHTSA finalized CAFE Standards for MYs 2024 through 2026. The final rule establishes standards that require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in MY 2026, by increasing fuel efficiency by 8% annually for MYs 2024 and 2025, and 10% annually for MY 2026. NHTSA projects the final standards will save consumers nearly $1,400 in total fuel expenses over the lifetimes of vehicles produced in these MYs and avoid the consumption of about 234 billion gallons of gas between MYs 2030 to 2050. NHTSA also projects the standards will cut greenhouse gases from the atmosphere, reduce air pollution, and reduce the country's dependence on oil.[22]

NHTSA is currently working on an Environmental Impact Statement to analyze its proposed CAFE Standards for MYs 2027 and beyond and its requirements for heavy-duty pickup trucks and vans for MYs 2029 and beyond.

Federal Safe Drinking Water Act

The Safe Drinking Water Act (SDWA), enacted in 1974, is intended to ensure safe drinking water for the public. The SDWA, which has been amended several times since it came into law, authorizes the EPA to set national standards for drinking water. These are called the National Primary Drinking Water Regulations. The regulations, which provide protection from both naturally occurring and manufactured contaminants, set enforceable maximum contaminant levels for drinking water and require all water providers in the United States to treat water sources, except for private wells that serve fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities. If a water system does not meet the standards, it is the water supplier's responsibility to notify its customers.

National Pollutant Discharge Elimination System

The NPDES permit program was established in the CWA to regulate municipal and industrial discharges to surface waters in the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point- source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits identify effluent and receiving water limits for allowable connections

[22] Department of Transportation National Highway Traffic Safety Administration, *Corporate Average Fuel Economy*, available at: https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy#:~:text=NHTSA's%20Corporate%20Average%20Fuel%20Economy,heavy%2Dduty%20trucks%20and%20engines. Accessed August 21, 2023.

and/or mass emissions for pollutants contained in discharges, prohibitions on discharges that were not specifically allowed under the permit, and provisions that describe required actions for the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities. Wastewater discharges are regulated under the NPDES permit program for direct discharges to receiving waters as well as the National Pretreatment Program for indirect discharges to sewage treatment plants.

STATE LAWS AND REGULATIONS

Sanitary District Act of 1923

The Sanitary District Act of 1923 (Health and Safety Code Section 6400 et seq.) authorizes the formation of sanitation districts. It also authorizes the districts to construct, operate, and maintain facilities for the collection, treatment, and disposal of wastewater. The act was amended in 1949 to allow the districts to provide solid waste management and disposal services, including refuse transfer and resource recovery.

California Integrated Waste Management Act (Assembly Bill 939 and Senate Bill 1016)

California's Integrated Waste Management Act (IWMA) of 1989 (AB 939) set a requirement for Cities and Counties throughout the State to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. To help achieve this, the Act required that each City and County prepare and submit a Source Reduction and Recycling Element (SRRE). AB 939 also established the goal for all California counties to provide at least 15 years of on-going landfill capacity.

As part of CIWMB's Zero Waste Campaign, regulations affect what common household items can be placed in the trash. As of February 2006, household materials, including, but not limited to, fluorescent lamps and tubes, batteries, electronic devices, and thermostats that contain mercury are no longer permitted in the trash.

In compliance with the IWMA described above, the City of San Carlos has implemented its SRRE's programs, including residential curbside, residential drop-off, residential buy-back, commercial on-site pickup and telephone book and Christmas tree recycling.

Beginning with reporting year 2007 jurisdiction annual reports, diversion rates were no longer measured. With the passage of SB 1016, the Per Capita Disposal Measurement System, only per capita disposal rates are measured. The 50 percent diversion requirement is now measured in terms of per-capita disposal expressed as pounds per person per day with a focus on program implementation, actual recycling, and other diversion programs instead of estimated numbers and compliance determined with whether target per capita numbers are reached.

Assembly Bill 1826

AB 1826 requires that state agencies, businesses, and multifamily complexes that generate specific quantities of organic or solid waste each week enroll in organic recycling programs through an applicable solid waste disposal company. AB 1826 defines organic waste as food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. Solid waste is defined as the total of trash, recycling, and organics. Organic recycling programs may take the form of composting, mulching, or anaerobic digestion. Businesses and multifamily residential housing complexes that generate the following quantities are required to implement organic or solid waste recycling programs under AB 1826:

- Eight or more cubic yards of organic waste per week as of April 1, 2016;
- Four of more cubic yards of organic waste per week as of January 1, 2017;

- Four or more cubic yards of solid waste per week as of January 1, 2019; and
- Two or more cubic yards of solid waste per week as of January 1, 2020, if statewide disposal of organic waste is not reduced by half.

In September 2020, CalRecycle reduced the threshold to 2 cubic yards of solid waste generated by covered businesses.

Senate Bill 1383

SB 1383 requires CalRecycle and CARB to adopt regulations that achieve specific targets to reduce organic waste in landfills. As it pertains to CalRecycle, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025 and grants CalRecycle the regulatory authority required to achieve these targets. SB 1383 also establishes an additional waste reduction target (i.e., not less than 20 percent of currently disposed edible food to be recovered for human consumption by 2025). The Office of Administrative Law approved CalRecycle's regulations to reduce SLCP from organic waste in November 2020.

Title 14, CalRecycle

CCR Title 14, Division 7, contains CalRecycle regulations pertaining to all nonhazardous waste management in California. It contains regulations regarding the minimum standards for solid waste handling and disposal, standards for handling and disposal of asbestos containing waste, special waste standards, enforcement of standards, commercial recycling, and solid waste cleanup programs, among other topics.

State of California Building Codes

The CALGreen Code is part of the California Building Standards Code under Title 24, Part 11.[23] The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency, resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2022 California Building Standard Code) was effective as of January 1, 2023.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and creating policies/programs that would meet this goal.

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (California Code of

[23] California Department of General Services, Building Standards Commission, CalGreen. See: https://www.dgs.ca.gov/BSC/CALGreen.

Regulations Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy efficiency technologies and methods.[24]

The San Francisco Bay-Delta Water Quality Control Plan

The SWRCB adopted an amendment to the San Francisco Bay-Delta Water Quality Control Plan (Bay-Delta Plan) on December 12, 2018. The plan establishes water quality objectives that protect uses of water in the Bay-Delta watershed, including uses pertaining to drinking water, water for irrigation, and fish and wildlife habitat. The Bay-Delta Plan Amendment requires the release of 40 percent of the "unimpaired flow" on the Lower San Joaquin River's three salmon-bearing tributaries, the Stanislaus, Tuolumne, and Merced Rivers, from February through June in every year type, whether wet, normal, dry, or critically dry and requires a program for implementation. The new flow objectives recognize the vital role upstream flows provide for habitat as well as the migration of threatened and endangered fish. The revised salinity objectives reflect updated scientific information about the salt levels that are suitable for agriculture in the southern delta. The reliability of the SFPUC RWS supply is highly dependent on the assumption of whether or not the 2018 Bay-Delta Plan Amendment is implemented. According to the SFPUC, should the Bay-Delta Plan Amendment be implemented, significant supply shortfalls are projected in dry years for agencies that receive water supplies from the SFPUC RWS, as well as other agencies whose water supplies would be affected by the amendment.

As described above, if the Bay-Delta Plan Amendment is implemented, Cal Water projects water supply shortfalls of up to approximately 53% during drought years. To address these future dry-year shortfalls, Cal Water would implement its Water Shortage Contingency Plan, which includes Mandatory Staged Restrictions of Water Use. The overall reduction goals in the Water Shortage Contingency Plan are established for six drought stages and address water demand reductions over 50%. If the Bay-Delta Plan Amendment is not implemented, SFPUC would be able to supply 100 percent of projected RWS demands in all year types through 2045, except for the 4th and 5th consecutive dry year in 2045, during which 90 percent of projected RWS demands (85 percent of the Wholesale demands) would be met.[25]

Senate Bill 610

California SB 610 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires detailed information regarding water availability. This information would be provided to city and county decisionmakers prior to approval of specified large development projects to ensure that prudent water supply planning has been conducted and that planned water supplies will be adequate with respect to meeting existing demands, anticipated demands from approved projects and tentative maps, and the demands of proposed projects. SB 610 amended California Water Code Sections 10910 through 10915 (inclusive) to require land use lead agencies to, in certain instances:

- Identify any public water purveyor that may supply water for a proposed development project and
- Request a WSA from the identified water purveyor.

The purpose of the WSA is to demonstrate the sufficiency of the purveyor's water supplies with respect to satisfying the water demands of proposed projects that exceed a certain size and are subject to review

[24] California Energy Commission, 2017, *2016 Appliance Efficiency Regulations*. Available at: https://pdf4pro.com/cdn/2016-applianceefficiency-regulations-5104f7.pdf.

[25] California Water Service, June 2021, *2020 Urban Water Management Plan, Mid-Peninsula District.* Available at: https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf.

under CEQA while still meeting the demands of the water purveyor's existing and planned future uses. California Water Code Sections 10910 through 10915 delineate the specific information that must be included in the WSA. The WSA prepared for the project, included in Appendix I complies with SB 610.

Urban Water Management Planning Act

Through the Urban Water Management Planning Act of 1983, the California Water Code requires all urban water suppliers within California to prepare and adopt an UWMP and update it every 5 years. This requirement applies to all suppliers that provide water to more than 3,000 customers or supply more than 3,000 acre-feet of water annually. The act is intended to support the conservation and efficient use of urban water supplies. It requires a comparison between a project's water use and water supply sources for the next 20 years, in 5-year increments; planning for single and multiple dry years; and a water recycling analysis with a description of the wastewater collection and treatment system within the agency's service area and the current and potential recycled water uses. In September 2014, the act was amended by SB 1420 to require urban water suppliers to provide descriptions of their water demand management measures and similar information.

Cal Water most recently updated the Mid-Peninsula Urban Water Management Plan in 2021. The SFPUC 2020 UWMP, adopted in June 2021, extends to a 2045 horizon year and analyzes two supply scenarios, one with the Bay-Delta Plan Amendment assuming implementation starting in 2023, and one without the Bay-Delta Plan Amendment. Results of these analyses are summarized as follows:

- If the Bay-Delta Plan Amendment is implemented, SFPUC will be able to meet its contractual obligations to its wholesale customers as presented in the SFPUC 2020 UWMP in normal years but would experience significant supply shortages in dry years. In single dry years, supply shortages would range from 36 to 46 percent. In multiple dry years, supply shortages would range from approximately 36 to 54 percent. Implementation of the Bay-Delta Plan Amendment will require rationing in all single dry and multiple dry years through 2045.

- If the Bay-Delta Plan Amendment is not implemented, SFPUC would be able to meet 100 percent of the projected purchases of its wholesale customers during all year types through 2045 except during the fourth and fifth consecutive dry years for base year 2045 when 15 percent Wholesale supply shortages are projected.

In June 2021, in response to various comments from Wholesale customers regarding the reliability of the RWS as described in SFPUC's 2020 UWMP, the SFPUC provided a memorandum describing SFPUC's efforts to remedy the potential effects of the Bay-Delta Plan Amendment. As described in the memorandum, SFPUC's efforts include the following:

- Pursuing a Tuolumne River Voluntary Agreement
- Evaluating the drought planning scenario in light of climate change
- Pursuing alternative water supplies
- In litigation with the State over the Bay-Delta Plan Amendment
- In litigation with the State over the proposed Don Pedro FERC Water Quality Certification.

2009 Water Conservation Act

The Water Conservation Act of 2009, SB X7-7, requires all water suppliers to increase water use efficiency. The legislation set an overall goal of reducing per capita water use by 20 percent by 2020, with an interim goal of 10 percent by 2015. Effective in 2016, urban retail water suppliers that did not

meet the water conservation requirements established by this bill were not eligible for state water grants or loans. SB X7- 7 requires urban retail water suppliers to determine baseline water use and set reduction targets according to specified standards.

State Updated Model Water Efficient Landscape Ordinance

The updated Model Water Efficient Landscape Ordinance required cities and counties to adopt landscape water conservation ordinances by February 1, 2016, or a different ordinance that would be at least as effective in conserving water as the updated ordinance. The City's water efficient landscaping ordinance is found in Chapter 18.18 of the San Carlos Municipal Code.

The California Plumbing Code

The California Plumbing Code (Part 5, Title 24, CCR) was adopted as part of the California Building Standards Code to prevent disorder in the industry as a result of widely divergent plumbing practices and the use of many different, and often conflicting, plumbing codes by local jurisdictions. Among the many topics covered in the code were water fixtures, potable and non-potable water systems, and recycled water systems. According to the code, water supply and distribution practices shall comply with all applicable provisions of the current edition of the California Plumbing Code.

Governor's Drought Emergency Proclamations and Executive Orders

Since 2021, Governor Newsom has issued several drought emergency proclamations and executive orders directing state and local agencies to take certain actions to respond to the current drought. The most recent drought executive order, EO N-5-23, terminated many drought-based restrictions enacted by prior orders while maintaining a drought state of emergency across the state, maintaining a ban on wasteful water uses, and preserving emergency orders focused on protecting groundwater supplies. Order N-5-23 also ended the statewide voluntary 15% conservation target and the requirement that local water agencies implement level 2 of their drought contingency plans.

State Water Resources Control Board General Waste Discharge Requirements

On May 2, 2006, the SWRCB adopted a General Waste Discharge Requirement (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California with more than 1 mile of sewer pipe. The order provides a consistent statewide approach to reducing sanitary sewer overflows by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system, prevent sanitary sewer waste from entering the storm sewer system, and develop a Sanitary Sewer Master Plan. The General Waste Discharge Requirement requires storm sewer overflows to be reported to the SWRCB with use of an online reporting system. The SWRCB has delegated enforcement authority to the nine RWQCBs. The San Francisco Bay RWQCB issues and enforces NPDES permits applicable to the SVCW WWTP in Redwood City.

LOCAL REGULATIONS

Bay Area Water Supply and Conservation Agency

The BAWSCA, created in 2003, represents 26 water suppliers that depend on the San Francisco RWS, including Cal Water. The BAWSCA oversees and coordinates water conservation, water supply, and water recycling activities for member agencies; acquires water and makes it available to other agencies on a wholesale basis; finances improvements to the RWS; and builds facilities as necessary.

Water Shortage Allocation Plan

In November 2018, the Wholesale customers and City and County of San Francisco (acting through SFPUC) adopted the November 2018 Amended and Restated Water Supply Agreement, which included a Water Shortage Allocation Plan (WSAP) to allocate water from the RWS to retail and Wholesale customers during systemwide shortages of 20 percent or less, including such shortages occurring as a result of implementation of the Bay-Delta Plan Amendment.[26] As described in detail in the Mid-Peninsula 2020 UWMP, the WSAP has two tiers:

1. The Tier One Shortage Plan, which allocates water between San Francisco and the Wholesale Customers collectively; and

2. The Tier Two Plan, which allocates the collective wholesale customer share among the Wholesale Customers.

BAWSCA member agencies are in discussions about jointly developing an allocation method that would consider additional equity factors in the event that SFPUC is not able to deliver its contractual supply volume, and its cutbacks to the RWS supply exceed 20%.[27] Cal Water is working independently and with the other BAWSCA agencies to identify regional mitigation measures to improve reliability for regional and local water supplies and meet its customers' water needs.

Silicon Valley Clean Water (SVCW) 2020 Capital Improvement Program

The 2020 updated SVCW Capital Improvement Program (CIP), which is applicable through fiscal year 2030, identifies and allocates funds for projects within the SVCW system. This includes projects that would replace and rehabilitate existing infrastructure (e.g., pump stations, treatment plant, force main).

Water Shortage Contingency Plan

When it adopted the Mid-Peninsula District 2020 UWMP, Cal Water revised its water shortage contingency plan (WSCP), which serves as a standalone document to be engaged in case of a water shortage event, such as a drought or supply interruption. It defines the specific policies and actions that will be implemented for various shortage scenarios. The WSCP systematically identifies ways in which Cal Water can reduce water demands during dry years. The overall goals in the WSCP are established for six drought stages and address water demand reductions over 50%.

City of San Carlos East Side Innovation District Vision Plan

In October 2021, the City of San Carlos approved the Vision Plan to shape the development of the East Side including the multiple proposed projects in the planning stages within that area. The goal of the Vision Plan is to help shape infrastructure, urban design, transportation circulation management and

[26] Bay Area Water Supply and Conservation Agency, *Amended and Restated Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County*, November 2018. Available at: https://bawsca.org/uploads/userfiles/files/Amended_and_Restated_WSA_with_Sig_Pages_and_Attachments.pdf

[27] Mid-Peninsula Water District, September 2021, *2020 Urban Water Management Plan*, p. 95. Available at: https://storage.googleapis.com/midpeninsulawater-org/uploads/FINAL_MPWD_2020_UWMP_MW_202109302.pdf

mobility, service provision, open space, community facilities, present and future land uses, economic development, and community benefits.

The Vision Plan is broken down into 10 "Big Moves," or categories with measurable actions to reach community goals. The Big Move that is applicable to the utilities discussion of this project is "Integrated Recycled Water Infrastructure," with the following goals:

- Reduce potable water demand within the District and throughout San Carlos by providing recycled water infrastructure.
- Require new commercial development to be "purple pipe ready".
- Incorporate more low-impact development requirements into the City's development review processes.

San Carlos 2030 General Plan

The San Carlos 2030 General Plan outlines various goals, policies, and actions relevant to utilities and service systems in San Carlos in the Land Use Element. The following policies are relevant to the proposed project:

Policies:

CSS-7.10: Require existing overhead utility lines be placed underground in new development and redevelopment through a phased program of conversion in existing overhead areas.

EM-5.3: Promote the conservation and efficient use of water in new and existing residences and by commercial and industrial consumers.

EM-5.5: Recycled water distribution system (purple pipe) should be used for landscaping and other non-potable water uses for residential, commercial and industrial customers, where technically and financially feasible.

EM-5.7: Encourage site designs that manage the quantity and quality of storm water run-off.

LU-8.15: Require the undergrounding of all utilities, or a deferred improvement agreement, in conjunction with new construction and encourage the undergrounding of existing utilities where feasible.

LU-8.17: Require telecommunications and utility facilities to be sensitively placed, shielded, screened or lessened from view to the greatest extent possible through design review.

LU-8.18: Encourage "green building" practices in new development and redevelopment, such as those that make a building more energy efficient and reduces its effect on human health and the environment through better siting, design, construction, maintenance and operation.

Actions:

CSH-8.1: As utility funds become available, the City shall undertake further undergrounding of utilities with priority for projects adjacent to local scenic roads.

EM-5.2: Utilize bioswales and other bio-filtration systems as applicable to cleanse run-off before it enters creeks and the San Francisco Bay.

EM-5.8: Develop a recycled water implementation plan, which would identify potential sources and uses of recycled water, environmental benefits, capital and operating costs and potential utility providers.

EM-5.10: Implement the NPDES Stormwater Permit and for those properties exempt from the Permit, require a stormwater pollution prevention plan, including use of best management practices, to control erosion and sedimentation during construction.

San Carlos Municipal Code

Construction Waste Diversion and Recycling

The City Municipal Code includes construction waste diversion and recycling requirements through Municipal Code Chapter 8.05, Recycling and Diversion of Construction and Demolition Debris. The ordinance requires the following:

- Covered projects generating waste comprised of at least 95 percent inert materials, including dirt, concrete asphalt, brick, and/or cinderblock, shall be required to divert at least 60 percent of all generated tonnage.
- Covered projects generating waste comprised of mixed debris, both structural debris (e.g., wood, metal, wallboard) and inert materials (dirt, asphalt, brick, and/or cinderblock) shall be required to divert at least 60 percent of all generated tonnage. However, at least 25 percent of diverted material shall come from generated tonnage that excludes dirt, concrete, asphalt, brick and/or cinderblock should equal at least 24 tons (25 percent) and the remainder, 35 tons (35 percent) can be obtained through diversion of inert materials such as dirt, concrete, asphalt, brick, and/or cinderblock.
- Covered projects generating waste that does not include inert materials (dirt, concrete, asphalt, brick, cinderblock) shall be required to achieve at least 60 percent diversion of total generated waste.

A covered project under the ordinance is defined as a project where total development costs equal $50,000 or more or where 5 or more tons of construction and demolition debris will be generated.

San Carlos Climate Mitigation and Adaptation Plan

The City of San Carlos adopted its CMAP on September 27, 2021, as an update to the San Carlos 2009 Climate Action Plan.14 The CMAP sets forth 23 measures to guide the City in meeting reduction goals in energy use, transportation, off-road equipment, water, wastewater, land use, and solid waste.

The following CMAP strategies are relevant to utilities in the proposed project:

Strategy 27: Construction and Demolition Waste. Increase the amount of waste recycled during construction and demolition of buildings.

Strategy 32: Water-wise Landscaping. Promote drought-tolerant and firewise landscaping.

Strategy 33: Graywater and Recycled Water. Promote graywater and recycled water systems.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Under the CEQA Guidelines, Appendix G – Environmental Checklist Form, development of the project site as proposed would have a significant environmental impact if it were to result in the following:

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 effects.
2. Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.
3. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
4. Generate solid waste in excess of State or local standards, or in excess of capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
5. Conflict with federal, state, and local management and reduction statutes and regulations related to solid waste?

UTILITY AND SERVICE SYSTEM FACILITIES

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?

Impact Util-1: **Increased Utility Demand.** While the proposed project would lead to an increase in utility demand at the site, the project would utilize existing service systems, including some localized improvements, and is not by itself of sufficient size to require new or expanded off-site utility facilities. Therefore, the impacts related to increased utility demand would be ***less than significant.***

The project would result in redevelopment of a site already provided with utilities and services. The General Plan indicated no facility improvements were anticipated to be required to accommodate future demand under the General Plan except possibly localized lines or connections. As a standard condition of any project, the proposed project would pay appropriate development impact and utility connection fees toward ongoing improvement and maintenance and comply with all applicable regulations. The project does not propose use of natural gas.

Certified professionals have prepared utility plans for the project, which will also be reviewed by City staff, and utility providers will provide will-serve letters prior to issuance of construction permits. As part of this coordination, the applicant prepared and submitted a Utility Demand Report (ARUP, 6/8/2021), which was utilized in this chapter and is available as part of the project application materials.

Wastewater is discussed under impact Util-3 below. Calculations based on the City's Master Plan estimate the project would result in peak sewage generation of 331,000 gallons per day (GPD), and average annual sewage of 71.0 million gallons per year (MGY), an increase of 57.5 MGY from baseline conditions.[28] In addition to on-site improvements and connections to existing utility lines, off-site work is required to replace a section of 8-inch sewer pipe with a 15-inch sewer pipe under Industrial Road.

The City completed a Sewer Capacity Model Update to address this and other area projects and determined that with the identified improvements, there would be adequate sewer capacity for this

[28] Wastewater generation was calculated per the City of San Carlos Sewer Collection System Master Plan, which includes an amount of inflow/infiltration beyond the project's annual water demand to account for extraneous flows entering the collection system.

project.[29] All sewer lines potentially impacted by this project were also concluded to have adequate capacity under cumulative development conditions.

Water supply is discussed under impact Util-2 below. Calculations estimate the project would increase the average annual water demand by 200 AFY (65 MGY). Through coordination with the City, no necessary system improvements have been identified other than on-site connections to adjacent water lines.

Stormwater is addressed in Chapter 12: Hydrology and Water Quality, specifically under Impact Hydro-5. As concluded in that analysis, with compliance with applicable regulations and implementation of proposed on-site stormwater system, the project would not increase flows to the off-site stormwater system.

Required on- and off-site utility improvements were assessed as part of project planning and included in the project description and analysis throughout this document. The impact of the project related to the relocation or construction of new or expanded utility and service system facilities would be *less than significant*.

WATER SUPPLY

2. Would the project have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Impact Util-2: **Increased Water Demand.** The project's water demands would not exceed water supplies available to serve the project, and there are sufficient water supplies to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. This impact would be ***less than significant.***

The discussion under this topic utilizes information from the Water Supply Assessment prepared for the applicants pursuant to SB 610 by EKI Environment & Water, Inc., dated September 2022, which is available as part of the project application materials.

The purpose of a Water Supply Assessment is to evaluate whether a water provider has sufficient water supply to meet the current and planned water demands within its service area, including the demands associated with the proposed project, during normal and dry hydrologic years over a 20-year time horizon.

The WSA prepared for this project estimated that the project would result in a net water demand of 64 acre-feet per year at the start of operations after construction of Phase 1, and 200 acre-feet per year at full build out. This total includes all indoor and outdoor water usage. The project's estimated water demand is summarized in **Table 17.1**.

[29] Mott Macdonald for City of San Carlos, June 17, 2022, *Task Order #10 Amendment: Various San Carlos Development Alternatives - Sewer Capacity Model Update*, available as part of the project application.

Table 17.1: Summary of Estimated Incremental Annual Project Water Demand

Water Use	Estimated Square Footage	Demand Factor (GPD/sq/ft)	Total Water Demand (AFY) (a)				
			2025	2030	2035	2040	2045
Building 1	260,420	0.097	0	28	28	28	28
Building 2	316,229	0.097	0	35	35	35	35
Building 3	359,422	0.097	0	39	39	39	39
Building 4	229,370	0.097	0	25	25	25	25
Building 5	303,577	0.097	33	33	33	33	33
Building 6	253,933	0.097	28	28	28	28	28
Building 7 (b)	11,581	0.097	0	1.3	1.3	1.3	1.3
Parking Garage 1 (c)	9,150	0.097	1.0	1.0	1.0	1.0	1.0
Irrigation	257,254	(d)	1.6	4.9	4.9	4.9	4.9
Distribution System Losses	---	3.2%	2.1	2.1	6.5	6.5	6.5
Existing Site Demand	---	(e)	-1.7	-1.7	-1.7	-1.7	-1.7
Net Annual Water Demand			64	200	200	200	200

Notes:
(a) Based on the original estimated construction schedule, with Phase 1 operational by 2025 and the full project operational by 2030.
(b) Building 7 was estimated as a childcare center.
(c) Parking Garage 1 was estimated with the inclusion of a fitness center and a bike shop.
(d) Given that Phase 1 is expected to be complete by 2025, it is assumed that landscape irrigation demands in 2025 will be equal to 1/3 of total landscape irrigation demands at full buildout.
(e) Existing demands are estimated as the average of the last five years of water use at the project site based on available metered data (2016-2020).
Source: EKI Environment & Water, Water Supply Assessment, 2022, Table 1.

The only source of water supply to the Mid-Peninsula District is treated water purchased from SFPUC's RWS. Because the RWS water available to the Mid-Peninsula District is shared among Cal Water's three Peninsula Districts, the WSA prepared for the project analyzes the sufficiency of water supplies for the project in relation to demands to be served in all three districts. As described above, the availability of water to SFPUC would be affected by implementation of the Bay-Delta Plan Amendment. **Tables 17.2, 17.3,** and **17.4** depict water supply sufficiency for the project in normal, single dry, and multiple dry years under the assumption that the Bay-Delta Plan Amendment is implemented as written. Pursuant to California Water Code Section 10910(c)(4) and the technical analyses described in the project's WSA, Cal Water found that there is adequate water supply for the proposed project during normal years, but concluded that in drought periods, shortfalls of up to 52% are possible if the Bay-Delta Plan Amendment is implemented as written. The shortfalls that are currently projected during dry years would be addressed through planned implementation of the Mid-Peninsula District Water Shortage Contingency Plan and through Cal Water's, BAWSCA's and SFPUC's efforts to develop additional water supplies to improve the RWS and Mid-Peninsula District supply reliability. The project would be subject to the same drought-related curtailments and water shortage reduction actions as any other Cal Water customer under the WSCP. As described in the project's WSA and in Cal Water's 2020 UWMP, BAWSCA, Cal Water, and SFPUC are pursuing the development of additional water supplies to improve the RWS and Mid-Peninsula District supply reliability. While RWS reliability is constrained by hydrology, physical facilities, institutional parameters including state and federal regulations, the SFPUC is implementing both capital improvement and planning processes to identify potential new water supplies and demand management actions to enhance RWS reliability and meet its contractual

commitment to Wholesale Customers through 2045. Within and outside the RWS, Cal Water and other SFPUC Wholesale Customers are also leading multiple efforts to develop additional water supply for BAWSCA member agencies through implementation of its Long-Term Water Supply Reliability Strategy.

Table 17.2: Projected Normal Year Water Supply and Demand

Water Supply Source	Projected Normal Year Supply and Demand (AFY)				
	2025	2030	2035	2040	2045
Total Supply (All Districts)	34,757	34,712	35,151	35,652	36,396
Demand					
South San Francisco District	7,016	6,956	7,108	7,473	7,896
Mid-Peninsula District	14,418	14,530	14,786	14,977	15,279
Project[1]	0	0	0	0	0
Bear Gulch District	12,796	12,699	12,730	12,675	12,694
Total Potable Water Demand Inclusive of Project and Other Known Development	34,230	34,185	34,624	35,125	35,869
Supply Shortfall (% demand)	None	None	None	None	None

Notes:
[1] In accordance with and through implementation of Cal Water's Development Offset Program, the project will not result in a net increase in demands for the district.
Source: EKI Environment & Water, Water Supply Assessment, 2022, Table 7.

Table 17.3: Projected Single Dry Year Water Supply and Demand

Water Supply Source	Projected Normal Year Supply and Demand (AFY)				
	2025	2030	2035	2040	2045
Total Supply (All Districts)	23,580	23,546	23,835	23,809	21,039
Demand					
South San Francisco District	7,304	7,240	7,398	7,777	8,216
Mid-Peninsula District	14,797	14,908	15,168	15,359	15,662
Project[1]	0	0	0	0	0
Bear Gulch District	13,354	13,253	13,285	13,228	13,248
Total Potable Water Demand Inclusive of Project	35,455	35,401	35,851	36,364	37,126
Supply Shortfall (% demand)	33%	33%	34%	35%	43%

Notes:
[1] In accordance with and through implementation of Cal Water's Development Offset Program, the project will not result in a net increase in demands for the district.
Source: EKI Environment & Water, Water Supply Assessment, 2022, Table 8.

Table 17.4: Summary of Estimated Incremental Annual Project Water Demand in AFY in Multiple Dry Year Scenario

Supply Source	Total Supply (All Districts)	Demand				Total Potable Water Demand Inclusive of Project	Supply Shortfall (% demand)
		South San Francisco District	Mid-Peninsula District	Project[1]	Bear Gulch District		
Projected Water Supply and Demand During Multiple Dry Years							
2025 Year 1	23,615	7,482	15,031	0	13,699	36,212	35%
2025 Year 2	20,492	7,482	15,031	0	13,669	36,212	43%
2025 Year 3	20,492	7,482	15,031	0	13,699	36,212	43%
2025 Year 4	20,492	7,482	15,031	0	13,699	36,212	43%
2025 Year 5	20,492	7,482	15,031	0	13,699	36,212	43%
2030 Year 1	23,486	7,416	15,143	0	13,595	36,154	35%
2030 Year 2	20,383	7,416	15,143	0	13,595	36,154	44%
2030 Year 3	20,383	7,416	15,143	0	13,595	36,154	44%
2030 Year 4	20,383	7,416	15,143	0	13,595	36,154	44%
2030 Year 5	20,383	7,416	15,143	0	13,595	36,154	44%
2035 Year 1	23,647	7,577	15,405	0	13,629	36,611	35%
2035 Year 2	20,313	7,577	15,405	0	13,629	36,611	45%
2035 Year 3	20,313	7,577	15,405	0	13,629	36,611	45%
2035 Year 4	20,313	7,577	15,405	0	13,629	36,611	45%
2035 Year 5	18,849	7,577	15,405	0	13,629	36,611	49%
2040 Year 1	23,762	7,965	15,595	0	13,570	37,130	36%
2040 Year 2	20,594	7,965	15,595	0	13,570	37,130	45%
2040Year 3	20,594	7,965	15,595	0	13,570	37,130	45%
2040 Year 4	18,424	7,965	15,595	0	13,570	37,130	50%
2040 Year 5	18,424	7,965	15,595	0	13,570	37,130	50%
2045 Year 1	20,954	8,413	15,900	0	13,591	37,904	45%
2045 Year 2	20,954	8,413	15,900	0	13,591	37,904	45%
2045 Year 3	20,954	8,413	15,900	0	13,591	37,904	45%
2045 Year 4	18,061	8,413	15,900	0	13,591	37,904	52%
2045 Year 5	18,061	8,413	15,900	0	13,591	37,904	52%

Notes:
[1] In accordance with and through implementation of Cal Water's Development Offset Program, the project will not result in a net increase in demands for the district.
Source: EKI Environment & Water, Water Supply Assessment, 2022, Table 9.

Cal Water is also striving to increase the water supply portfolio for its three Peninsula Districts (including the Mid-Peninsula District) through: (1) investment in water conservation, (2) participation in the Regional Groundwater Storage and Recovery Project and the regional water recycling project, and (3) development of a regional water supply reliability study using integrated resource planning practices to create a long-term supply reliability strategy through 2050. Because Cal Water's three Peninsula Districts share access to Cal Water's SFPUC supply, any supply added to one of these districts will benefit the others.

According to Cal Water, due to the work of BAWSCA, SFPUC and others (including Cal Water) to increase supply reliability, any dry year shortfalls would be expected to be lower than those projected in

the 2020 UWMP and the project's WSA. As a result, Cal Water is comfortable assuming its contract with SFPUC will be honored as written.[30]

Because the water demand estimated for the project is more than 50 acre-feet per year, this project would be required to contribute to Cal Water's Development Offset Program by paying a developer offset fee of $15,400 per acre foot of net water demand created by the project. As a result, the WSA concluded that through supply augmentation or demand management measures equal to the project's estimated net new demands consistent with the Development Offset Program, the project would not affect water supply reliability within the Mid-Peninsula District. Future demands of the three Peninsula Districts, inclusive of the proposed project, are projected to reach, at most, 91% of Cal Water's contractual ISG allocation in normal hydrologic years.

The project would also implement relevant water efficiency standards. The City of San Carlos has adopted green building standards and water efficient landscaping ordinances consistent with previous versions of the CalGreen building standards and the California Model Water Efficient Landscape Ordinance (MWELO). As part of state requirements, all new developments must comply with these efficiency standards. As such, the project development is expected to implement a number of water-efficient features, including, but not limited to:

- Use of low-flow lavatory faucets, kitchen faucets, toilets, and urinals in accordance with CalGreen Code, including:
    - being dual-plumbed to allow use of recycled water when it becomes available;
    - using CalGreen and California Plumbing Code compliant water fixtures and will achieve a LEED-mandatory water use reduction of 20% relative to baseline conditions;[31]
- Inclusion of low-water use landscaping and high-efficiency irrigation systems to minimize outdoor water use in accordance with MWELO, including:
    - using a state-of-the-art smart automatic irrigation system that will automatically adjust the project's irrigation schedule based on weather data and will include water-saving features such as spray head nozzles, flow sensors and master valves to prevent water loss due to pipeline breakage or other malfunctions;
    - using drip irrigation for trees, shrubs, and groundcover areas;
- Use of mechanical systems such as heat recovery chillers capable of simultaneous heating and cooling to substantially reduce water consumption in comparison to code requirements.

Because the project would not increase demand projections beyond levels planned for in Cal Water's Mid-Peninsula 2020 UWMP or otherwise cause increases in drought-related curtailments, would be subject to the same drought-related curtailments and water shortage mitigation actions as any other Cal Water customer, would not increase curtailments, would utilize water efficient fixtures and landscaping, and would contribute to Cal Water's efforts to improve supply reliability through payment of the developer offset fee, it would not exacerbate Cal Water's anticipated supply shortages.

[30] EKI Environment & Water, September 2022, *Water Supply Assessment for the Alexandria District for Science and Technology*, p. 23. Included as Appendix I.

[31] The baseline water use is calculated based on the water consumption of fixtures in a standard building as mandated under the federal Energy Policy Act (EPAct) of 1992

For the reasons described above, adequate water supplies would be available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years, with implementation of Cal Water's WSCP during dry and multiple dry years. Project impacts related to water supply would be *less than significant*.

WASTEWATER COLLECTION AND TREATMENT

3. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Impact Util-3: **Increased Wastewater Collection and Treatment.** The proposed project would not exceed wastewater collection or treatment capacity. The impact related to wastewater would be ***less than significant.***

The project would increase the amount of wastewater generated within the project site compared to current uses.

Increased wastewater production at the project site was modeled by civil engineering company Mott MacDonald in conjunction with various cumulative development scenarios. The project would discharge wastewater into the City's existing 21-inch and 27-inch sewer mains on Commercial Street and Industrial Road. Using a rate of 0.12 GPD per square foot of building floor space per the City's Master Plan unit flow rate for non-residential properties, the project would generate approximately 194,500 GPD of wastewater. The report indicated that with the increased wastewater generated by the project, there would be a bottleneck due to a section of 8-inch diameter sewer pipe under Industrial Road that connects a 15-inch pipe to the 21-inch main. The project proposes to upsize the 8-inch section to a 15-inch pipe and remove the bottleneck as a part of the project. [32]

Development of the project would result in an increase in wastewater treatment demand; however, that increase would not exceed existing treatment capacity or require the construction of new or expanded treatment facilities. The GPU EIR indicated that there is sufficient capacity within the existing main and wastewater treatment facilities to support the project. The project's wastewater increase would be approximately 15 percent of the remaining capacity after accounting for the existing non-residential and existing and projected residential development in the General Plan Housing Element through 2035.[33] The City completed a Sewer Capacity Model Update to address this and other area projects and determined that with the identified improvements of upsizing the pipe under Industrial Road, there would be adequate sewer capacity for this project and area development.[34] Impacts of the project on wastewater collection and treatment would be *less than significant*.

SOLID WASTE

4. Would the project generate solid waste in excess of State or local standards, or in excess of capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

[32] Mott Macdonald for City of San Carlos, June 17, 2022, *Task Order #10 Amendment: Various San Carlos Development Alternatives - Sewer Capacity Model Update*, available as part of the project application.

[33] City of San Carlos, October 2022, *City of San Carlos Focused General Plan Update EIR*, p. 4.15-23.

[34] Mott Macdonald for City of San Carlos, June 17, 2022, *Task Order #10 Amendment: Various San Carlos Development Alternatives - Sewer Capacity Model Update*, available as part of the project application.

5. Would the project conflict with federal, state, and local management and reduction statutes and regulations related to solid waste?

Impact Util-4: **Increased Solid Waste Production.** Construction and operation of the proposed project would be expected to be in full compliance with all federal, state, and local statutes and regulations related to solid waste. The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would not conflict with applicable solid waste management and reduction statutes. The project would have a ***less than significant*** impact in relation to solid waste.

The proposed project would generate solid waste during construction and operation.

The California Integrated Waste Management Act of 1989 (AB 939) requires municipalities to adopt an integrated waste management plan to establish objectives, policies, and programs related to waste disposal, management, source reduction, and recycling. In addition, SB 1383, passed in 2016, established a target that calls for a 50 percent reduction in organic waste by 2020 and 75 percent by 2025, compared to 2014 levels. The City of San Carlos has been working to meet these standards. In 2021, the most recent annual report available, the service area experienced a 50 percent diversion rate of recycling and organic waste combined, while San Carlos had a diversion rate of approximately 53.3 percent.[35]

In total, construction of the proposed project would generate approximately 45,000 cubic yards of debris from structure demolition, which would be generated during each phase as follows: Phase 1 - 22,000 cubic yards, Phase 2 - 13,200 cubic yards, and Phase 3 - 9,800 cubic yards. The project requires the import of soil. Any contaminated soil would need to be off-hauled to a facility designed to handle hazardous waste. Soil and construction debris likely would be off-hauled to Ox Mountain Landfill (approximately 18 miles from the project site) and/or Zanker Road Resource Recovery Operation (approximately 23 miles from the project site). Handling of debris and waste generated during construction would be required to comply with local provisions for waste and recycling, which are intended to also meet state and federal regulations. Specifically, the project would be required to comply with the City's Recycling and Diversion of Construction and Demolition Debris, which calls for salvage or recycling at least 60 percent of construction-related solid waste. Therefore, construction of the project is not expected to have a significant impact on existing landfills.

Project operations would generate approximately 159.7 tons of waste per year, or approximately 0.44 tons per day. The estimate is conservative as it does not factor in any recycling or waste-diversion programs. The 0.44 tons of solid waste generated daily by the project would represent less than 0.02 percent of the permitted landfill throughput. Existing land use of the project site generates an estimated 216.3 tons of waste per year based on generally higher waste generation rates of industrial and office uses compared to R&D, therefore the project would generate approximately 26 percent less waste than current conditions.[36] The project tenants would be required to comply with current City recycling requirements. Three bins would be provided to all locations by Recology for solid waste, recyclables and organic waste. The impact would be *less than significant.*

[35] Recology San Mateo County, 2022, *Annual Report to the SBWMA for Year 2021.* Available at: https://rethinkwaste.org/wp-content/uploads/2022/02/Recology-Annual-Report-2021.pdf.

[36] Solid waste for project and existing use estimated from CalEEMod default values in Appendix B.

CUMULATIVE UTILITIES AND SERVICE SYSTEMS IMPACTS

As discussed above, the project's WSA prepared by Cal Water found that there is adequate water supply for the project during normal years, but concluded that in drought periods, shortfalls of up to 52% are possible if the Bay-Delta Plan Amendment is implemented as written. The shortfalls that are currently projected during dry years would be addressed through planned implementation of the Mid-Peninsula District Water Shortage Contingency Plan and through Cal Water's, BAWSCA's and SFPUC's efforts to develop additional water supplies to improve the RWS and Mid-Peninsula District supply reliability. With project compliance with Cal Water's Development Offset Program, it would not cause Cal Water's estimated water demand to exceed demand projects found in its Mid-Peninsula District 2020 UWMP. Because the project would not increase demand projections beyond levels planned for in Cal Water's Mid-Peninsula 2020 UWMP or otherwise cause increases in drought-related curtailments, would be subject to the same drought-related curtailments and water shortage mitigation actions as any other Cal Water customer, would not increase curtailments, would utilize water efficient fixtures and landscaping, and would contribute to Cal Water's efforts to improve supply reliability through payment of the developer offset fee, it would not exacerbate Cal Water's anticipated supply shortages. As with the project, other development in Cal Water's service area would also be expected to comply with water efficiency requirements found in green building standards and water-efficient landscaping ordinances and would, where applicable, comply with Cal Water's Development Offset Program. Cal Water has also expressed confidence in SFPUC's ability to honor its water supply contract. For these reasons, there would be no significant cumulative impacts related to water supply.

With increased solid waste production, increased wastewater generation, and increased solid waste production, not only in San Carlos but also in the other municipalities served by the respective facilities, there may be a cumulative need to construct new facilities in the future, but such facility needs have not been identified to date and are speculative at this point. The GPU EIR determined that any new facilities would be a less than significant impact, as any development would need to go through its own environmental review.[37] Therefore, there would not be a significant cumulative impact for stormwater, wastewater or solid waste.

With the permit requirements for stormwater, any new development would match or improve stormwater conditions, and there would be no significant cumulative stormwater impact.

The areas considered for cumulative impacts to electricity and natural gas supplies are the service areas of PCE and PG&E. Cumulative projects considered in this analysis include projects evaluated under the City's General Plan 2030 buildout and the East Side Vision Plan. All cumulative development projects within the PCE and PG&E service areas would be required to comply with the Building Energy Efficiency Standards and CALGreen, which would contribute to minimizing wasteful energy consumption and promoting renewable energy sources. There would be no significant cumulative impact on electricity or gas supplies.

[37] City of San Carlos, October 2022, *City of San Carlos Focused General Plan Update EIR*, p. 4.15-23.

18

OTHER CEQA CONSIDERATIONS

INTRODUCTION

This chapter of the Draft EIR contains discussion of the following additional CEQA considerations:

- Mandatory Findings of Significance
- Significant Irreversible Modifications in the Environment
- Growth Inducing Impacts

MANDATORY FINDINGS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of mandatory findings of significance that may be considered significant impacts if any of the following occur:

1. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of California history or prehistory?
2. Does the project have impacts that are individually limited, but cumulatively considerable?
3. Does the project have environmental effects which will cause substantial adverse effects on human beings either directly or indirectly?

QUALITY OF THE ENVIRONMENT

As addressed in the Air Quality, Biology, Cultural Resources, GHG, Hazards, Hydrology, and Tribal Cultural Resources sections of this EIR, with implementation of all detailed mitigation measures, applicable standard conditions of approval and other regulatory requirements, the project would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. The project would not eliminate important examples of the major periods of California history or prehistory.

- The project's predicted construction emissions would be below the daily construction emission significance thresholds and the project would implement BAAQMD's recommended Basic Construction Best Management Practices to control fugitive dust as detailed in Mitigation Measure Air-2.
- The project's predicted average daily and annual operational-generated emissions of NO_x, PM_{10} and $PM_{2.5}$ criteria air pollutants are below the operational significance thresholds as recommended by BAAQMD. However, emissions of ROG would exceed both daily and annual significance thresholds without mitigation. Implementation of Mitigation Measure Air-3, requiring the use of low VOC architectural coatings, would bring the ROG emissions below significance thresholds.

- The project site is dominated by developed and landscaped habitat that includes buildings, parking lots, ornamental and landscaped areas and vacant lots. The habitat suitability for rare or native vegetation in these areas is very low to absent. Similarly, developed habitats as exist at the project site primarily support common, urban-adapted wildlife species, and overall wildlife abundance and diversity are low. The project would be required to implement Mitigation Measure Bio-1, requiring a nesting bird survey to meet the requirements of the Migratory Bird Treaty Act and/or the California Fish and Game Code that provide for protection of active nests of migratory and other birds, including their roosts, eggs and young. Implementation of the Mitigation Measure would avoid and/or reduce impacts to sensitive status species to levels of less than significant.
- The project site does contain riparian areas along Pulgas Creek. However, it is not of high quality for habitat. Work within Pulgas Creek would disturb the riparian areas, but would stabilize the creek beds and replace invasive vegetation with native species to improve naturalized conditions along the section of Pulgas Creek that borders the project site. Mitigation Measures Bio-3a, -3b, and -3c would require protection of the creek from construction debris and run off, properly divert and dewater the creek during construction within the creek, and ensure ecological conditions are the same or better than conditions prior to project construction. Development of the project site will have no adverse effect on riparian habitat or other sensitive natural community types.
- The waters of Pulgas Creek are potentially regulated as waters of the U.S. or waters of the State. The applicant would be required submit to a notification to CDFW of lake or streambed alteration and comply with all required regulations.
- The project site is not identified as a wildlife corridor or wildlife nursery site. The project would have no impact on wildlife corridors or wildlife nursery sites.
- The project would be required to obtain a Tree Removal Permit for removal of any tree that qualifies as a Significant Tree on the site. If the City approves that Tree Removal permit, the project will be required to provide replacement tree plantings and/or in lieu fees. These Tree Removal Permit requirements would achieve compliance with local policies or ordinances protecting biological resources.
- The project site is not located within an area with any adopted Habitat Conservation Plan or Natural Community Conservation Plan.
- All existing buildings have been cleared for demolition by a Historic Resource Evaluation, as none are associated with important persons or events in California or San Carlos history, and none embody a distinctive architectural style of value.
- In the unlikely event of discovery of cultural or tribal cultural resources during construction, the project would be required to comply with Mitigation Measures Culture-2b and GP-MM TRIB-1, and State law that addresses such an unanticipated circumstance. The mitigation measures, policies and regulations ensure that the project's construction does not cause a substantial adverse change in the significance of an archaeological resource.
- The project meets BAAQMD GHG screening criteria and will be required to demonstrate consistency with the San Carlos CMAP, including applicable CMAP Goals and Strategies related to energy efficiency, clean energy, transportation, recycling, and water conservation. As such, the project meets the CEQA threshold of less than a significant impact for GHG emissions.
- Construction activities associated with the project will involve the use of heavy equipment using fuels and oils and will involve the use of other products such as concrete, paints and adhesives. Such hazardous materials will be stored, used and transported in varying amounts during construction. The project would be required to comply with all Federal, State, and local regulations regulating the handling, storage, and transportation of hazardous materials. With implementation of these

regulatory requirements, construction activities would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials.

- The project would be required to comply with all federal, State and local regulations regulating the handling, storage and transportation of hazardous materials during operations. With compliance, operational activities would not create a significant hazard to the public or the environment through a reasonably foreseeable upset and accident condition involving the release of hazardous materials in the environment.
- The project would involve grading, excavation and removal of existing paved surfaces, buildings and vegetative cover that has the potential to result in runoff that contains sediment and other pollutants. These pollutants could degrade surface and groundwater quality if not properly controlled. The project's effects related to water pollution from non-point sources during construction will be fully addressed through implementation of existing regulations (i.e., by obtaining coverage under the NPDES General Construction Permit from the SWRCB and preparing and implementing a project-specific SPPP), and this impact would be reduced to less than significant.
- The project will reduce the amount of impervious surface area in the developed portion of the site. The project includes on-site LID stormwater treatment in compliance with MRP requirements, as well as a substantial increase in the amount of planted landscaping. The project LID is designed to capture and treat runoff from 100% of the project's impervious surfaces, including all hardscapes and roof area as required by the MRP. The project's effects related to water pollution from non-point sources will be fully addressed through implementation of existing regulations, and this impact would be reduced to less than significant.
- Much of the project site is prone to flooding during rain events. The project would raise the grade approximately 1-3 feet above current conditions, with a lowered landscape depression near the center of the site to temporarily store storm waters until flooding conditions subside. The project would also add surface swale/culvert to control inflow and channeling into Pulgas Creek, and add a raised trail along the north bank of Pulgas Creek. Stormwater control on the project site is designed to avoid exacerbating flooding conditions in off-site locations. Project impacts related to on- and off-site flooding caused by alteration of drainage patterns would be less than significant.
- In the unlikely event of discovery of paleontological resources during construction, the project would be required to comply with Mitigation Measure Geo-7 and State law that addresses such an unanticipated circumstance. The mitigation measure, policies and regulations ensure that the project's construction does not cause a substantial adverse change in the significance of a paleontological resource.
- Based on these conclusions, the project would not degrade the quality of the environment. The project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten or eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. The project would not eliminate important examples of major periods of California history or prehistory.

CUMULATIVE IMPACTS

The vicinity of the project site is a developed urban environment. The cumulative context for analysis in this EIR includes the existing development as well as current and/or probable future projects in the vicinity.

As detailed in Chapters 4 through 18 of this EIR, impacts of the project are considered to be less than significant or reaching that level with mitigation for all topic areas. Chapters 4 through 18 of this EIR also contain the cumulative analysis for each topic area and as discussed in those chapters, the project,

after considering project-level mitigation and standard conditions, either would not combine with other cumulative projects to create a significant cumulative impact or would not make a cumulatively considerable contribution to a significant cumulative impact. Implementation of the project would not significantly cumulatively impact the environment provided all policies, rules and regulations of all relevant governing bodies are adhered to, and the mitigation measures contained within this document are implemented.

ADVERSE EFFECTS ON HUMAN BEINGS

As addressed in the Air Quality, Geology, Hazards, Hydrology, and Noise and Vibration sections of this EIR:

- During construction, diesel emissions from off-road equipment and on-road diesel trucks (also known as DPM) will be emitted. Diesel exhaust is identified by the State of California as a known carcinogen, and increased exposure to DPM poses an increased health risk. The project conducted an HRA and would implement diesel emission reductions as identified in that HRA (Mitigation Measure Air-4) for control of construction-related TAC emissions. This approach would control construction-related TAC emissions to levels of less than significant.
- The existing buildings at the project site contain or may contain materials containing lead, asbestos or mold. Proper assessment and abatement shall be completed per State and Federal regulations prior to demolition per Mitigation Measure Haz-2b to reduce the potential impact of these hazardous materials to less than significant levels.
- The project would be coated with low VOC coatings for at least 90 percent of all interior and exterior paints, to reduce operational levels of the pollutant ROG, per Mitigation Measure Air-3, to keep operational ROG levels below significance thresholds.
- The project is intended to accommodate future R&D uses. The specific R&D tenants are not known, the types of research and development facilities have not been identified, and the need for research and development equipment that may generate new sources of toxic air contaminants is unknown. However, future R&D tenants may rely on such equipment. Future tenants within the project will be required to obtain from BAAQMD an "Authority to Construct" or a "Permit to Operate" for any new sources of hazardous air pollutant emissions. The requirements of these authorizations or permits would control operational-related emissions of toxic air contaminants to levels of less than significant.
- The project site is located in a seismically active region and may contain soils prone to liquefaction. During a major earthquake the project site will experience strong ground shaking, similar to other areas of the seismically active region. Compliance with the CBC regulations and building standards, with site-specific recommendation as provided by a geotechnical engineer, will reduce the effects of strong ground shaking and other seismically induced dangers in the event of a likely earthquake scenario to levels considered acceptable by professional engineers, and therefore considered under CEQA to be less than significant.
- The project's new buildings are intended as build-to-suit facilities. The future tenants of these buildings have not yet been identified but are likely to be occupied by a combination of office space and R&D laboratories. The R&D laboratories may handle certain materials considered hazardous biological and/or chemical substances. The project tenants would need to comply with the City's Municipal Code that restricts labs within the City to BSL-1 and BSL-2. The project would also be required to comply with all applicable City, county, state and federal regulations related to the transport, use and disposal of hazardous materials. These regulations control the use of hazardous materials to minimize the risk of exposure of the public to substantial adverse effects and would reduce this impact to a level of less than significant.

- The project site is known to have contaminated soil and groundwater. Per Mitigation Measure Haz-2a, the applicant shall demonstrate compliance with any regulatory agency requirements, including the Removal Action Workplan and Groundwater Remedial Action Plan, to minimize the risk of significant hazards to the public or the environment to a level of less than significant.
- No safety zones associated with the San Carlos airport apply to the project site, and the project would be consistent with land use safety criteria. Additionally, the project site is not located within any of the ALUCP-identified noise impact areas. Thus, the ALUCP land use noise exposure criteria do not apply to the project and the project would not pose a safety hazard by being exposed to excessive noise due to its proximity to the San Carlos airport.
- The project site is directly accessible from Industrial Road and Old County Road, which are City-designated emergency evacuation routes. The project would not obstruct or interfere with this emergency evacuation route.
- The project site is located within a 100-Year Flood Hazard Zone (1% Annual Chance Flood Hazard). The project would raise the grade of the site 1 to 3 feet in most places, and the finished floor elevations would be located above the 100-year flood plain. The project's effects related to inundation hazards are considered less than significant.
- The project site is not located within an area susceptible to sea level rise (SLR) under any of the year 2100 mid-level scenarios (100-year flood, 100-year flood plus 2040 SLR, or 100-year flood plus 3 feet of SLR). No SLR adaptation strategies are needed to reduce risks of SLR inundation at the project site.
- The tallest proposed building pursuant to the project is 116 feet. This tallest proposed building does not exceed the allowable height of approximately 155 feet above mean sea level, and the project does not propose any new buildings or structures that would exceed critical aeronautical surface elevations. Because of the location within the ALUCP area, the project would be subject to Federal Aviation Administration approval to receive confirmation that their proposed building footprint is compatible with height constraints and would not include elements dangerous to aircraft such as blinking lights, smoke columns, or attraction of birds.
- Generally, land uses that surround the project site consist of other office/R&D facilities and light industrial uses. Construction noise attributed to the project would be temporary, and the project applicant and/or construction contractors will be required to obtain all necessary permits and to abide by all construction hours as stipulated by existing regulation and General Plan policy.
- The project is located in an industrial and commercial section of the City, where no residential uses currently exist. The project would remove existing buildings but would not directly displace people or housing.

SIGNIFICANT IRREVERSIBLE MODIFICATIONS IN THE ENVIRONMENT

An EIR must identify any significant irreversible environmental changes that could be caused by a project. These may include current or future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. The *CEQA Guidelines* describe three distinct categories of significant irreversible changes: 1) changes in land use which would commit future generations to specific uses; 2) irreversible changes from environmental actions; and 3) consumption of non-renewable resources.

Changes in Land Use Which Would Commit Future Generations

The project proposes research and development/life sciences development on a site indicated for such use in the City's East Side Innovation District Vision Plan, replacing lower intensity industrial and commercial uses at the site. The type of use is consistent with plans and policies for development of the site and would not constitute a change in land use which would commit future generations.

Irreversible Changes from Environmental Actions

This project would contribute to regional emissions of air pollutants and greenhouse gasses, largely from vehicle emissions of employees traveling to the site. However, the level of impact was determined to be less than significant and is expected to be further reduced over time as regulations and changes in travel habits lead to reduced vehicle emissions. There would be no other potential irreversible changes from environmental actions.

Consumption of Nonrenewable Resources

Consumption of nonrenewable resources can include increased energy consumption, conversion of agricultural or forested lands, and lost access to mining reserves. The project would not result in the loss of agricultural or forested lands or mining reserves. Development of the project area as proposed could result in the commitment of nonrenewable resources (e.g., gravel and petroleum products) and slowly renewable resources (e.g., wood products) used in construction. The operation of the proposed use would also require commitment of water and energy resources (e.g., petroleum products for vehicle operations, electricity for lighting, heating, and cooling). However, the relative amount of resource use is low and this project represents redevelopment of an underutilized site in a transit priority area, creating employment in an area with access to alternative modes of commuting.

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ALTERNATIVES

INTRODUCTION

The CEQA Guidelines (1970, as amended, Section 15126.6) require an EIR to include a discussion of a reasonable range of alternatives to the proposed project. The CEQA Guidelines also require that the EIR explain why specific project alternatives considered at one time were rejected in favor of the proposed project. The selection of alternatives is to be guided by the provision of reasonable choices and the promotion of informed decision making and informed public participation. An EIR need not evaluate alternatives that would have effects that cannot be determined, or for which implementation would be remote and speculative.

The Guidelines also require that the EIR specifically evaluate a "no project" alternative within this discussion and that an "environmentally superior" alternative be identified (Section 15126.6 [e]).

The alternatives addressed in this EIR were selected based on the following factors:

1. The extent to which the alternative would accomplish most of the basic project objectives.
2. The extent to which the alternative would avoid or lessen any of the identified significant environmental effects of the project (discussed in Chapters 4 through 18).
3. The potential feasibility of the alternative (as discussed in this Chapter).
4. The extent to which the alternative contributes to a "reasonable range" of alternatives necessary to permit a reasoned choice.

The proposed project is fully described in Chapter 3 of this EIR (Project Description). The environmental consequences are addressed in Chapters 4 through 18 of this EIR.

PROJECT OBJECTIVES

CEQA requires the analysis of alternatives that would feasibly attain "most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." Therefore, the stated objectives can be used as a metric against which an alternative can be measured when determining overall feasibility. Additionally, CEQA requires the evaluation of a proposed project to address only impacts to the physical environment; economic and social effects can be analyzed only as one link in a chain of cause and effect from a proposed decision (e.g., physical changes caused, in turn, by economic and social changes). However, economic viability can be considered when determining the feasibility of a project alternative.
The following are the objectives that would be fulfilled by the proposed project. Alternatives are evaluated in part based on their ability to meet these objectives.

1. Create state-of-the-art research and development facilities consistent with the General Plan designation of the site and General Plan goals and policies, including Policy LU-1.2, which aims to support additional job growth within the Transit Oriented Development corridor while being

sensitive to surrounding uses, and LU-6.6, which encourages new development on the East Side to feature high quality architecture.

2. Support the implementation of the East Side Innovation District Vision Plan to establish a well-connected, multi-modal neighborhood that integrates existing businesses with new science and technology uses and offers a rich array of community amenities for a more resilient and inclusive future.

3. Allow for redevelopment of an underutilized site at a higher density than its current use to take advantage of the opportunities offered in the East Side Innovation District to create a vibrant research and development campus.

4. Provide a positive fiscal impact on the local economy through the creation of jobs, enhancement of property values, and generation of property tax and other fees.

5. Create a high-quality commercial campus development to enhance and expand San Carlos' emerging position as a center for science and technology businesses.

6. Contribute to a functional green boulevard along Industrial Avenue that establishes a sense of place and creates a welcoming public realm consistent with the goals of the East Side Innovation District Vision Plan.

7. Manage and reduce flooding risks in the area through the increase of permeable landscaped areas and provision of stormwater retention features including for Pulgas Creek overflows.

8. Contribute to increased community recreation, and multi-modal connectivity through inclusion of on-site publicly accessible open spaces, a trail along Pulgas Creek, and improved pedestrian and bicycle circulation onsite and on adjacent streetscapes.

9. Encourage multi-modal travel via pedestrian and bicycle improvements to adjacent roadways and the tunnel to Arroyo Avenue, and establishment of robust transportation demand management.

10. Contribute to improvement of the ecological conditions near and in Pulgas Creek, including the quality of water entering the Creek from the project site.

11. Reduce vehicle miles travelled by locating jobs near transit.

12. Provide sufficient space for tenants to employ key scientific and business personnel in proximity to each other to foster efficient collaboration and productivity.

13. Incorporate flexibility as to permitted office and research and development uses to ensure that the project is responsive to tenant demands based on market conditions.

14. Provide for a development that can be phased to meet market demands.

15. Allow for the continued operation of existing light industrial uses until new development occurs.

PROJECT IMPACTS

Based on the analysis contained in this EIR, the project would not result in any impacts that would remain significant and unavoidable after the implementation of the identified mitigation.

The project would result in potentially significant impacts that would be reduced to less than significant levels with the implementation of mitigation measures recommended in this document associated with the following topics:

- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Transportation
- Tribal Cultural Resources

All other topic areas would have no impact or less than significant impacts only, with no mitigation warranted.

A comparison of the alternatives with respect to all the topic areas listed above is included in Table 19.1 at the end of this chapter.

ALTERNATIVES ANALYSIS

The alternatives analysis is presented as a comparative analysis to the proposed project. A project may have the potential to generate significant impacts, but changes to certain features may also afford the opportunity to avoid or reduce such impacts. The following alternatives analysis compares the potential significant environmental impacts of the alternatives with those of the proposed project for each of the environmental topics analyzed in detail in Chapters 4 through 18 of the EIR and discusses feasibility of implementation, and ability to meet objectives.

SELECTION OF ALTERNATIVES

Three alternatives to the project are evaluated in this chapter. Each of the alternatives is located on the project site.

A. No Project

B. Industrial Infill

C. Conforming with Zoning

These alternatives are described in more detail in the following analysis.

As detailed in the previous chapters of this EIR, no significant and unavoidable impacts of the proposed project were identified. In addition to the "no project" alternative required under CEQA, alternatives were selected based on the potential to further minimize less than significant impacts. These alternatives represent reduced development intensity at the site consisting of development on the currently vacant portion of the project site with no demolition of existing buildings (Alternative B: Industrial Infill), and development/redevelopment across the entire site but conforming with current zoning (Alternative C: Conforming with Zoning).

Alternatives Rejected From Further Consideration

Section 15126.6(c) of the CEQA Guidelines requires an EIR to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and to briefly explain the reasons underlying the lead agency's determination.

Off-Site Alternative

An off-site alternative would be an alternative that places the proposed development at a different site instead of at the proposed site. The project site is within the East Side Innovation District, which is the area that the City has identified for this type of development, and there is no other site within the East Side Innovation District large enough to accommodate the project or within the control of the applicant. Therefore, because there is no feasible alternative location for the proposed project within the city, no off-site alternative is considered.

Incorporation of Residential Uses

An alternative that would incorporate residential uses at the project site as a mixed-use project with a residential component was considered. A residential alternative could help address regional housing shortages and would have the potential to reduce the transportation impact of the project by locating residential uses in an area predominantly occupied by employment uses, providing more opportunities for employees in the area to live closer to their place of work.

The project site is identified as Planned Industrial in the General Plan and is zoned Heavy Industrial under the City's zoning ordinance. Neither of these designations permit residential uses, nor would residential uses be consistent with existing land uses in the vicinity of the project site and could potentially result in conflicts by introducing emissions and noise sensitive receptors to an industrial/commercial area. The 2023-2031 Housing Element of the General Plan, updated in January of 2023, does not identify the project site as a potential area for residential use. Furthermore, a residential alternative would be inconsistent with the basic project objectives. Therefore, this alternative was rejected based on its site incompatibility, and its infeasibility and inability to meet the basic project objectives.

ALTERNATIVE A: "NO PROJECT" ALTERNATIVE

Alternative Description

CEQA Guidelines Section 15126.6(e) requires that a "no project" alternative be evaluated, along with its impacts. Alternative A is a "no project" alternative. It assumes the proposed project is not approved and the existing buildings remain in operation on the site. The former Kelly Moore lots would remain vacant.

Impact Summary

Under the "No Project" Alternative, the project site would not undergo any additional demolition, nor any construction activities. Therefore, the potential of significant impacts and need for mitigation would be avoided. A comparison of the alternatives with respect to the environmental topic areas considered in this EIR is included in Table 19.1 at the end of this chapter.

Aesthetics

The "No Project" Alternative represents no change to the developed portion of the site and the continuance of the vacant state of the portion closest to Old County Road. There would be no potential for aesthetic impacts.

Air Quality

The "No Project" Alternative represents no substantial construction, no demolition, no diesel generators, and no change in operations. There would be no potential for air quality impacts.

Biological Resources

The "No Project" Alternative represents no construction, no demolition, and the continued operation of existing industrial uses. Trees would not be removed from the project site. There would be no increase in the chance of bird strike. With no changes to the project site, there would be no potential for biological resources impacts. The portion of Pulgas Creek on the project site would remain in its current state, with no improvement to the banks and vegetated with mostly invasive species, however since this is the existing condition and the "No Project" Alternative would not cause a change, it would not be considered an impact under CEQA.

Cultural and Tribal Cultural Resources

The "No Project" Alternative represents no construction and therefore no ground disturbance. No buildings of historic age would be demolished. There would be no potential to disturb cultural or tribal cultural resources.

Energy

The "No Project" Alternative represents no construction and no changes to operations at the project site. There would be no potential for impacts related to energy. The existing buildings are less energy efficient than new development would be, however since this is the existing condition and the "No Project" Alternative would not cause a change, it would not be considered an impact under CEQA.

Geology and Soils

The "No Project" Alternative represents no construction and therefore no ground disturbance, with no potential for paleontological resource impacts. There would be no potential for impacts related to construction related erosion. With no changes to the project site, there would be no potential for impacts related to geology and soils.

Greenhouse Gas Emissions

The "No Project" Alternative represents no construction and no changes to operations at the project site. There would be no potential for greenhouse gas emissions impacts.

Hazards and Hazardous Materials

The "No Project" Alternative would not disturb a site on the Cortese list, and would have no impact on accidental release of hazardous materials or impacts related to a hazardous site. There would be no demolition, so there would be no impact related to asbestos and lead containing materials. Without the project's mitigation, the site would remain in its current state, with known contamination in the soil and groundwater, however since this is the existing condition and the "No Project" Alternative would not cause a change, it would not be considered an impact under CEQA.

Hydrology and Water Quality

The "No Project" Alternative would have no potential for impacts related to erosion and stormwater pollution during construction. Portions of the project site are prone to flooding, and would not undergo improved stormwater control conditions, and would continue to flood, however since this is the existing condition and the "No Project" Alternative would not cause a change, it would not be considered an impact under CEQA.

Noise and Vibration

The "No Project" Alternative would not create construction related noise and vibration, and there would be no changes in operational noise. There would be no potential for noise and vibration related impacts.

Population and Housing

The "No Project" Alternative would not create new jobs and would have no potential for any population related impacts.

Transportation

The "No Project" Alternative represents no change in the existing traffic volume or VMT. There would be no new pedestrian and bicycle facilities constructed around the project site perimeter, and there would be no new jobs created near transit, however since this is the existing condition and the "No Project" Alternative would not cause a change, it would not be considered an impact under CEQA.

Utilities and Service Systems

The "No Project" Alternative represents no construction activities and no increase in operations at the site, and therefore no potential for impacts related to utilities and service systems.

Ability to Accomplish Project Objectives and Feasibility

The "No Project" Alternative would have the following ability to meet project objectives:

1. The "No Project" Alternative would not meet the objective to create state of the art research and development facilities consistent with the General Plan designation of the site and General Plan goals and policies, including Policy LU-1.2, which aims to support additional job growth within the Transit Oriented Development corridor while being sensitive to surrounding uses, and LU-6.6, which encourages new development on the East Side to feature high quality architecture.

2. The "No Project" Alternative would not meet the objective of supporting implementation of the East Side Innovation District Vision Plan to establish a well-connected, multi-modal neighborhood that integrates existing businesses with new science and technology uses and offers a rich array of community amenities for a more resilient and inclusive future.

3. The "No Project" Alternative would not meet the objective to allow for redevelopment of an underutilized site at a higher density than its current use to take advantage of the opportunities offered in the East Side Innovation District to create a vibrant research and development campus.

4. The "No Project" Alternative would not meet the objective of providing a positive fiscal impact on the local economy through the creation of jobs, enhancement of property values, and generation of property tax and other fees.

5. The "No Project" Alternative would not meet the objective to create a high-quality commercial campus development to enhance and expand San Carlos' emerging position as a center for science and technology businesses.

6. The "No Project" Alternative would not meet the objective to contribute to a functional green boulevard along Industrial Avenue that establishes a sense of place and creates a welcoming public realm consistent with the goals of the East Side Innovation District Vision Plan.

7. The "No Project" Alternative would not meet the objective of managing and reducing flooding risks in the area through the increase of permeable landscaped areas and provision of stormwater retention features including for Pulgas Creek overflows.

8. The "No Project" Alternative would not meet the objective to contribute to increased community recreation, and multi-modal connectivity through inclusion of on-site publicly accessible open spaces, a trail along Pulgas Creek, and improved pedestrian and bicycle circulation onsite and on adjacent streetscapes.

9. The "No Project" Alternative would not meet the objective to encourage multi-modal travel via pedestrian and bicycle improvements to adjacent roadways and the tunnel to Arroyo Avenue, and establishment of robust transportation demand management.

10. The "No Project" Alternative would not meet the objective to contribute to improvement of the ecological conditions near and in Pulgas Creek, including the quality of water entering the Creek from the project site.

11. The "No Project" Alternative would not meet the objective of reducing vehicle miles travelled by locating jobs near transit.

12. The "No Project" Alternative would not meet the objective of providing sufficient space for tenants to employ key scientific and business personnel in proximity to each other to foster efficient collaboration and productivity.

13. The "No Project" Alternative would not meet the objective to incorporate flexibility as to permitted office and research and development uses to ensure that the project is responsive to tenant demands based on market conditions.

14. The "No Project" Alternative would not meet the objective to provide for a development that can be phased to meet market demands.

15. The "No Project" Alternative would meet to the same degree the objective to allow for the continued operation of existing light industrial uses until new development occurs.

The "No Project" Alternative would not meet 14 of the project objectives and would meet the remaining 1 to the same degree as the project.

While not demonstrably infeasible to assume a portion of the site could remain vacant at this time, as assumed in the "No Project" Alternative, there is no proposed mechanism to keep the site vacant in perpetuity and development would be allowed under existing zoning. It is therefore reasonable to assume that the site would ultimately develop at some point in the future.

ALTERNATIVE B: "INDUSTRIAL INFILL" ALTERNATIVE

Alternative Description

Alternative B assumes the proposed project is not approved and the existing buildings remain in operation on the site. The portion of the site that is currently vacant (the former Kelly Moore site) would be rebuilt with new low-rise industrial buildings with ancillary office space in the near future, with approximately the same square footage as was previously on the site (approximately 330,000 square feet). This Alternative would accommodate approximately 660 new employees in addition to the estimated 657 employees currently employed at the existing buildings, which is approximately 24% of the estimated employee total of the proposed project.

Therefore, Alternative B would result in a lower development intensity than proposed for the project. Parking would be provided in surface lots, with approximately 10% site landscaping, whereas the project proposes close to 50% landscaping. There would be no community amenity space. This Alternative is assumed to adhere to the required creek setback but not improve creek conditions or create a public creek-side trail.

Impact Summary

Under the "Industrial Infill" Alternative, the project site would not undergo any demolition, but would still have substantial construction activities. With construction of new industrial buildings, the potential for most of the less than significant impacts and the need for mitigation would not be avoided. A comparison of the alternatives with respect to the environmental topic areas considered in this EIR is included in Table 19.1 at the end of this chapter.

Aesthetics

The "Industrial Infill" Alternative represents no change to the developed portion of the site and development of the vacant portion with structures similar to existing surrounding land uses that have not redeveloped, with little or no potential to have an aesthetic impact due to required Design Review by the City.

Air Quality

The "Industrial Infill" Alternative would require substantially less construction than proposed under the project. Construction impacts would be lessened, and mitigation requiring exhaust emission reduction during construction would likely no longer be required. Basic Construction Best Management Practices related to dust, as recommended by BAAQMD, during construction would still apply. With new buildings that are less than 20% of the square footage of the proposed project and with approximately 76% fewer employees, the operational impact of high ROG emissions related to the use of VOC coatings and employee vehicle use would be lessened to a similar degree, and ROG emissions may stay below significance thresholds. The mitigation measure related to low VOC coatings may not be required. Depending on the nature of any new industrial buildings, operational use of diesel vehicles may be increased versus the proposed project. The 'Industrial Infill" Alternative would likely reduce the number of emergency diesel generators installed. The impact of the "Industrial Infill" Alternative would therefore be marginally reduced compared to the project, including for impacts related to operational ROG emissions and exhaust emissions during construction, which would be reduced to less than significant from less than significant with mitigation.

Biological Resources

The "Industrial Infill" Alternative would still have the potential to disturb nesting birds, though it may affect fewer breeding seasons than the proposed project, and therefore mitigation for nesting birds would still be needed. The chance of birdstrike would be lessened with lower buildings that have fewer windows. The potential impacts to Pulgas Creek would not be completely avoided, as even with a setback there is potential for runoff during construction to impact water quality, and therefore mitigation to protect the creek from runoff would still be needed. The portion of Pulgas Creek on the project site would remain in its current state, with no new stabilization of the banks and vegetated with mostly invasive species, however since this is the existing condition and the "Industrial Infill" Alternative would not cause a change, it would not be considered an impact under CEQA, and the mitigation measures related to work within the creek would not be applicable. Trees would not be removed from the currently developed portion of the project site. The impact of the "Industrial Infill" Alternative would therefore be marginally reduced compared to the project, with the most substantial reduction regarding impacts to wetlands, no longer requiring two of the three mitigation measures.

Cultural and Tribal Cultural Resources

The "Industrial Infill" Alternative represents construction over approximately half of the project site area, so cultural and tribal cultural resource impacts would still need to be mitigated as in the proposed project, though the currently developed portion of the project site would not undergo ground disturbance. No buildings of historic age would be demolished and ground disturbing activities would

be reduced. The impact of the "Industrial Infill" Alternative would therefore be marginally reduced compared to the project.

Energy

The "Industrial Infill" Alternative represents less construction and reduced operations at the project site, resulting in lower energy demand than for the proposed project. The existing buildings are less energy efficient than new development would be, however since this is the existing condition and the "Industrial Infill" Alternative would not cause a change on that portion of the site, it would not be considered an impact under CEQA.

Geology and Soils

The "Industrial Infill" Alternative would be on the same soils, with the same geologic hazards as the proposed project. With less area under construction, there would be less chance of erosion. Paleontological resources would still need to be mitigated for the ground disturbance on half the project site compared to the project. The impact of the "Industrial Infill" Alternative would therefore be marginally reduced compared to the project.

Greenhouse Gas Emissions

With less construction activity and operational emissions from building space and vehicle trips, the "Industrial Infill" Alternative would have reduced greenhouse gas emissions but would still be required to comply with the City's CMAP strategies to reduce greenhouse gas emissions, though would support to a lesser degree the Plan Bay Area 2050 Strategy EC4 to allow greater densities on transit-rich sites to encourage more jobs to locate near public transit. There would be no substantial changes to impacts related to greenhouse gas emissions.

Hazards and Hazardous Materials

The "Industrial Infill" Alternative would have the same impact of disturbing a site on the Cortese list, and would need to carry out the same mitigation. There would be no additional demolition, so there would be no impact related to asbestos and lead containing materials and there would be no need for mitigation, reducing that impact from less than significant with mitigation to less than significant.

Hydrology and Water Quality

The "Industrial Infill" Alternative would involve less area under construction, and therefore less area with the potential for erosion and stormwater pollution during construction, though mitigation would still be needed. There would be more impervious surface area over the project site than proposed under the project, which could lead to an increase in polluted surface runoff, although this alternative would still need to meet General Permit requirements, follow measures in a SWPPP, and include Low-Impact Design features. The currently developed portion of the project site is prone to flooding, and would not undergo improved stormwater control conditions, and would continue to flood. Since this is the existing condition and the "Industrial Infill" Alternative would not cause a change, however, it would not be considered an impact under CEQA. There would be no substantial change in impacts related to groundwater under this alternative, with a marginal increase in impacts related to flooding and surface runoff.

Noise and Vibration

The "Industrial Infill" Alternative would still create construction related noise and vibration, though presumably for a shorter overall duration than the project due to the lower amount of proposed new building space. Operational noise related to employee vehicle traffic would be reduced due to the lower

number of new employees. The impact of the "Industrial Infill" Alternative would therefore be marginally reduced compared to the project.

Population and Housing

The "Industrial Infill" Alternative represents substantially fewer jobs and would therefore have a marginally lessened impact on indirect population growth.

Transportation

The "Industrial Infill" Alternative represents a substantial reduction in employee traffic. Pedestrian and bicycle facilities along development areas would be required to conform to improvement plans, but such improvements would not be as comprehensive. There would presumably be a less robust TDM program and less chance of help to the city in organizing a TMA by developers in the East Side area. The alternative would create fewer jobs near transit so would have less positive impact on lowering overall city VMT. Mitigation for project VMT would presumably not be required.

Utilities and Service Systems

The "Industrial Infill" Alternative represents substantially reduced construction activities and fewer employees at the site. There would be less wastewater and solid waste produced by employees. While the new buildings would be smaller, industrial processes often produce more solid waste and wastewater and use more water than office/R&D uses. The impact of the "Industrial Infill" Alternative would therefore be marginally reduced compared to the project for most impacts, though has the potential to have a slightly greater impact on water supply, wastewater, and solid waste production, because of the potential for industrial processes to use more water and generate more wastewater and solid waste than the proposed project.

Ability to Accomplish Project Objectives and Feasibility

The "Industrial Infill" Alternative would have the following ability to meet project objectives:

1. The "Industrial Infill" Alternative would not meet the objective to create state of the art research and development facilities consistent with the General Plan designation of the site and General Plan goals and policies, including Policy LU-1.2, which aims to support additional job growth within the Transit Oriented Development corridor while being sensitive to surrounding uses, and LU-6.6, which encourages new development on the East Side to feature high quality architecture.

2. The "Industrial Infill" Alternative would not meet the objective of supporting implementation of the East Side Innovation District Vision Plan to establish a well-connected, multi-modal neighborhood that integrates existing businesses with new science and technology uses and offers a rich array of community amenities for a more resilient and inclusive future.

3. The "Industrial Infill" Alternative would not meet the objective to allow for redevelopment of an underutilized site at a higher density than its current use to take advantage of the opportunities offered in the East Side Innovation District to create a vibrant research and development campus.

4. The "Industrial Infill" Alternative would meet to a lesser degree the objective of providing a positive fiscal impact on the local economy through the creation of jobs, enhancement of property values, and generation of property tax and other fees.

5. The "Industrial Infill" Alternative would not meet the objective to create a high-quality commercial campus development to enhance and expand San Carlos' emerging position as a center for science and technology businesses.

6. The "Industrial Infill" Alternative would not meet the objective contribute to a functional green boulevard along Industrial Avenue that establishes a sense of place and creates a welcoming public realm consistent with the goals of the East Side Innovation District Vision Plan.

7. The "Industrial Infill" Alternative would meet to a lesser degree the objective of managing and reducing flooding risks in the area through the increase of permeable landscaped areas and provision of stormwater retention features including for Pulgas Creek overflows.

8. The "Industrial Infill" Alternative would meet to a lesser degree the objective to contribute to increased community recreation, and multi-modal connectivity, as only the redeveloped portion of the site would be required to include recreation and connectivity improvements, and would likely only meet minimum requirements.

9. The "Industrial Infill" Alternative would meet to a lesser degree the objective to encourage multi-modal travel via pedestrian and bicycle improvements to adjacent roadways and the tunnel to Arroyo Avenue, and establishment of robust transportation demand management program.

10. The "Industrial Infill" Alternative would meet to a lesser degree the objective to contribute to improvement of the ecological conditions near and in Pulgas Creek, as required Low-Impact design features in the portion of the project site to be redeveloped would improve the quality of water entering the Creek from the project site.

11. The "Industrial Infill" Alternative would meet to a lesser degree the objective of reducing vehicle miles travelled by locating jobs near transit.

12. The "Industrial Infill" Alternative would not meet the objective of providing sufficient space for tenants to employ key scientific and business personnel in proximity to each other to foster efficient collaboration and productivity.

13. The "Industrial Infill" Alternative would not meet the objective to incorporate flexibility as to permitted office and research and development uses to ensure that the project is responsive to tenant demands based on market conditions.

14. The "Industrial Infill" Alternative would meet to the same degree the objective to provide for a development that can be phased to meet market demands.

15. The "Industrial Infill" Alternative would meet to the same degree the objective to allow for the continued operation of existing light industrial uses until new development occurs.

The "Industrial Infill" Alternative would not meet 6 of the project Objectives and would meet the 8 of the remaining 9 to a lesser degree than the project.

This alternative represents the possibility that there would be industrial infill development of the vacant portion of the site. While not consistent with the East Side Innovation District Vision Plan's vision for this site or the Plan Bay Area 2050 strategy to allow increased employment density near transit, continued and refreshed industrial use of the project site conforms to existing zoning and would not be considered infeasible from a city permitting perspective. This type and density of development exists on other sites in the area and is assumed to be theoretically economically viable. A detailed fiscal analysis could further determine feasibility or infeasibility of the "Industrial Infill" Alternative under current market conditions upon project consideration.

ALTERNATIVE C: "CONFORMING WITH ZONING" ALTERNATIVE

Alternative Description

The "Conforming with Zoning" Alternative assumes that the existing buildings would be demolished, and the project site would be developed with buildings that conform with the existing zoning designation of Heavy Industrial. While R&D and life sciences uses are allowed under IH zoning with a conditional use permit, due to other design constraints, the total building area would be reduced to 1,103,287 gross square feet from 1,734,532 gross square feet, and would have reduced building heights of up to 50 feet, with mechanical screens reaching 66 feet, whereas the project would reach a maximum of 116 feet. This alternative would include an estimated 1,800 parking spaces provided by surface parking instead of standalone parking garages, which would reduce on-site landscaping opportunities to about 10% of the site, whereas the project proposes close to 50% landscaping. There would be no community amenity space. This Alternative would accommodate approximately 3,678 employees, 68% of the estimated employee total of the project. This Alternative is assumed to adhere to the required creek setback but not improve creek conditions or create a public creek-side trail.

Impact Summary

Under the "Conforming with Zoning" Alternative, impacts related to intensity of use and length of construction would be marginally lessened, but impacts related to ground disturbance and demolition would remain the same. Mitigation related to VOC architectural coatings would likely not be necessary, and work within Pulgas Creek would not be necessary, so mitigation for creek disturbance would not be required. All other mitigation would still be applicable. A comparison of the alternatives with respect to the environmental topic areas considered in this EIR is included in Table 19.1 at the end of this chapter.

Aesthetics

The "Conforming with Zoning" Alternative would still be within a Transit Priority Area and would therefore have no potential for significant aesthetics impacts. Any alternative development would be required to undergo Design Review by the City. There would be no change to aesthetic impacts compared to the project.

Air Quality

The "Conforming with Zoning" Alternative would require less construction than proposed under the project, and therefore most construction impacts would be marginally lessened. Basic Construction Management Practices related to dust during construction would still apply, as would mitigation for construction period exhaust emissions. With approximately 63% of the square footage of the proposed project and 68% of the workforce, operational impacts of high ROG emissions related to employee vehicle use and the use of VOC coatings would be lessened to a similar degree, and mitigation requiring low-VOC architectural coatings may not be required. With less square footage, the 'Conforming with Zoning" Alternative would likely reduce the number and/or total horsepower of emergency diesel generators installed. The impact of the "Conforming with Zoning" Alternative would therefore be marginally reduced compared to the project, with the impact of operational ROG emissions reduced from less than significant with mitigation to less than significant.

Biological Resources

The "Conforming with Zoning" Alternative would still have the potential to disturb nesting birds, and therefore mitigation for nesting birds would still be required. The chance of birdstrike might be lessened with lower buildings that have fewer windows. The potential impacts to Pulgas Creek would not be completely avoided, as even with a setback there is potential for runoff during construction to impact

water quality, and therefore mitigation to protect the creek from runoff would still be needed. The portion of Pulgas Creek on the project site would remain in its current state, with no new stabilization of the banks and vegetated with mostly invasive species, however since this is the existing condition and the "Conforming with Zoning" Alternative would not cause a change, and the mitigation measures related to work within the creek would not be applicable. The Standard Condition related to tree removal would still be applicable. The impact of the "Conforming with Zoning" Alternative would therefore be marginally reduced compared to the project, with the most substantial reduction regarding impacts to wetlands, no longer requiring two of the three mitigation measures, but also not proposing improvements to the creek.

Cultural and Tribal Cultural Resources

The "Conforming with Zoning" Alternative would have the same impacts to cultural and tribal cultural resources, as ground disturbance would remain approximately the same, and mitigation would still be needed. There would be no change in the demolition of historically aged buildings. Therefore, there would be no substantial change to impacts related to cultural and tribal cultural resources.

Energy

The "Conforming with Zoning" Alternative would use incrementally less energy to construct and operate, and therefore the impact of the "Conforming with Zoning" Alternative would be marginally reduced compared to the project.

Geology and Soils

The "Conforming with Zoning" Alternative would be on the same soils, with the same geologic hazards as the proposed project. There would be no change to impacts related to paleontological resources and mitigation would still be needed. There would be no substantial changes to impacts related to geology and soils.

Greenhouse Gas Emissions

With less construction activity and operational emissions from building space and vehicle trips, the "Conforming with Zoning" Alternative would have reduced greenhouse gas emissions but would still be required to comply with the City's CMAP strategies to reduce greenhouse gas emissions, though would support to a lesser degree the Plan Bay Area 2050 Strategy EC4 to allow greater densities on transit-rich sites to encourage more jobs to locate near public transit. There would be no substantial changes to impacts related to greenhouse gas emissions.

Hazards and Hazardous Materials

The "Conforming with Zoning" Alternative would have the same impacts of disturbing a site on the Cortese list and demolishing buildings with asbestos and lead containing materials and would need to carry out the same mitigations as the project. There would be no substantial changes to impacts related to hazards and hazardous materials.

Hydrology and Water Quality

The "Conforming with Zoning" Alternative would involve the same area undergoing construction activities, and would need to mitigate construction related erosion and manage stormwater across the entire project site. There would be more impervious surface area across the project site due to more surface parking and an estimated 10% landscaped area as opposed to 50% of the site being landscaped under the project, which could lead to an increase in polluted surface runoff, although this alternative would still need to meet General Permit requirements, follow measures in a SWPPP, and include Low-Impact Design features. Without work within Pulgas Creek, flooding conditions would not be as

improved as with the project. The impact of the "Conforming with Zoning" Alternative would be marginally increased compared to the project for impacts related to flooding and runoff from impervious surfaces, and would have the same impact for all other hydrological impacts.

Noise and Vibration

The "Conforming with Zoning" Alternative would still create construction related noise and vibration, though presumably for a shorter overall duration than the project. Operational noise related to employee vehicle traffic would be reduced. The impact of the "Conforming with Zoning" Alternative would be marginally reduced compared to the project.

Population and Housing

The "Conforming with Zoning" Alternative represents fewer jobs and would therefore have a lessened impact on indirect population growth. The impact of the "Conforming with Zoning" Alternative would be marginally reduced compared to the project.

Transportation

The "Conforming with Zoning" Alternative represents a reduction in employee traffic. Pedestrian and bicycle facilities along development areas would be required to conform to improvement plans, but such improvements would not be as comprehensive. The alternative would create fewer jobs near transit so would have less impact on lowering overall City VMT. Mitigation for project VMT would likely be required, though there would presumably be a less robust TDM program and less chance of helping the City organize a TMA by developers in the East Side area. Impacts related to transportation would be the same or marginally reduced compared to the project.

Utilities and Service Systems

The "Conforming with Zoning" Alternative represents reduced construction activities and fewer employees at the site. There would be less wastewater and solid waste produced. The smaller development and reduced landscaping would use less water. The impact of the "Conforming with Zoning" Alternative would therefore be marginally reduced compared to the project for most impacts.

Ability to Accomplish Project Objectives and Feasibility

The "Conforming with Zoning" Alternative would have the following ability to meet project objectives:

1. The "Conforming with Zoning" Alternative would meet to a lesser degree the objective to create state of the art research and development facilities consistent with the General Plan designation of the site and General Plan goals and policies, including Policy LU-1.2, which aims to support additional job growth within the Transit Oriented Development corridor while being sensitive to surrounding uses, and LU-6.6, which encourages new development on the East Side to feature high quality architecture.

2. The "Conforming with Zoning" Alternative would not meet the objective of supporting implementation of the East Side Innovation District Vision Plan to establish a well-connected, multi-modal neighborhood that integrates existing businesses with new science and technology uses and offers a rich array of community amenities for a more resilient and inclusive future.

3. The "Conforming with Zoning" Alternative would meet to a lesser degree the objective to allow for redevelopment of an underutilized site at a higher density than its current use to take advantage of the opportunities offered in the East Side Innovation District to create a vibrant research and development campus.

4. The "Conforming with Zoning" Alternative would meet to a lesser degree the objective of providing a positive fiscal impact on the local economy through the creation of jobs, enhancement of property values, and generation of property tax and other fees.

5. The "Conforming with Zoning" Alternative would meet to a lesser degree the objective to create a high-quality commercial campus development to enhance and expand San Carlos' emerging position as a center for science and technology businesses.

6. The "Conforming with Zoning" Alternative would meet to a lesser degree through compliance with at least minimum requirements the objective to contribute to a functional green boulevard along Industrial Avenue that establishes a sense of place and creates a welcoming public realm consistent with the goals of the East Side Innovation District Vision Plan.

7. The "Conforming with Zoning" Alternative would meet to a lesser degree the objective of managing and reducing flooding risks in the area through the increase of permeable landscaped areas and provision of stormwater retention features including for Pulgas Creek overflows.

8. The "Conforming with Zoning" Alternative would meet to a lesser degree the objective to contribute to increased community recreation, and multi-modal connectivity through inclusion of at least minimum requirements for on-site publicly accessible open spaces, a trail along Pulgas Creek, and improved pedestrian and bicycle circulation onsite and on adjacent streetscapes.

9. The "Conforming with Zoning" Alternative would meet to a lesser degree the objective to encourage multi-modal travel via pedestrian and bicycle improvements to adjacent roadways and the tunnel to Arroyo Avenue, and establishment of robust transportation demand management.

10. The "Conforming with Zoning" Alternative would meet to a lesser degree the objective to contribute to improvement of the ecological conditions near and in Pulgas Creek, as required Low-Impact design features would improve the quality of water entering the Creek from the project site.

11. The "Conforming with Zoning" Alternative would meet to a lesser degree the objective of reducing vehicle miles travelled by locating jobs near transit.

12. The "Conforming with Zoning" Alternative would meet to a lesser degree the objective of providing sufficient space for tenants to employ key scientific and business personnel in proximity to each other to foster efficient collaboration and productivity.

13. The "Conforming with Zoning" Alternative would meet to a lesser degree the objective to incorporate flexibility as to permitted office and research and development uses to ensure that the project is responsive to tenant demands based on market conditions.

14. The "Conforming with Zoning" Alternative would meet to the same degree the objective to provide for a development that can be phased to meet market demands.

15. The "Conforming with Zoning" Alternative would meet to the same degree the objective to allow for the continued operation of existing light industrial uses until new development occurs.

The "Conforming with Zoning" Alternative would meet 14 of the 15 project Objectives though 12 would be met to a lesser degree than the project.

This alternative represents a reduced intensity R&D/life science development at the site that would conform with current zoning restrictions. While not entirely consistent with the East Side Innovation District Vision Plan's vision for this site or the Plan Bay Area 2050 strategy to allow increased employment density near transit, conforming development would not be considered infeasible from a city permitting side. This type and density of development has been proposed for other, albeit smaller,

projects in the area and is assumed to be theoretically economically viable. A detailed fiscal analysis could further determine feasibility or infeasibility of the "Conforming with Zoning" Alternative under current market conditions upon project consideration.

SUMMARY OF EVALUATION OF ALTERNATIVES

In addition to the discussion and comparison of impacts of the proposed project and the alternatives, Section 15126.6 of the CEQA Guidelines requires that an "environmentally superior" alternative be selected and the reasons for such a selection disclosed. In general, the environmentally superior alternative is the alternative that would be expected to generate the least amount of significant impacts. Identification of the environmentally superior alternative is an informational procedure and the alternative selected may not be the alternative that best meets the goals or needs of the City.

Table 19.1, on the following pages, provides a summary comparison of the environmental impacts of the alternatives compared to the proposed project. The table lists the level of significance of the impacts of the proposed project to each of the environmental topics areas analyzed in the EIR and shows whether the impacts anticipated under each proposed alternative would be similar to ("s"), greater ("+"), marginally greater ("s+"), lesser ("+"), or marginally lesser ("s-") than the proposed project.

No significant and unavoidable impacts were identified under the proposed project. All project impacts are either less than significant or can be reduced to those levels through implementation of the mitigation contained in this EIR. Because of the low environmental impact of the proposed project, differences between it and the Alternatives are confined to marginal increases or reductions in already less than significant impacts except in the cases for both alternatives of avoidance of work within Pulgas Creek, and possibly reduction of operational ROG emissions, and exhaust emissions during construction, which may decrease below the need for mitigation with the "Industrial Infill" Alternative.

The "No Project" Alternative would not involve any construction or change in operations, and would reduce all impacts to no impact. The "No Project" Alternative would be the environmentally superior alternative. However, the "No Project" Alternative only meets one of the project objectives, would not provide any of the environmental benefits of the project, and continued vacancy of a portion of the site would not be enforced by any mechanism and would be unlikely to continue in perpetuity, so would be feasible only in the short term.

The CEQA Guidelines also require that "if the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives" (CEQA Guidelines Section 15126.6(e)(2)). In general, the environmentally superior alternative minimizes adverse impacts to the environment, while still achieving the basic project objectives.

The "Industrial Infill" Alternative would only redevelop the vacant portion of the site. Compared to the project and other alternatives, there would be no demolition, the least amount of construction, the lowest employee count, and not as large of an area of the ground disturbance. It may avoid the need for mitigation of operational ROG emissions, construction period exhaust emissions, and would avoid work within Pulgas Creek and the two related mitigation measures – implementing a dewatering and diversion plan and ensuring no net loss of ecological conditions.

Because the "Industrial Infill" Alternative would not create as much landscaped area as the proposed project and more surface parking, there would be a slightly increased impact on altering existing drainage. The proposed project would participate in Cal Water's Development Offset Program, which does not affect water supply reliability within the Mid-Peninsula District, however the "Conforming

with Zoning" Alternative may not participate in that program and would have a marginally increased impact on water supply availability.

While not consistent with the East Side Innovation District Vision Plan's vision for this site or the Plan Bay Area 2050 strategy to allow increased employment density near transit, continued and refreshed industrial use of the project site conforms to existing zoning and would not be considered infeasible from a city permitting side. This type and density of development exists on other sites in the area and is assumed to be theoretically economically viable. A detailed fiscal analysis could further determine feasibility or infeasibility of the "Industrial Infill" Alternative under current market conditions upon project consideration.

Therefore, the "Industrial Infill" Alternative would be the most environmentally superior option, though it only meets one of the 15 project objectives to the same degree as the project and does not meet 6 objectives at all.

Table 19.1. Summary Comparison of Impacts, Proposed Project and Alternatives

ENVIRONMENTAL ISSUE AREA	Proposed Project	"No Project" Alternative	"Industrial Infill" Alternative	"Conforming with Zoning" Alternative
AESTHETICS				
Would the project have a substantial adverse effect on a scenic vista?	LTS	-	s	s
Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	LTS	-	s	s
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?	LTS	-	s	s
Would the project create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	LTS	-	s	s
AIR QUALITY				
Would the project conflict with or obstruct implementation of the applicable air quality plan?	LTS	-	s	s
Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	LTS (w/MM)	-	s-	s-
Would the project expose sensitive receptors to substantial pollutants?	LTS (w/MM)	-	-	-
Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No Impact	s	s	s
BIOLOGICAL RESOURCES				
Would the project have a substantial adverse effect, either directly or through habitat modifications, on species identified as candidate, sensitive, or special status species	LTS (w/MM)	-	s-	s-

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SU = significant and unavoidable impact (not used)

s = same or similar impacts
s+ = marginally increased impacts
s- = marginally reduced impacts

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ENVIRONMENTAL ISSUE AREA	Proposed Project	"No Project" Alternative	"Industrial Infill" Alternative	"Conforming with Zoning" Alternative
in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Services?				
Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game, or the US Fish and Wildlife Service?	LTS	-	s-	s-
Would the project 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?	LTS (w/MM)	-	-	-
Would the project interfere substantially with the movement of any native resident of migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?	No Impact	s	s	s
Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	LTS	-	s-	s
Would the project conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact	s	s	s
CULTURAL RESOURCES				
Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Public Resources Code Section 15064.5?	LTS	-	s-	s
Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Public Resources Code Section 15064.5?	LTS (w/MM)	-	s-	s
Would the project disturb any human remains, including those interred outside of formal cemeteries?	LTS	-	s-	s

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ENVIRONMENTAL ISSUE AREA	Proposed Project	"No Project" Alternative	"Industrial Infill" Alternative	"Conforming with Zoning" Alternative
ENERGY				
Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	LTS	-	s-	s-
Would the project obstruct state or local plans for renewable energy or energy efficiency?	LTS	-	s-	s-
GEOLOGY AND SOILS				
Would the project directly or indirectly cause substantial adverse effects, including the risk of loss, injury or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides?	LTS	-	s	s
Would the project result in soil erosion or the loss of topsoil?	LTS	-	s-	s
Would the project be located on a geologic unit or soil that is unstable (or would become unstable as a result of the project) and could potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	LTS	-	s	s
Would the project 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?	LTS	-	s	s
Would the project have soils incapable of adequately supporting the use of septic tanks or alternate waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact	s	s	s
Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	LTS (w/MM)	-	s-	s
GREENHOUSE GAS EMISSIONS				

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ENVIRONMENTAL ISSUE AREA	Proposed Project	"No Project" Alternative	"Industrial Infill" Alternative	"Conforming with Zoning" Alternative
Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	LTS	-	s	s
Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	LTS	-	s	s
HAZARDS AND HAZARDOUS MATERIALS				
Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	LTS	-	s	s
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?	LTS (w/MM)	-	s	s
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?	No Impact	s	s	s
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?	LTS (w/MM)	-	s	s
For a project located within an airport land use plan area, would it result in a safety hazard or excessive noise for people residing or working in the project area?	LTS	-	s	s
Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	LTS	-	s-	s
HYDROLOGY AND WATER QUALITY				
Would the project violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	LTS	-	s+	s+

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ENVIRONMENTAL ISSUE AREA	Proposed Project	"No Project" Alternative	"Industrial Infill" Alternative	"Conforming with Zoning" Alternative
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?	LTS	-	s	s
Would the project 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?	LTS	-	s-	s
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, or substantially increase the rate or amount of surface runoff in a manner which would impede or redirect flood flows, result in flooding on- or off-site or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	LTS	-	s+	s+
In a flood hazard, tsunami or seiche zone, risk release of pollutants due to project inundation?	LTS	-	s+	s+
Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	LTS	-	s	s
NOISE AND VIBRATION				
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 applicable standards of other agencies?	LTS	-	s-	s-
Would the project result in generation of excessive groundborne vibration or groundborne noise levels?	LTS	-	s-	s-

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ENVIRONMENTAL ISSUE AREA	Proposed Project	"No Project" Alternative	"Industrial Infill" Alternative	"Conforming with Zoning" Alternative
For a project 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 use airport, would the project expose people residing or working in the project area to excessive noise levels?	LTS	-	s	s
POPULATION AND HOUSING				
Would the project 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)?	LTS	-	s-	s-
Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact	s	s	s
TRANSPORTATION				
Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	LTS	-	s	s
Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3 [specifying criteria for analyzing transportation impacts]?	LTS (w/MM)	-	-	s-
Would the project substantially increase hazards due to a geometric design feature or incompatible uses?	LTS	-	s	s
Result in inadequate emergency access?	LTS	-	s	s
TRIBAL CULTURAL RESOURCES				
Would the project 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?	LTS (w/MM)	-	s-	s

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ENVIRONMENTAL ISSUE AREA	Proposed Project	"No Project" Alternative	"Industrial Infill" Alternative	"Conforming with Zoning" Alternative
UTILITIES AND SERVICE SYSTEMS				
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?	LTS	-	s-	s-
Would the project have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	LTS	-	s+	s-
Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	LTS	-	s-	s-
Would the project generate solid waste in excess of State or local standards, or in excess of capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	LTS	-	s+	s-
Would the project conflict with federal, state, and local management and reduction statutes and regulations related to solid waste?	LTS	-	s-	s-

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REPORT PREPARERS AND REFERENCES

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