Loomis Costco
Recirculated Draft Environmental Impact Report

Prepared for:

Town of Loomis

December 2019

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DRAFT

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Table of Contents

Figures

Figure 3.2-16. Landscape Plan 3.2-27

Tables

Appendices

Acronyms and Other Abbreviations

°F	degrees Fahrenheit
$\mu g/m^3$	micrograms per cubic meter
2007 SIP	State Strategy for the State Implementation Plan for Federal $PM_{2.5}$ and 8-Hour Ozone Standards
1987 Manual	USACE's 1987 *Corps of Engineers Wetlands Delineation Manual*
Arid West Regional Supplement	2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0*)
2014 Scoping Plan Update	First Update to the Climate Change Scoping Plan: Building on the Framework
2017 Scoping Plan Update	California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target
AB	Assembly Bill
ADMRT	Air Dispersion Modeling and Risk Tool
AERMOD	American Meteorological Society/U.S. EPA Regulatory Model
ANSI	American National Standards Institute
APCD	Air Pollution Control District
ARB	California Air Resources Board
ATC	Authority to Construct
Attainment and Progress Plan	Sacramento Regional 2008 National Ambient Air Quality Standard 8-Hour Ozone Attainment and Reasonable Further Progress Plan
BACT	best available control technology
BMP	best management practice
Btu	British thermal unit(s)
C-2	Retail Business
CAA	federal Clean Air Act
CAAA	federal Clean Air Act Amendments of 1990
CAAQS	California ambient air quality standards
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emission Estimator Model
CALGreen Code	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CC	Central Commercial
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act of 1970
CFR	Code of Federal Regulations
CG	General Commercial (zoning)

cm	centimeter(s)
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	Placer County
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibels
dbh	diameter at breast height
DEIR	draft environmental impact report
Delta	Sacramento–San Joaquin Delta
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
EIR	environmental impact report
EPA	U.S. Environmental Protection Agency
ESA	environmental site assessment
FEIR	final recirculated environmental impact report
FEMA	Federal Emergency Management Agency
FHWA-RD-77-108	FHWA Highway Noise Prediction Model
FTA	Federal Transit Administration
GC	General Commercial (General Plan designation)
General Plan	Town of Loomis General Plan
GHG	greenhouse gas
gpm	gallon(s) per minute
GWh	gigawatt-hours
GWP	global warming potential
HAP	hazardous air pollutant
HI	hazard index
HQ	hazard quotient
HVAC	heating, ventilation, and air conditioning
I-80	Interstate 80
in/sec	inches per second
kBtu	thousand British thermal units
lb/day	pound(s) per day
LDL	Larson Davis Laboratories
LED	light-emitting diode
L_{eq}[h]	A-weighted equivalent sound level
LOS	level of service
LRA	Local Responsibility Area
MACT	maximum available control technology

MBTA	Migratory Bird Treaty Act
MEIR	Maximum exposed individual resident
MEIW	Maximum exposed individual worker
mg/m^3	milligrams per cubic meter
mgd	million gallons per day
MMRP	mitigation monitoring and reporting program
MOE	measure of effectiveness
MPO	metropolitan planning organization
MS4	Municipal Separate Storm Sewer System
MT	metric tons
MTP	Metropolitan Transportation Plan
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOP	notice of preparation
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Natural Resources Conservation Service
OPR	Governor's Office of Planning and Research
PCAPCD	Placer County Air Pollution Control District
PCSD	Placer County Sheriff's Department
PCWA	Placer County Water Agency
PG&E	Pacific Gas & Electric Company
Placer County Environmental Health	Placer County Environmental Health Department
PM	particulate matter
PM_{10}	respirable particulate matter with an aerodynamic diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less
PMI	Point of Maximum Impact
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	California Public Resources Code
psi	pound(s) per square inch
PVC	polyvinyl chloride
REC	recognized environmental condition
REL	reference exposure level
Reporting Rule	Greenhouse Gas Reporting Rule
RH	High Density Residential (zoning)
RM-5	Medium Density Residential (zoning)

RMH	Residential–Medium-High Density (General Plan designation)
RMS	root-mean-square
RUCS	Rural-Urban Connection Strategy
R-Value	energy efficiency rating
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Governments
SB	Senate Bill
SCH	State Clearinghouse
SCS	Sustainable Community Strategy
SEL	sound equivalent level
SFNA	Sacramento Federal Nonattainment Area
SIP	state implementation plan
SO_2	sulfur dioxide
SO_X	oxides of sulfur
SPMUD	South Placer Municipal Utility District
SPWA	South Placer Wastewater Authority
State CEQA Guidelines	California Environmental Quality Act Guidelines
SVAB	Sacramento Valley Air Basin
SWPPP	storm water pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCCR	Transportation Corridor Concept Report
Town	Town of Loomis
TRUs	transport refrigeration units
tdbh	trunk diameter at breast height
UP	Use Permit Required
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UTM	Universal Transverse Mercator
UWMP	urban water management plan
VdB	vibration decibels
VMT	vehicle miles traveled
VOC	volatile organic compound
WRSL	Western Regional Sanitary Landfill
WS	Wetland Swales
WTP	water treatment plant
WWTP	wastewater treatment plant

Executive Summary

ES.1 Introduction

The purpose of this executive summary is to provide the reader with a clear and simple description of the proposed project and its potential environmental impacts. Section 15123 of the California Environmental Quality Act (CEQA) Guidelines (State CEQA Guidelines) requires that the executive summary identify each significant effect, recommended mitigation measures, and alternatives that would minimize or avoid potentially significant impacts. The executive summary must also identify issues of potential or existing controversy.

ES.2 Project Description

ES.2.1 Project Setting

The project site is located in the town of Loomis, in Placer County, approximately 25 miles northeast of the city of Sacramento (see Figure 2-3). Loomis is in the western portion of the Loomis Basin, an 80-square-mile area of the Placer County foothills. More specifically, the 17-acre site is located at the southeast corner of the Sierra College Boulevard/Brace Road intersection. The project site consists of seven parcels, identified as Assessor's Parcel Numbers 045-042-011, 045-042-012, 045-042-023, 045-042-034, 045-042-035, 045-042-036, and 045-042-037. Interstate 80 (I-80) provides regional access to the site and Sierra College Boulevard provides local access.

The Draft Environmental Impact Report (EIR) analyzes three different site access plans, respectively referred to as Options 1A, 1B, and 1C. Site plan Options 1B and 1C include an extension of Granite Drive across two parcels in the City of Rocklin, identified as Assessor's Parcel Numbers 045-042-053 and 045-042-055. The parcels are zoned by the City of Rocklin for Retail Business (C-2) (City of Rocklin 2016).

ES.2.2 Project Description

Costco Wholesale has submitted an application to the Town of Loomis (Town) to build warehouse retail with an ancillary fueling station on the project site. The warehouse retail site would sell national brands and private-label merchandise for commercial and personal use. Other goods and services provided would include tire sales and installation, sales of motor vehicle fuel including diesel, optical exams and sales, a photo center and processing, hearing aid testing and sales, food service preparation and sales (including meat and baked goods), alcohol sales and tasting, and propane refueling. During seasonal sales promotions, temporary outdoor sales may occur within the parking field adjacent to the warehouse.

Costco is a membership-only retail/wholesale business. Warehouse and tire center hours are anticipated to be Monday through Friday from 10 a.m. to 8:30 p.m., Saturday from 9:30 a.m. to 6 p.m., and Sunday from 10 a.m. to 6 p.m. The fueling facility is anticipated to operate daily from 5 a.m. to 10 p.m. See Chapter 2, "Project Description," of this recirculated draft environmental impact report (DEIR) for more information on the proposed project.

ES.3 Potential Areas of Concern and Issues to be Resolved

Pursuant to Section 15123(b) of the State CEQA Guidelines, a summary section must address areas of controversy known to the lead agency, including issues raised by agencies and the public, and issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects. A notice of preparation (NOP) for the project was issued on May 15, 2017, and comments were accepted until June 16, 2017. The NOP was submitted to the Placer County Clerk and the State Clearinghouse of the Governor's Office of Planning and Research and was posted on the Town's Web site for a 30-day public review period.

Based on its review of existing information and the scoping process, the Town determined that the proposed project would have no impact, less than significant impacts, or less than significant impacts with mitigation related to the following resource areas:

- Agriculture and forestry resources
- Cultural resources
- Geology and soils
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning
- Mineral resources
- Population and housing
- Public services
- Recreation
- Utilities and service systems
- Wildfire

These resource areas are discussed briefly in Section 5.3, "Effects Not Found to be Significant," in Chapter 5 of this EIR.

Table ES-1 lists the parties who commented on the NOP, the issues identified by the commenters, and the location in this EIR where each issue is addressed.

Table ES-1. Comments on the Notice of Preparation

Commenting Party and Date	Issues	Location(s) Addressed
California Department of Transportation, June 9, 2017	Requests consideration of vehicle miles traveled as part of the transportation analysis consistent with SB 743.	Section 4.3.6, "Transportation and Traffic," in Chapter 4, "Cumulative Impacts"
	Requests evaluation of the following locations: • Sierra College Boulevard/I-80 ramps • Horseshoe Bar Road/I-80 ramps • Sierra College Boulevard • I-80 mainline between Horseshoe Bar Road and Sierra College Boulevard	Section 3.7, "Transportation and Traffic"; and Section 4.3.6, "Transportation and Traffic," in Chapter 4, "Cumulative Impacts"
	Requests evaluation of site access and circulation.	Section 3.7, "Transportation and Traffic"
	Requests evaluation of multimodal travel demands.	Section 3.7, "Transportation and Traffic"; and Section 4.3.6, "Transportation and Traffic," in Chapter 4, "Cumulative Impacts"
South Placer Municipal Utility District, June 14, 2017	States that downstream segments of the sewer collection system serving the property are deficient and undergoing planned upgrades. Further analysis should be conducted to determine the capacity of the system to serve the project.	Section 5.3.11.2, "Wastewater Collection, Conveyance, and Treatment," in Chapter 5, "Other CEQA Requirements"
Placer County Department of Human Health and Services, May 25, 2017	Requests a Phase 1 ESA evaluating the potential for environmental conditions of concern.	Section 5.3.4, "Hazards and Hazardous Materials," in Chapter 5, "Other CEQA Requirements"
	Requests a will-serve letter from the water provider and public sewer system.	
	States that storage of hazardous materials above certain quantities requires reporting to the department and compliance with handling and	

Table ES-1. Comments on the Notice of Preparation

Commenting Party and Date	Issues	Location(s) Addressed
	storage requirements.	
Placer County Air Pollution Control District, June 21, 2017	Requests that the Town rely on the district's thresholds of significance for emissions of criteria pollutants and GHGs and the methods outlined in the district's *CEQA Air Quality Handbook* in its approach to the analysis and mitigation.	Section 3.3, "Air Quality," and Section 3.5, "Greenhouse Gases"
	Requests that emissions be estimated using the latest version of CalEEMod	Section 3.3, "Air Quality," and Section 3.5, "Greenhouse Gases"
	Recommends that CO modeling use Caline 4 to determine whether the project would create a CO "hotspot."	Section 3.3, "Air Quality"
	Requests consideration of toxic air contaminants from vapors associated with the proposed fueling station.	Section 3.3, "Air Quality"
United Auburn Indian Community of the Auburn Rancheria, May 30, 2017	Expresses concern about potential development within its aboriginal territory that has a potential to affect lifeways, cultural sites, and landscapes.	Section 5.3.2, "Cultural Resources, including Tribal Cultural Resources," in Chapter 5, "Other CEQA Requirements"
Placer County Flood Control District, June 14, 2017	States that an increase in impervious surfaces could result in runoff volumes that negatively affect downstream properties by exceeding the design capacity of flood control facilities.	Section 5.3.5, "Hydrology and Water Quality," in Chapter 5, "Other CEQA Requirements"
City of Rocklin, June 14, 2017	Recommends that the EIR evaluate intersection operations at 13 locations in the city of Rocklin along with the Sierra College Boulevard/I-80 ramps and the Horseshoe Bar Road/I-80 ramps. Traffic counts should be conducted when school is in session.	Section 3.7, "Transportation and Traffic"; and Section 4.3.6, "Transportation and Traffic," in Chapter 4, "Cumulative Impacts"
	Requests evaluation of access and parking-related impacts with particular emphasis on the driveway.	Section 3.7, "Transportation and Traffic"; and Section 4.3.6, "Transportation and Traffic," in Chapter 4, "Cumulative Impacts"
	Requests evaluation of conflicts with alternative transportation policies, plans, or programs.	Section 3.7, "Transportation and Traffic"; and Section 4.3.6, "Transportation and Traffic," in Chapter 4, "Cumulative Impacts"
	Requests evaluation of effects of queuing on intersections.	Section 3.7, "Transportation and Traffic"; and Section 4.3.6, "Transportation and Traffic," in Chapter 4, "Cumulative Impacts"
	Requests identification of the effects on downstream flood control facilities in the city of Rocklin.	Section 5.3.5, "Hydrology and Water Quality," in Chapter 5, "Other CEQA Requirements"
	Requests identification of impacts on emergency services.	Section 5.3.9, "Public Services," in Chapter 5, "Other CEQA Requirements"

Notes: CalEEMod = California Emissions Estimator Model; CEQA = California Environmental Quality Act; CO = carbon monoxide; EIR = environmental impact report; ESA = Environmental Site Assessment; GHG = greenhouse gas; I-80 = Interstate 80; SB = Senate Bill; Town = Town of Loomis

Source: Data compiled by AECOM in 2018

The proposed project was determined to have potentially significant or significant impacts on the following resource areas:

- Aesthetics
- Air quality
- Biological resources
- Greenhouse gases
- Noise
- Transportation and traffic

ES.4 Summary of Impacts and Mitigation Measures

Table ES-2 summarizes the impacts, mitigation measures, and resulting levels of significance after mitigation for the relevant environmental issue areas evaluated for the proposed project. The table is intended to provide an overview; narrative discussions for the issue areas are included in the corresponding section of this EIR. Table ES-2 is included in the DEIR, as required by State CEQA Guidelines Section 15123(b)(1), including identification of significant and unavoidable impacts of the project.

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Section 3.2, "Aesthetics"			
Impact 3.2-1: Degradation of Existing Visual Character of the Project Site and Surroundings. *Loomis is a non-urbanized area, so the appropriate threshold of significance is whether the project would substantially degrade the existing visual character or quality of public views of the site and its surrounding. By replacing oak trees and views of woodland and grassland habitat with a warehouse retail store and fueling station, the proposed project would affect views and change the visual character of the project site. Incorporation of development and use standards and landscaping standards, consistent with the Loomis Municipal Code, as well as design review of the proposed project would reduce impacts on the visual character of the project site. However, the coverage pattern for oak woodlands makes complete avoidance of impacts on oak trees infeasible because they are dispersed widely across the property. A final landscape plan that incorporates Town landscape standards and Tree Ordinance requirements has been prepared which identifies the plant type, size, and location as a means to achieve aesthetic objectives consistent with the Loomis Municipal Code. Despite replanting of trees and use of landscaping, the visual change from a vacant site covered with oak woodland and grassland to a commercial development would alter the visual character of the project site, potentially degrade the visual character of the project area, and introduce elements that would potentially detract from the visual character of the site and surroundings.*	PS	**Mitigation Measure AES-1: Prepare and Implement a Tree Protection Plan** Prior to issuance of building and tree removal permits, the project applicant shall prepare and submit to the Town a Tree Protection Plan consistent with Chapter 13.34 of the Loomis Municipal Code. The plan shall be prepared by a California licensed landscape architect, licensed landscape contractor, certified nurseryman, or other professional determined by the Town to be qualified, based on the requirements of state law. The Tree Protection plan shall be reviewed and approved by the Town to ensure consistency with the tree protection ordinance adopted. Replacement trees shall be required in all setbacks and open space areas, including easements for utilities and drainage courses, and in all parking areas adjacent to streets, property lines, and residential uses as follows: Prior to final building inspection or the issuance of a certificate of occupancy, the project applicant shall enter into a maintenance agreement with the Town to guarantee proper maintenance of replacement trees.	LTS
Impact 3.2-2: Creation of Substantial Light or Glare. *The proposed project would add new sources of light and glare to the area and requires an amendment to the code for exceedance of height standards. However, the project design includes features to limit the duration of nighttime lighting, the tallest lights are located near the warehouse and away from sensitive uses, and compliance with the Loomis Municipal Code requiring the use of cutoff fixtures would reduce impacts from light and glare.*	LTS	N/A	LTS

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Section 3.3, "Air Quality"			
Impact 3.3-1: Generation of Temporary, Short-Term, Construction-Related Emissions of Criteria Pollutants and Precursors. *Short-term construction activities would not generate emissions of criteria air pollutants that would exceed PCAPCD's daily construction emissions thresholds.*	LTS	N/A	LTS
Impact 3.3-2: Generation of Long-Term Operational Emissions of Criteria Pollutants and Precursors. *Long-term operational emissions associated with day-to-day warehouse and fueling station activities would not exceed PCAPCD's thresholds of significance for criteria pollutants and precursors. Thus, operational emissions of criteria air pollutants and precursors would not violate or contribute substantially to an existing or projected air quality violation or conflict with air quality planning efforts.*	LTS	N/A	LTS
Impact 3.3-3: Generation of Local Mobile-Source Carbon Monoxide Emissions. *Operational CO emissions associated with day-to-day warehouse and fueling station activities would not result in or substantially contribute to CO concentrations that would exceed the California 1-hour ambient-air quality standard of 20 ppm or the 8-hour standard of 9.0 ppm.*	LTS	N/A	LTS

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.3-4: Exposure of Sensitive Receptors to Toxic Air Contaminant Emissions. *Construction of the proposed project would generate temporary emissions of TACs from off-road construction equipment, on-road construction worker and vendor vehicles, earthmoving activities, and paving and architectural coating activities. Long-term operations of the proposed project would include daily mobile operations that would generate emissions from diesel-powered delivery trucks and associated TRUs, as well as operation of a fuel dispensing facility that could result in the emissions of TACs, primarily benzene. These emissions could result in the exposure of sensitive receptors to TAC emissions, but exposures would not approach PCAPCD significance thresholds.*	LTS	N/A	LTS
Impact 3.3-5: Exposure of Sensitive Receptors to Objectionable Odors. *Short-term odorous emissions from diesel exhaust from on-site construction equipment would be temporary and intermittent and would dissipate rapidly from the source. The proposed project would include the long-term operation of food preparation and services and a fueling station; while neither is a typical land use considered likely to emit objectionable odors, sensitivity to odors varies considerably among the population and these operations could generate odorous emissions that would affect certain people. However, the project is required to comply with existing regulations that would reduce the potential for exposure to odors.*	LTS	N/A	LTS
Section 3.4, "Biological Resources"			
Impact 3.4-1: Permanent Fill of Wetlands and Waters of the United States and Impacts on Waters of the State. *Implementing the proposed project would result in permanent fill of waters of the United States, including wetlands subject to USACE jurisdiction under the CWA. The proposed project would also result in adverse impacts on waters of the state, including swales and seasonal wetlands.*	LTS	N/A	LTS SU for off-site areas in the city of Rocklin.
Impact 3.4-2: Loss of Protected Oak Trees within the Town of Loomis (Project Site; Option 1A). *Project construction would result in the removal of 158 oak trees determined to be of protected size, based on criteria described in the Town of Loomis Tree Ordinance To compensate for the loss of protected oak trees on the project site, the project applicant would implement the landscape plan which includes 37 valley oaks, and 63 Interior live oaks in 24-inch boxes, and prepare an oak woodland tree replacement plan as described in the Town of Loomis Tree Ordinance.*	LTS	N/A	LTS

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.4-3: Loss of Protected Oak Trees within the City of Rocklin (Off-Site Land; Options 1B and 1C). *If access is provided in the future to Granite Drive, this could result in the removal of 45 oak trees determined to be of protected size (including 1 heritage tree), based on criteria described in the City of Rocklin Tree Ordinance. Removal of protected trees without planting replacement tree is inconsistent with the City of Rocklin tree ordinance.*	S	N/A	SU
Impact 3.4-4: Loss of Valley Oak Woodland Habitat. *The valley oak woodlands on the project site provide valuable resources for a diversity of wildlife species. The conversion of the site's oak woodlands to a built landscape would permanently reduce the quality of existing wildlife habitat.*	S	**Mitigation Measure Bio-1: Prepare and Implement an Oak Woodland Open Space Mitigation Plan.** Before issuance of a grading permit, the project applicant shall prepare an oak woodland mitigation plan for review and approval by the Town of Loomis that describes the methods by which a minimum of 7.96 acres of valley oak woodland within the Dry Creek watershed shall be conserved and protected as natural open space. The mitigation lands shall provide wildlife habitat values equal to or better than those at the project site, as determined by a qualified biologist in consultation with CDFW. The oak woodland mitigation plan can be implemented by securing a conservation easement to protect, enhance, and manage a minimum of 7.96 acres of valley oak woodland. Fees for implementing the conservation easement shall be calculated based on the Passive Park/Open Space Fee, and current market value for preservation of similar oak woodland acreage within the Dry Creek watershed. The fees shall include endowment funds sufficient to manage the land in perpetuity to maintain the wildlife values of the oak woodland habitat. The oak woodland mitigation land shall be transferred, through either a conservation easement or fee title, to a third-party, nonprofit conservation organization (known as the Conservation Operator), with the Town named as a third-party beneficiary. The Conservation Operator shall be a qualified conservation easement land manager that manages land as its primary function. Additionally, the Conservation Operator shall be a tax-exempt, nonprofit conservation organization that meets the criteria of Civil Code Section 815.3(a) and shall be selected or approved by the Town, after coordination with CDFW. The Town, after coordinating with CDFW and the Conservation Operator, shall approve the content and form of the conservation easement. The Town and the Conservation Operator shall each have the power to enforce the terms of the conservation easement. The Conservation Operator shall	LTS SU for off-site areas in the city of Rocklin.

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		monitor the easement in perpetuity to ensure compliance with the terms of the easement. Before grading permits for the project site are issued, the project applicant shall provide evidence to the Town of Loomis that the conservation easement has been recorded, or shall provide financial assurances to guarantee that adequate funding is available to implement the oak woodland open space mitigation plan described above.	
Impact 3.4-5: Loss of Annual Grassland. *The proposed project would convert annual grassland to developed use, but the conversion would be reduced because it is a component of oak woodland habitat, which would be protected.*	LTS	N/A	LTS
Impact 3.4-6: Loss and Disturbance of Habitat for Nesting Migratory Birds. *Conversion of the project site's oak woodlands and annual grassland to an urban land use would result in loss of nesting and foraging habitat and disturbance of potential nesting habitat for bird species protected under the MBTA. Construction activities could also disturb active nests on or near the construction area, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs.*	S	**Mitigation Measure Bio-2: Avoid Direct Loss of Nesting Birds.** The project applicant shall implement the following measures to mitigate the loss of foraging and nesting habitat and avoid the direct loss or disturbance of nesting birds during construction: • The project applicant shall implement Mitigation Measure Bio-1, "Prepare and Implement an Oak Woodland Mitigation Plan," to mitigate the loss of foraging and nesting habitat used by nesting migratory birds. • Vegetation removal, grading, and other ground-disturbing activities shall be carried out during the nonbreeding season for protected bird species in this region (generally September 1-January 31). If no feasible option is available to conduct ground disturbing construction activities during the non-breeding season, the project applicant shall conduct a preconstruction nesting bird survey. The preconstruction survey shall be conducted by a qualified biologist on the project site and 250 feet beyond the project boundaries. The survey shall be conducted within 14 days before project activity begins. • If an active nest of any bird species protected by the MBTA or California Fish and Game Code is found, the qualified biologist shall establish a buffer around the nest. No construction activity shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active. The size of the buffer shall be determined in consultation with CDFW. Buffer size is anticipated to range	LTS SU for off-site areas in the city of Rocklin.

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		from 50 to 250 feet, depending on the species of bird, the nature of the project activity, the extent of existing disturbance in the area, and other relevant circumstances, as determined by a qualified biologist in consultation with CDFW. • Monitoring of all protected nests by a qualified biologist during construction activities shall be required if the activity has the potential to adversely affect the nests. If construction activities cause any nesting birds to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer shall be increased until the agitated behavior ceases. The exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined by a qualified biologist. No construction activities shall occur in the buffer area until a qualified biologist has determined that the chicks have fledged or that the nest is no longer active.	
Impact 3.4-7: Loss and Disturbance of Habitat for Nesting Raptors, including Special-Status Raptors. *Conversion of the project site's oak woodlands and annual grassland to an urban land use would result in the loss of nesting and foraging habitat and disturbance of potential nesting habitat for bird species protected under the MBTA. Project construction could disturb active raptor nests on or near the project site, including species such as Swainson's hawk, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs.*	S	**Mitigation Measure Bio-3: Avoid Direct and Indirect Loss of Special-Status and Other Nesting Raptors.** The project applicant shall implement the following measures to mitigate the loss of raptor habitat and to avoid direct impacts on nesting raptors: • The project applicant shall implement Mitigation Measure Bio-1, "Prepare and Implement an Oak Woodland Open Space Mitigation Plan," to mitigate the loss of foraging and nesting habitat used by nesting raptors. • Tree and vegetation removal shall be completed during the nonbreeding season for raptors in this region (generally September 1-January 31). If during pre-construction nesting bird surveys no active nests are discovered, exemptions may be approved following consultation with USFWS and CDFW. • To avoid, minimize, and mitigate potential impacts on Swainson's hawk and other raptors nesting on or adjacent to the project site, the project applicant shall retain a qualified biologist to conduct preconstruction surveys and identify active nests on and within 500 feet of the project site for construction activities conducted during the breeding season (March 1-August 31). Surveys for nesting Swainson's hawks shall be conducted on the project site and within 0.25 mile of the project boundaries. The surveys shall be conducted	LTS SU for off-site areas in the city of Rocklin.

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		before the Town approves grading and/or vegetation removal and no less than 14 days and no more than 30 days before the beginning of construction. If no nests are found, no further mitigation will be required. • Impacts on nesting raptors shall be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. The appropriate no-disturbance buffer for other raptor nests shall be determined by a qualified biologist based on site-specific conditions, the species of nesting bird, the nature of the project activity, the visibility of the disturbance from the nest site, and other relevant circumstances. If a nesting Swainson's hawk is detected on or within 0.25 mile of the project site, CDFW shall be consulted to establish an appropriate nondisturbance buffer. No project construction shall commence within the buffer area until a qualified biologist has determined that the young have fledged or that the nest is no longer active.	
Impact 3.4-8: Indirect Adverse Effects on Steelhead (Central Valley Distinct Population Segment). *Central Valley steelhead are found in Dry Creek and its tributaries Secret Ravine and Miners Ravine, located approximately 4 miles downstream of the project site. No direct impacts on this species are anticipated; however, the potential exists for indirect water quality effects from the construction site to adversely affect steelhead downstream.*	S	N/A	LTS SU for off-site areas in the city of Rocklin.
Impact 3.4-9: Potential Mortality and Loss of Habitat for Western Spadefoot Toad. *Project construction could eliminate habitat for western spadefoot toad and could kill or injure individuals of the species present on the project site.*	S	**Mitigation Measure Bio-4: Conduct Western Spadefoot Toad Surveys and Implement Avoidance, Minimization, and Mitigation Measures.** The project applicant shall conduct focused surveys for western spadefoot toad using methods described in Fellers and Freel (1995) to determine whether this species occurs at the project site. These surveys should occur during the peak of breeding season (February to March) a maximum of 30 days prior to the start of construction. Surveys will be repeated if one year elapses between surveys and project related vegetation removal or ground disturbance has not occurred. If this species is determined to be absent, no mitigation is required. If the surveys detect the presence of western spadefoot toad at the project site, the wetland mitigation plan required by the 404 permitting process, or the oak woodland habitat mitigation plan	LTS SU for off-site areas in the city of Rocklin.

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		described in Mitigation Measure Bio-1, shall accommodate acquisition of habitat or a conservation easement for habitat that would support western spadefoot toad. The mitigation lands for western spadefoot toad shall provide habitat values equal to or greater than those provided at the project site, as determined by a qualified biologist in consultation with CDFW. In addition, the following measures shall be implemented during construction: • For work conducted during the migration and breeding season for western spadefoot toad (November 1–May 31), a qualified biologist shall survey the active work areas (including access roads) in the mornings following measurable precipitation events (0.25 inch in a 24-hour period). Construction may commence once the biologist has confirmed that no spadefoot toads are in the work area. • A 50-foot no-disturbance buffer shall be established around burrows that provide suitable upland habitat for western spadefoot toad. Burrows considered suitable for spadefoot shall be identified by a qualified biologist in consultation with CDFW. The biologist shall delineate and mark the no-disturbance buffer. No activity within the buffer shall occur until the qualified biologist verifies that the burrow is not actively used by the species. One-way doors, observation of emergence, or other methods to ensure the species has vacated the burrow must be used prior to collapsing the burrow. The buffer may be removed once the burrow has been cleared and collapsed. • If western spadefoot toad is found within the construction footprint, it shall be allowed to move out of harm's way of its own volition or a qualified biologist shall relocate the organism to the nearest burrow outside the construction impact area. • Before beginning work each day, a qualified biologist shall inspect areas underneath equipment and stored pipes larger than 1.2 inches (3 centimeters) in diameter for western spadefoot toad. If any are found, they shall be allowed to move out of the construction area under their own accord. • Trenches and holes shall be covered and inspected daily for stranded animals. Trenches and holes deeper than 1 foot shall contain escape ramps (maximum slope of 2:1) to allow	

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		trapped animals to escape uncovered holes or trenches. Holes and trenches shall be inspected before filling.	
Section 3.5, "Greenhouse Gases"			
Impact 3.5-1: Generation of Greenhouse Gas Emissions. *Construction and operational activities associated with the proposed project would generate GHG emissions in exceedance of the PCAPCD-recommended thresholds of significance.*	S	**Mitigation Measure GHG-1: Implement Operational Strategies to Encourage Fuel-Efficient Transportation to and from the Proposed Warehouse and Fueling Center.** • Prior to Design Review approval, the Site Plan shall show that the project applicant has provided 63 (approximately eight percent of total parking spaces) preferential parking spaces for clean air vehicles, including low-emitting, fuel-efficient, and carpool/van pool vehicles. Such stalls shall be clearly demarcated with signage as approved by the Design Site Review Committee. • The project shall implement an employee Transportation Demand Management (TDM) program to reduce single-occupancy vehicle trips that would otherwise be made by site employees. The TDM program will identify measures that encourage employees to use alternatives to driving alone when traveling to and from work. Key elements of the TDM program are expected to include: ○ encourage ride sharing in the form of employee carpools and vanpools ○ an on-site employee transportation coordinator (ETC) who can assist and be responsible for promoting, facilitating, and coordinating carpools and vanpools for employees with similar shift patterns ○ an employee orientation program addressing commuting options ○ potential incentives encouraging employee participation in a rideshare program ○ encouraging bicycling and walking as viable commute options, including provision of bicycle racks and employee lockers for storage of change clothing and personal items to provide more convenience to bicycle and walking commuters ○ an employee kitchen and café/deli services on site that are available to employees, reducing the need for employees to travel off site for meals and/or break	SU

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		periods • Install 67 (approximately eight percent of total parking spaces) electric vehicle charging stations within the project site, with signage adequately identifying such areas; these spaces could be included with the preferential parking spaces, as well. • Diesel trucks shall be prohibited from idling more than five minutes. Prior to the issuance of a Building Permit, the applicant shall show on the submitted building elevations that all truck loading and unloading docks shall be equipped with one 110/208 volt power outlet for every two dock doors. Diesel trucks intending to idle for more than the allotted time shall be required to connect to the 110/208 volt power to run any auxiliary equipment. A minimum 2'x3' sign which indicates "Diesel Engine Idling limited to a maximum of five minutes" shall be included with the submittal of building plans.	
Impact 3.5-2: Conflict with an Applicable Plan, Policy, Or Regulation Adopted for the Purpose of Reducing the Emissions of GHGs. *Construction and operational activities associated with the proposed project would generate GHG emissions in exceedance of the PCAPCD-recommended thresholds of significance, which were developed to allow lead agencies in the county to assess consistency with the State legislative framework for GHG emissions and SB 32, in particular.*	S	See Mitigation Measure GHG-1	SU

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Section 3.6, "Noise"			
Impact 3.6-1: Exposure of People to Short-Term Construction Noise Levels Exceeding Local Standards. *During short-term site preparation and construction activities, the proposed project could expose noise-sensitive uses to exterior noise levels that exceed standards for short-duration events near residential areas listed in the Town of Loomis General Plan.*	S	**Mitigation Measure Noise-1: Minimize Construction Noise.** Prior to issance of a grading permit, the project applicant shall prepare a construction noise control plan for submittal to the Town of Loomis.The measures outlined by the noise control plan shall be implemented by construction contractor(s) during all construction phases. At a minimum, the plan shall include the following: • Comply with Section 13.30.070, Noise Standards, of the Loomis Municipal Code, including limitations on the hours of construction (7 a.m. to 7 p.m. Monday through Friday and 8 a.m. to 7 p.m. on Saturdays). • Provide acoustical shielding for stationary construction equipment, such as compressors. • Minimize idling times of equipment by either shutting equipment off when not in use or reducing the maximum idling time to 5 minutes. • Designate a disturbance coordinator and conspicuously post this person's number around the project site and in construction notifications. The disturbance coordinator shall receive complaints about construction disturbances and, in coordination with the Town of Loomis, shall determine the cause of the complaint and implementation of feasible measures to alleviate the problem. Such measures may include use of acoustic blankets on construction equipment, placement of portable acoustic barriers along a residential property line, or limiting the duration of equipment operation. • Provide written notice to all known occupied noise-sensitive uses (i.e., residential, educational, religious, lodging) within 400 feet of the edge of the project site boundary at least 2 weeks before the start of each construction phase, in particular grading and site preparation. This written notice shall also include the name and contact information of the project disturbance coordinator.	SU (Construction)
Impact 3.6-2: Exposure of People to Groundborne Noise and Vibration Levels. *The proposed project would expose new sensitive receptors to groundborne noise and vibration. However, the levels of groundborne noise and vibration would not exceed FTA and Caltrans guidelines.*	LTS	N/A	LTS

Table ES-2. Summary of Project Impacts and Mitigation Measures

<table>
<tr><th>Impacts</th><th>Significance before Mitigation</th><th>Mitigation Measures</th><th>Significance after Mitigation</th></tr>
<tr><td>Impact 3.6-3: Exposure of Existing Noise-Sensitive Receivers to a Substantial Permanent Increase in Ambient Noise Levels in the Project Vicinity Above Levels Existing Without the Project from Increased Long-Term Traffic. The proposed project would result in an increase in average daily vehicular trips in the vicinity of the project site. However, this increased traffic volume would not increase noise levels above allowable levels nor result in a noticeable (3 dB or greater) increase in traffic noise.</td><td>LTS</td><td>N/A</td><td>LTS</td></tr>
<tr><td>Impact 3.6-4: Exposure of Existing Noise-Sensitive Receivers to a Substantial Temporary or Periodic Increase in Ambient Noise Levels in the Project Vicinity Above Levels Existing Without the Project from Operation of Stationary Sources. The proposed project would result in increases in on-site stationary-source noise. These stationary-source noise sources would exceed the Town’s noise standards (hourly and maximum) at adjacent residential uses.</td><td>S</td><td>Mitigation Measure Noise-2: Minimize Operational Noise (All Site Options).
Prior to issuance of a certificate of occupancy, the project applicant shall construct or fund construction of the following improvements to address noise exposure experienced at sensitive receptors during operational hours:
• Construct a 13-foot tall soundwall along the western property boundary of the adjacent Sierra Meadows apartment complex in order to shield first floor sensitive spaces from nighttime truck delivery noise generated by diesel engines and exhaust stacks.
• Install dual pane windows with an STC rating of 35 or higher at second floor apartment units facing the delivery road in order to reduce interior noise levels attributable to nighttime truck deliveries.
• Construct a 6-foot soundwall along the eastern boundary of the project site at the residential property line to reduce tire center noise.</td><td>SU</td></tr>
<tr><td colspan="4">Section 3.7, “Transportation and Traffic”</td></tr>
<tr><td>Impact 3.7-1: Degradation of Levels of Service at Intersections in the Study Area. The addition of project-generated traffic to the existing roadway network would cause the LOS at study area intersections to degrade below applicable thresholds and would result in the need for restriping, re-phasing, and optimization of intersection cycle lengths.</td><td>S</td><td>Mitigation Measure TR MM 4: Restripe Intersection. Restripe Taylor Road & Webb Street intersection approaches to improve LOS and intersection operations.
Mitigation Measure TR MM 6: Provide a Traffic Signal.
Install traffic signals at: Sierra College Boulevard & SR-193 and at Taylor Road & Penryn Road.</td><td>SU</td></tr>
<tr><td>Impact 3.7-2: Potential for Project-Related Degradation of LOS on the I-80 Mainline. Project operation would introduce new trips</td><td>LTS</td><td>N/A</td><td>LTS</td></tr>
</table>

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
onto the I-80 freeway mainline. However, the addition of project-generated traffic to existing traffic would not cause the LOS to degrade below the applicable thresholds on the I-80 mainline in the study area so project operation would not conflict with an applicable congestion management program.			
Impact 3.7-3: Potential for Creation of Substantial Traffic-Related Hazards. *The increase in vehicular trips associated with occupancy of the proposed Costco Wholesale warehouse would cause queues at study area intersections to increase, resulting in the need for re-phasing and optimization of cycle length at those intersections.*	S	**Mitigation Measure TR MM 1: Modify Signal Timing.** Modify signal timing (to optimize cycle length and/or splits) at the intersections of Taylor Road & King Road, Sierra College Boulevard & Brace Road, Sierra College Boulevard & Granite Drive, Sierra College Boulevard & I-80 westbound ramps, and Granite Drive & Rocklin Road to improve LOS and intersection operations. **Mitigation Measure TR MM 4: Restripe Intersection.** Restripe Sierra College Boulevard & Brace Road, Sierra College Boulevard & Granite Drive, and Taylor Road and Webb Street intersection approaches to improve LOS and intersection operations.	SU
Impact 3.7-4: Project-Related Interference with Emergency Access. *The short-term, temporary addition of construction-related traffic could cause an increase in emergency response times and impede emergency services by resulting in traffic congestion during lane closures or when heavy trucks enter or exit the project site.*	PS (construction)	**Mitigation Measure 3.7-41: Prepare and Implement a Construction Traffic Control Plan.** The project applicant shall prepare and implement a traffic control plan for construction activities that may affect road rights-of-way, to facilitate travel by emergency vehicles on affected roadways. The traffic control plan shall: • illustrate the location of the proposed work area; • provide diagrams showing areas where the public right-of-way will be closed or obstructed and where the placement of traffic control devices will be necessary to perform the work; • show the phases of traffic control and criteria for use of traffic control measures; • preserve safe and convenient passage for bicyclists and pedestrians through/around construction areas; • preserve emergency vehicle access; • Provide a point of contract for area residents to obtain construction information; and • identify the time periods when traffic control will be in effect and the time periods when construction work will require prohibiting access to private property from a public right-of-	LTS

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		way. Measures in traffic control plans should include, but would not be limited to advertising planned lane closures, posting warning signage, and employing a flag person to direct traffic flows when needed. During project construction, access to the existing surrounding land uses shall be maintained at all times, with detours used as necessary during road closures. The plan may be modified at any time to eliminate or avoid traffic conditions that represent hazards to public safety. The traffic control plan shall be submitted to the Town of Loomis for review and approval before issuing a grading permit.	
Impact 3.7-5: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or otherwise materially decrease the performance or safety of such facilities. *The proposed project is expected to result in minimal increases in transit ridership in the study area and in pedestrian and bicycle traffic in the study area.*	LTS	N/A	LTS
Section 3.8, "Energy"			
Impact 3.8-1: Consumption of Energy. *Implementing the proposed project would result in energy consumption in the form of electricity, natural gas, and fossil fuels (e.g., gasoline, diesel fuel) during construction phases. The project's operational phases would also require energy. The proposed project would not result in an unnecessary, inefficient or wasteful use of energy.*	LTS	N/A	LTS
Impact 3.8-2: Conflicts with Energy Plans. *The project site is privately owned property designated and zoned for development consistent with what is proposed as a part of the project.*	NI	N/A	NI
Chapter 4, "Cumulative Impacts"			
Section 4.3.1, "Aesthetics"			
Impact 4.3-1: Cumulative Impacts on Aesthetics. *There are 24 proposed development projects within the Loomis town limits and adjacent jurisdictions. These projects are dispersed across the landscape and are not all visible from a single vantage point. The physical removal or alteration of trees or rock outcroppings, or, the introduction of new structures and lighting where none presently exist, are circumstances that may combine to form cumulative impacts. However, the General Plan Land Use Element places similar*	LTS	N/A	LTS

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
uses adjacent to one another and retains a large portion of rural land in parts of the Town located away from the I-80 and Sierra College Boulevard Corridor. Further, all development is subject to design review and must comply with the standards of the Town regulating building height, massing, signage, lighting and landscape setbacks.			
Section 4.3.2, "Air Quality"			
Impact 4.3-2: Result in a Cumulatively Considerable Net Increase in a Criteria Pollutant for which the Region is Nonattainment under an Applicable Federal or State Ambient Air Quality Standard. *Existing and new development generate additional emissions of ozone precursors (volatile organic compounds [VOCs] and oxides of nitrogen [NOX]) and particulate matter, which may adversely affect the ability of the region to achieve attainment with the applicable air quality standards.*	LTS	N/A	LTS
Impact 4.3-3: Result in Cumulatively Considerable Contribution to Human Health Risk Through Exposure of Sensitive Receptors to Toxic Air Contaminants. *Ongoing development and operation of certain land uses, including fueling stations, would generate emissions of toxic air contaminants. Exposure of sensitive receptors to TACs could represent a health risk.*	LTS	N/A	LTS
Impact 4.3-4: Result in Cumulatively Considerable Contribution to Odor Related Impacts. *Ongoing development and operation of bakery and fast food restaurants would generate odors that some may consider to be a nuisance.*	LTS	N/A	LTS
Section 4.3.3, "Biological Resources"			
Impact 4.3-5: Cumulative Impacts on Biological Resources. *According to the 2001 Loomis General Plan EIR, buildout of land uses under the Land Use Element of the General Plan would result in a significant cumulative impact on habitat for common and special-status species (Town of Loomis 2001a).*	CC	See Mitigation Measures Bio-1 through Bio-4	SU

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Section 4.3.4, "Greenhouse Gases"			
Impact 4.3-6: Cumulative Greenhouse Gas Impacts. *Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute cumulatively to global climate change. It is unlikely that a single project will contribute significantly to climate change, but cumulative emissions from many projects could affect global GHG concentrations and the climate system, which is considered a significant cumulative effect.*	CC	See Mitigation Measure GHG-1	SU
Section 4.3.5, "Noise"			
Impact 4.3-7: Cumulative Noise Impacts. *Project operation would generate noise from both stationary and mobile sources that would combine with noise from existing and future land uses operating along the studied roadways and in the vicinity to increase levels above ambient conditions.*	LTS	N/A	LTS
Section 4.3.6, "Transportation and Traffic"			
Impact 4.3-8: Cumulative Impacts of Short-Term plus Project Intersection Operations. *Adding project-generated traffic to cumulative traffic generated by approved and pending projects would cause the LOS at studied intersections to degrade below adopted standards, requiring the need for restriping, re-phasing, and optimization of the cycle length at study area intersections.*	CC	**Mitigation Measure TR MM 1:** Modify signal timing. Modify signal timing (to optimize cycle length and/or splits) at specific intersections to improve LOS and intersection operations. **Mitigation Measure TR MM 2:** Provide signal coordination. Provide signal communication interconnect to implement corridor signal timing plans. **Mitigation Measure TR MM 3:** Modify signal phasing. Modify traffic signal phasing sequence to improve LOS and intersection operations. **Mitigation Measure TR MM 4:** Restripe Intersection. Restripe intersection approaches to improve LOS and intersection operations. **Mitigation Measure TR MM 5:** Add exclusive turn lanes. Add exclusive turn lanes to improve LOS and intersection operations. **Mitigation Measure TR MM 6:** Provide a traffic signal **Mitigation Measure TR MM 7:** Provide additional storage. Modify median to provide additional storage for turn lane.	SU
Impact 4.3-9: Cumulative Impacts of Short-Term plus Project I-80 Mainline Operations. *Adding project-generated traffic to cumulative short-term traffic would not cause the LOS on the I-80 mainline in the*	LTS	N/A	LTS

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
study area to degrade below the applicable thresholds.			
Impact 4.3-10: Cumulative Impacts of Long-Term plus Project Intersection Operations. *Adding project-generated traffic to cumulative long-term traffic would cause the LOS to degrade below the applicable thresholds and would result in the need for restriping, re-phasing, and optimization of the cycle length at study area intersections.*	CC	**Mitigation Measure TR MM 1:** Modify signal timing. Modify signal timing (to optimize cycle length and/or splits) at specific intersections to improve LOS and intersection operations. **Mitigation Measure TR MM 2:** Provide signal coordination. Provide signal communication interconnect to implement corridor signal timing plans. **Mitigation Measure TR MM 3:** Modify signal phasing. Modify traffic signal phasing sequence to improve LOS and intersection operations. **Mitigation Measure TR MM 4:** Restripe Intersection. Restripe intersection approaches to improve LOS and intersection operations. **Mitigation Measure TR MM 5:** Add exclusive turn lanes. Add exclusive turn lanes to improve LOS and intersection operations. **Mitigation Measure TR MM 7**: Provide additional storage. Modify median to provide additional storage for turn lane.	SU
Impact 4.3-11: Cumulative Impacts of Long-Term plus Project I-80 Mainline Operations. *Adding project-generated traffic to cumulative long-term traffic would not cause the LOS on the I-80 mainline in the study area to degrade below acceptable levels of service except for I-80 east and west of Sierra College Boulevard during the p.m. peak hour. These two freeway segments operate at LOS E in the future without project condition. However, because the baseline measure of effectiveness (MOE) of LOS E is maintained in the future with project condition, the project's contribution under the long term plus project condition is not cumulatively considerable.*	LTS	N/A	LTS
Impact 4.3-12: Potential for Creation of Substantial Traffic-Related Hazards under Cumulative Short-Term plus Project Conditions. *The proposed Costco Wholesale warehouse trips would increase queues at study area intersections in the cumulative short-term condition, resulting in the potential for conflicting movements to cause a hazardous traffic condition. Improvements needed in the cumulative short-term plus project condition would include re-phasing and optimization of cycle length at study area intersections.*	CC	See Mitigation Measures TR MM 1 though 7	SU

Table ES-2. Summary of Project Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 4.3-13: Potential for Creation of Substantial Traffic-Related Hazards under Cumulative Long-Term plus Project Conditions. *The proposed Costco Wholesale warehouse trips would increase queues at study area intersections, resulting in a potential for conflicting movements to cause a hazardous traffic condition, and would result in the need for re-phasing and optimization of the cycle length at study area intersections.*	CC	See Mitigation Measures TR MM 1 though 7	SU
Impact 4.3-14: Cumulative Decrease in Capacity of Freeway Ramps. *The proposed project would incrementally increase vehicles using the I-80 WB freeway ramp.*	LTS	N/A	LTS
Impact 4.3-15: Cumulative Decrease in Performance or Safety of Public Transit, Bicycle, or Pedestrian Facilities. *The proposed project is expected to minimally increase transit ridership in the study area. The project would minimally increase pedestrian and bicycle traffic in the study area off-site.*	LTS	N/A	LTS
Impact 4.3-16: Cumulative Energy Impacts. *The proposed project would incorporate several processes and design elements specifically selected with the goal of reducing the proposed project's overall energy requirements from construction through operations. The buildings would meet or exceed the energy performance standards found in CCR Title 24, including the Building Energy Efficiency Standards in the California Green Building Standards Code (CCR Title 24, Part 11). The proposed project does not interfere with any applicable renewable energy or energy efficiency plans.*	LTS	N/A	LTS

ES.5 Summary of Alternatives

Below is a summary of the alternatives to the proposed project considered in Chapter 6, “Alternatives,” of this EIR.

ES.4.1 Alternative 1: No Project

State CEQA Guidelines Section 15126.6(e)(2) states that a discussion of the “No Project” alternative must consider “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans.” The No Project/No Development Alternative assumes that the proposed project would not be implemented, and the project site would remain in its existing condition. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

The No Project Alternative can proceed under one of two approaches. When the project is a development project on identifiable property, the “no project” alternative is the circumstance under which the project does not proceed. Here the discussion compares the environmental effects of the property remaining in its existing state against the environmental effects that would occur if the project had been approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this “no project” consequence should be discussed. Both approaches are used in this EIR analysis for purposes of full disclosure.

ES.5.1.1 Alternative 1A: No Project/No Development

Under the no project/no development scenario, none of the impacts identified for the proposed project would occur. Similarly, the Town of Loomis would not receive the economic benefits associated with construction of commercial development at key locations consistent with *Town of Loomis General Plan* policies. For these reasons, Alternative 1A fails to attain any of the project objectives outlined in Section 2.3.2.1, “Applicant Objectives,” and Section 2.3.2.2, “Town of Loomis Objectives.”

ES.5.1.2 Alternative 1B: No Project/Future Development

This alternative considers the circumstance under which the project site would be proposed for development of commercial uses permitted under the General Commercial land use designation at a future date. The General Commercial (CG) zoning district permits a range of retail and service land uses oriented toward local residents and businesses, including shops, personal and business services, and restaurants. Residential uses may also be accommodated as part of mixed-use projects. Building heights are limited to two stories or 35 feet, and structural development does not exceed a lot coverage of 50 percent. Under this scenario, the site would be developed to provide a wide range of building pads sized to accommodate a range of uses, including sit-down restaurants, business services, and retail shops. It is assumed that the site plan and building architecture for Alternative 1B would meet the development standards outlined in the Loomis Municipal Code including building coverage, setbacks, landscaping, and building height.

ES.5.2 Alternative 2: No Fueling Station

The No Fueling Station Alternative would remove the proposed fueling station from the project. The remainder of the site layout would remain unchanged from that of the proposed project. This alternative would reduce expected vehicular trips to and from the project site, thereby reducing several potentially significant impacts related to air quality, greenhouse gases, and transportation and traffic. Under this alternative, all of the square footage would be dedicated to general merchandise, tire center, and food sales.

ES.5.3 Alternative 3: Reduced Floor Space

The Reduced Floor Space Alternative would decrease the floor space of the warehouse by 20 percent. The 24-dispenser fueling station (expandable to 30 pumps) would be included under Alternative 3, and the site layout would remain the same as the proposed project. The reduced warehouse, fueling center, and parking lot would occupy 124,315 square feet of the project site. All new square footage would be dedicated to general merchandise, tire center, and food sales. This alternative would reduce construction-related air quality emissions.

ES.5.4 Alternative 4: Reduced Floor Space and No Fueling Station

Alternative 4 combines Alternative 2 and Alternative 3 and would reduce the size of the warehouse and remove the fueling station. This alternative would have reduced impacts similar to Alternative 2 and Alternative 3.

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1. Introduction

1.1 Purpose of the Recirculated Environmental Impact Report

Discretionary projects in California are required to undergo environmental review under the California Environmental Quality Act (CEQA) of 1970 (California Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Title 14, Section 15000 et seq. [14 CCR Section 15000 et seq.]). A discretionary project is defined as "a project which requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular activity" (State CEQA Guidelines, Section 15357).

This Recirculated Draft Environmental Impact Report (RDEIR) evaluates the impacts of constructing and operating the proposed Costco Warehouse and Fuel Facility, referred hereafter as the "proposed project." The proposed project consists of construction and operation of a warehouse retail store and a fueling station on a 17.4[1]-acre site at the southeast corner of the Sierra College Boulevard/Brace Road intersection in the Town of Loomis.

The Town of Loomis (Town), as the lead agency[2] under CEQA, prepared this EIR to disclose potential environmental impacts resulting from the implementation of the proposed project, and to identify ways to reduce significant impacts through alternatives and mitigation measures applied consistent with constitutional requirements such as the "nexus" and "rough proportionality" standards.[3]

A DEIR was circulated for this project in June 2018 (SCH#20170052077). The proposed project would have the same construction and operational characteristics as previously analyzed; however, due to comments on the 2018 DEIR relating to traffic and transportation concerns, the Town has made changes to the site plan to offer additional options for site access. This recirculated DEIR is intended to assist the public and decision-makers in understanding the implications of offering more access point options to the site. Refer to Section 1.2.4 for information on the recirculation process and the handling of comments received on the previously circulated DEIR.

After public review of the RDEIR, the Town will prepare a final recirculated EIR (FEIR), in which the Town will respond to comments regarding the analysis presented in the DEIR. Although the information in an EIR does not dictate the public agency's ultimate discretion on the proposed project, the public agency must respond to each significant effect identified in the EIR by making findings under Section 15091 of the State CEQA Guidelines and, if necessary, by making a statement of overriding considerations under State CEQA Guidelines Section 15093. CEQA requires decision makers to balance the benefits of a project against its unavoidable environmental effects, if any, when they decide whether to approve a project.

1.2 Environmental Review Process

1.2.1 Preliminary Review

The Town received an application for development of a warehouse retail use along Sierra College Boulevard near the interchange with Interstate 80. Town staff reviewed the application and determined whether the proposed activity was a project subject to CEQA. The proposed project was found to clearly have the potential to impact the environment and staff elected to proceed directly to preparation of an EIR by issuing a Notice of Preparation (NOP) consistent with State CEQA Guidelines Section 15060(d).

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1. The gross acreage of the project site is approximately 17.8 acres. Of this total, 0.4 acres is dedicated to public right-of-way.
2. The lead agency is defined as the public agency with the greatest responsibility for supervising or approving the proposed project as a whole. The Town of Loomis is serving as lead agency for this project because it is responsible for approval of the discretionary permits.
3. CEQA case law establishes the requirement for mitigation to be linked with an identifiable impact (nexus) and be proportionate to the intensity of the impact (proportionality).

Due to the results of the first comment period, the Town has decided to recirculate the entire EIR for review, consistent with State CEQA Guidelines Section 15088.5.

1.2.2 Notice of Preparation

To initiate the EIR process, the Town circulated the NOP to solicit agency and public comments on the scope of the environmental analysis. The Town issued the NOP for this proposed project on May 15, 2017, and accepted comments for 30 days. The NOP was submitted to the Placer County Clerk and the State Clearinghouse of the Governor's Office of Planning and Research and was posted on the Town's website for a 30-day public review period.[4] Appendix A of this EIR presents a copy of the NOP and the comments received during the NOP comment period.

Based on its review of existing information and the scoping process, the Town determined that the proposed project would have no impact, less-than-significant impacts, or less-than-significant impacts with mitigation related to the following resource areas:

- Agriculture and forestry resources
- Cultural resources, including tribal cultural resources
- Geology and soils
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning
- Mineral resources
- Population and housing
- Public services
- Recreation
- Utilities and service systems
- Wildfire

These resource areas are discussed briefly in Section 5.3, "Effects Not Found to be Significant," in Chapter 5 of this RDEIR.

Impacts of the proposed project were determined to have potentially significant or significant impacts in the following resource areas:

- Aesthetics
- Air quality
- Biological resources
- Greenhouse gas emissions
- Noise
- Transportation and traffic
- Energy

These topics are evaluated in Sections 3.2 through 3.8 of this RDEIR.

1.2.3 Public Review

When available for public review, the DEIR was submitted to the State Clearinghouse; posted on the Town's website (https://loomis.ca.gov/); and a copy was placed at the Loomis library. In addition, the DEIR was distributed directly to public agencies (including potential responsible and trustee agencies), interested parties, and organizations.

[4] https://loomis.ca.gov/

A public meeting was held at the Blue Goose Conference Center on June 27, 2018, in order to receive input on the DEIR. The meeting was held during a joint session of the Loomis Planning Commission and City Council. The joint session was recorded, and a transcript was prepared.

Upon close of the review period, all comments received were reviewed and cataloged. A total of 30 comment letters were received from the public, responsible or trustee agencies, organizations and interested parties on the contents of the DEIR. Many of the comments provided opinions on vehicle traffic, points of access, removal of oak trees, and alternatives to the project under review. Based on public and agency comments received during the public review period, the applicant elected to revise the site plan to include an additional driveway from Brace Road, and an additional access option off a newly constructed segment of Granite Drive in order to improve vehicle circulation patterns and reduce queuing lengths. These options are provided in three Project Driveway Access Options: Option 1A; 1B; and 1C. The revised project is described in Chapter 2.0, "Project Description" and evaluated in Chapter 3.0 (Environmental Setting, Impacts and Mitigation Measures) through Chapter 6.0 (Alternatives).

1.2.4 Recirculation

According to 14 CCR § 15088.5, a lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the DEIR for public review but before certification. As used in this section, the term "information" can include changes in the project or environmental setting, as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement.

Because the revisions are considered to be substantial, the Town has concluded recirculation of the DEIR is necessary. This recirculated DEIR examines the direct and indirect physical effects of the revised project on the environment. In addition to the discussion of a revised site plan, changes to the EIR have been made in response to comments received during the initial public review and comment period.

When a lead agency decides to recirculate the entire EIR, formal responses are not required to address comments submitted on the original DEIR (section 15088.5[f]). In the case of the Costco DEIR, the Town has elected to recirculate the entire document. Therefore, no responses will be provided to comments submitted on the previously circulated DEIR. Consistent with the requirements of CEQA and Section 15088 of the CEQA Guidelines, a reasoned response to all comments on environmental issues raised on the recirculated DEIR will be provided in the FEIR. The information contained herein, as well as the information provided in the responses to comments will be considered by the Town when making the decision on the proposed project.

1.3 Type of Environmental Impact Report

CEQA provides a lead agency with the flexibility to prepare different types of EIRs, and to employ different procedural means to focus the environmental analysis on the issues appropriate for decision at each level of environmental review. CEQA provides that the "degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR" (State CEQA Guidelines, Section 15146).

The environmental analysis in this RDEIR has been prepared at a project level of detail. The proposed project is a construction-level approval. A project-level EIR "should focus primarily on the changes in the environment that would result from that development project … [and] examine all phases of the project including planning, construction, and operation" (State CEQA Guidelines, Section 15161). No further environmental review of individual components of the proposed project is required unless a subsequent EIR or supplement to an EIR is required by Section 15162 or 15163 of the State CEQA Guidelines.

1.3.1 Recirculated Draft Environmental Impact Report

This DEIR is being recirculated for a public review period. Copies of the Recirculated DEIR are available through the Town of Loomis Planning Department. A copy of the Recirculated DEIR is also available online at the Town's Web site: https://loomis.ca.gov/. The Recirculated DEIR is circulated to public agencies, property owners, and other interested individuals for review and comment.

Comments on the Recirculated DEIR are invited and may be sent via U.S. Mail or e-mail to:

Anders Hauge
Town of Loomis
3665 Taylor Road
P.O. Box 1330
Loomis, CA 95650

CostcoComments@loomis.ca.gov

Comments should focus on the adequacy and completeness of the Recirculated DEIR or should address questions about the environmental consequences of project implementation. "Adequacy" is defined as the thoroughness of the Recirculated DEIR in addressing significant adverse physical environmental effects, identifying mitigation measures and/or alternatives for those impacts, and supplying enough information for public officials to make decisions about the merits of the project.

1.3.2 Final Environmental Impact Report

After the close of the public review period for the Recirculated DEIR, a response to comments document will be prepared, containing the comments on environmental issues received during the public review period, responses to those comments, and other information that the Town finds to be relevant. The response to comments document and the Recirculated DEIR together will compose the FEIR. The FEIR will be made available for review before the Town certifies it as complete.

If significant environmental effects are identified, a lead agency must adopt "findings" indicating whether feasible mitigation measures or alternatives exist that can avoid or reduce those effects. If the environmental impacts are identified as significant and unavoidable, the Town Council may still approve the proposed project if it determines that social, economic, legal, technological, or other factors override the unavoidable impacts. The Town would then be required to prepare a "statement of overriding considerations" discussing the specific reasons for approving the project, based on information in the EIR and other information in the record.

The Town Council is responsible for certifying that the EIR has been adequately prepared in compliance with CEQA. After certification, responsible agencies[5] may use the EIR when they determine whether to approve any discretionary actions over which they have jurisdiction.

Pursuant to Section 15097 of the State CEQA Guidelines, if the Town Council approves the proposed project and the EIR identifies significant impacts and mitigation measures, the Town must adopt a mitigation monitoring and reporting program (MMRP). The purpose of the MMRP is to ensure compliance with required mitigation during implementation of the project. An MMRP defines the requirements for monitoring and reporting on the implementation of project revisions, or for compliance with mitigation measures that the lead agency has required as conditions of project approval. The MMRP will be prepared concurrently with the FEIR.

1.4 Organization and Content of this Recirculated Draft Environmental Impact Report

The content and format of this Recirculated DEIR meets the requirements of CEQA and the State CEQA Guidelines (14 CCR Sections 15122–15132). This Recirculated DEIR is organized into chapters, as identified below.

- The **Executive Summary** presents an overview of the proposed project and alternatives and their associated environmental impacts; shows the project's environmental impacts, mitigation measures, and significance after mitigation in tabular format; and describes known areas of controversy and issues to be resolved.
- **Chapter 1, "Introduction,"** explains the CEQA process and opportunities for public participation, outlines the organization of the Recirculated DEIR, and describes the intended use of the EIR.
- **Chapter 2, "Project Description,"** describes the project site location, the objectives of the proposed project, and project characteristics, including facility operations and construction; identifies required permits and

[5] A responsible agency is a public agency other than the lead agency that has discretionary approval power over the project.

approvals; and lists the lead, responsible, and trustee agencies[6] that may have discretionary authority over the project.

- **Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures,"** presents the following topical discussions relevant to the impact analysis for the proposed project:
  - The introduction to Chapter 3 provides an overview of the environmental setting and definitions of the types of environmental impacts.
  - Section 3.1, "Regional Environmental Setting," describes the character of the project site from a regional perspective, with emphasis on regional plans and policies that pertain to the proposed project.
  - Each remaining section of Chapter 3 (Aesthetics, Air Quality, Biological Resources, Greenhouse Gases, Noise, and Transportation and Traffic, and Energy) is devoted to a particular environmental impact area. Each section describes the baseline or existing conditions, the regulatory setting, methodology, and thresholds of significance for the particular impact area, and then presents an analysis of direct and indirect impacts of the proposed project. Mitigation measures are identified that would avoid, eliminate, or reduce potentially significant or significant impacts to a less-than-significant level, where such measures are available and feasible.
- **Chapter 4, "Cumulative Impacts,"** discusses cumulative impacts that could result from the proposed project when considered in combination with other past, present, or reasonably foreseeable projects in the area.
- **Chapter 5, "Other CEQA Requirements,"** addresses the potential for the proposed project to foster economic or population growth, or to remove obstacles to growth; identifies any significant and unavoidable adverse impacts that would result from project implementation; and discusses any irreversible or irretrievable commitment of resources that could be caused by the proposed project. Section 5.3, "Effects Found Not to Be Significant," in Chapter 5 explains why the proposed project would have no impact, less-than-significant impacts, or less-than-significant impacts with mitigation on agriculture and forestry resources, cultural resources, including tribal cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, wildfire, and utilities and service systems.
- **Chapter 6, "Alternatives,"** describes a range of reasonable alternatives to the proposed project (consistent with Section 15126.6[a] of the State CEQA Guidelines) that are feasible (i.e., may be accomplished in a successful manner within a reasonable period of time) and would lessen significant effects of the project, taking into account economic, environmental, social, and technological factors.
- **Chapter 7, "References,"** provides a bibliography of sources cited in the Recirculated DEIR and identifies the names and affiliations of persons who provided information used in preparing the document.
- **Chapter 8, "Preparers,"** identifies individuals who were involved in preparing this Recirculated DEIR.
- **Appendices** to this DEIR present all notices and other procedural documents pertinent to the Recirculated DEIR, as well as technical material prepared to support the analysis. A hard copy of the appendices to the Draft Recirculated DEIR will be available for public review at the Town Hall.

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[6] A trustee agency is a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California.

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2. Project Description

2.1 Purpose

Section 15124(c) of the California Environmental Quality Act (CEQA) Guidelines (State CEQA Guidelines) requires an environmental impact report (EIR) to provide "[a] general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals, if any, and supporting public service facilities." This chapter of the Loomis Costco EIR describes the project objectives, the proposed use and associated improvements, and the regulatory entitlements and permits necessary to permit construction and operation of the proposed project.

2.2 Project Site Location

The proposed project site is located in the town of Loomis, in Placer County, approximately 25 miles northeast of the city of Sacramento. Loomis is in the western portion of the Loomis Basin, an 80-square-mile area of the Placer County foothills (Figure 2-1). The location corresponds to Section 28 of Township 11 North, Range 7 East on the 7.5-minute Rocklin, California U.S. Geological Survey quadrangle map. More specifically, the 17.4-acre site is located at the southeast corner of the Sierra College Boulevard/Brace Road intersection (Figure 2-2). The project site consists of seven parcels, identified as Assessor's Parcel Numbers 045-042-011, 045-042-012, 045-042-023, 045-042-034, 045-042-035, 045-042-036, and 045-042-037. Interstate 80 (I-80) provides regional access to the site and Sierra College Boulevard provides local access.

2.3 Proposed Project

2.3.1 Project Applicant

The address of the project applicant is listed below.

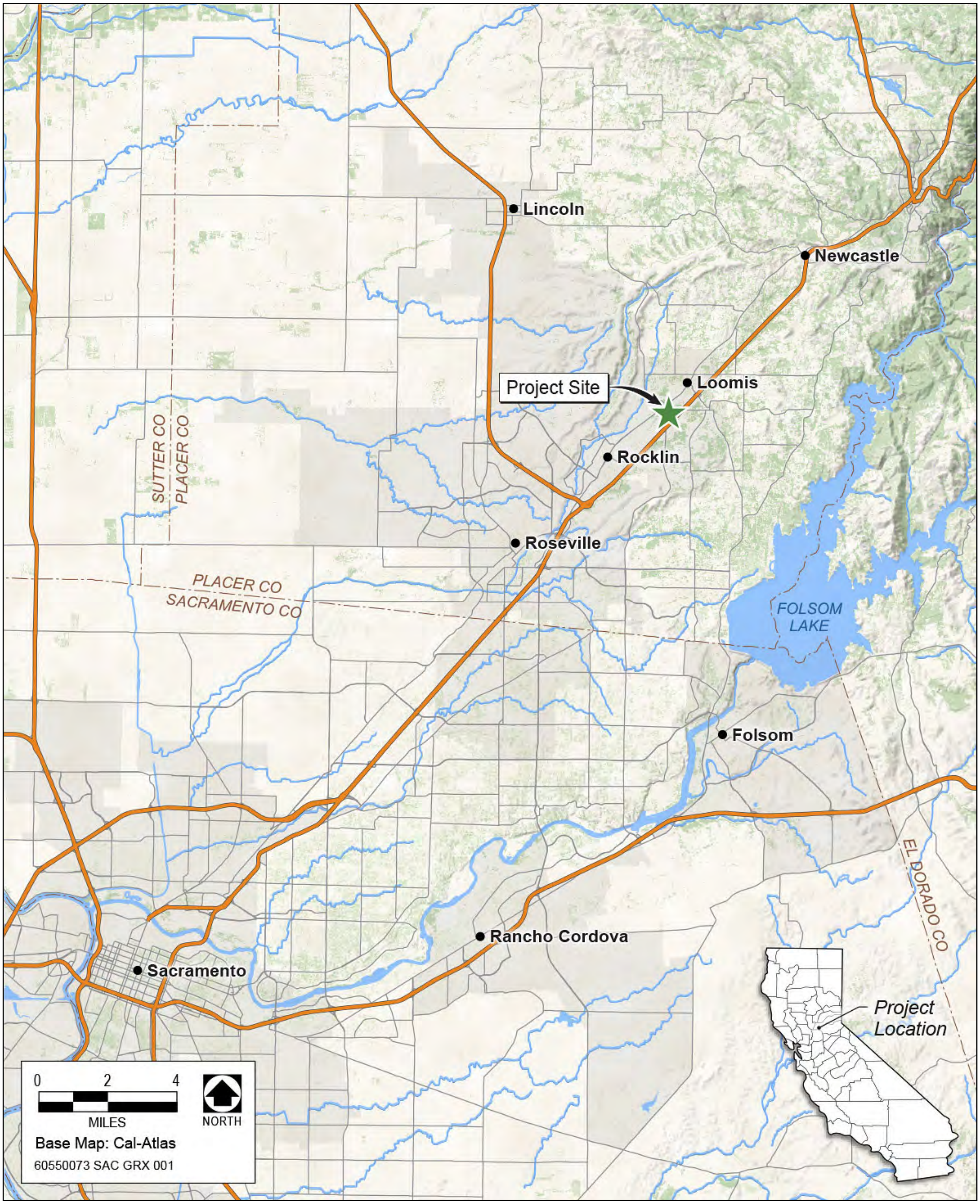
Costco Wholesale
9 Corporate Park, Suite 230
Irvine, CA 92606

2.3.2 Objectives

Section 15124(b) of the State CEQA Guidelines requires that an EIR include a statement of objectives. The specific objectives of the proposed project are listed below.

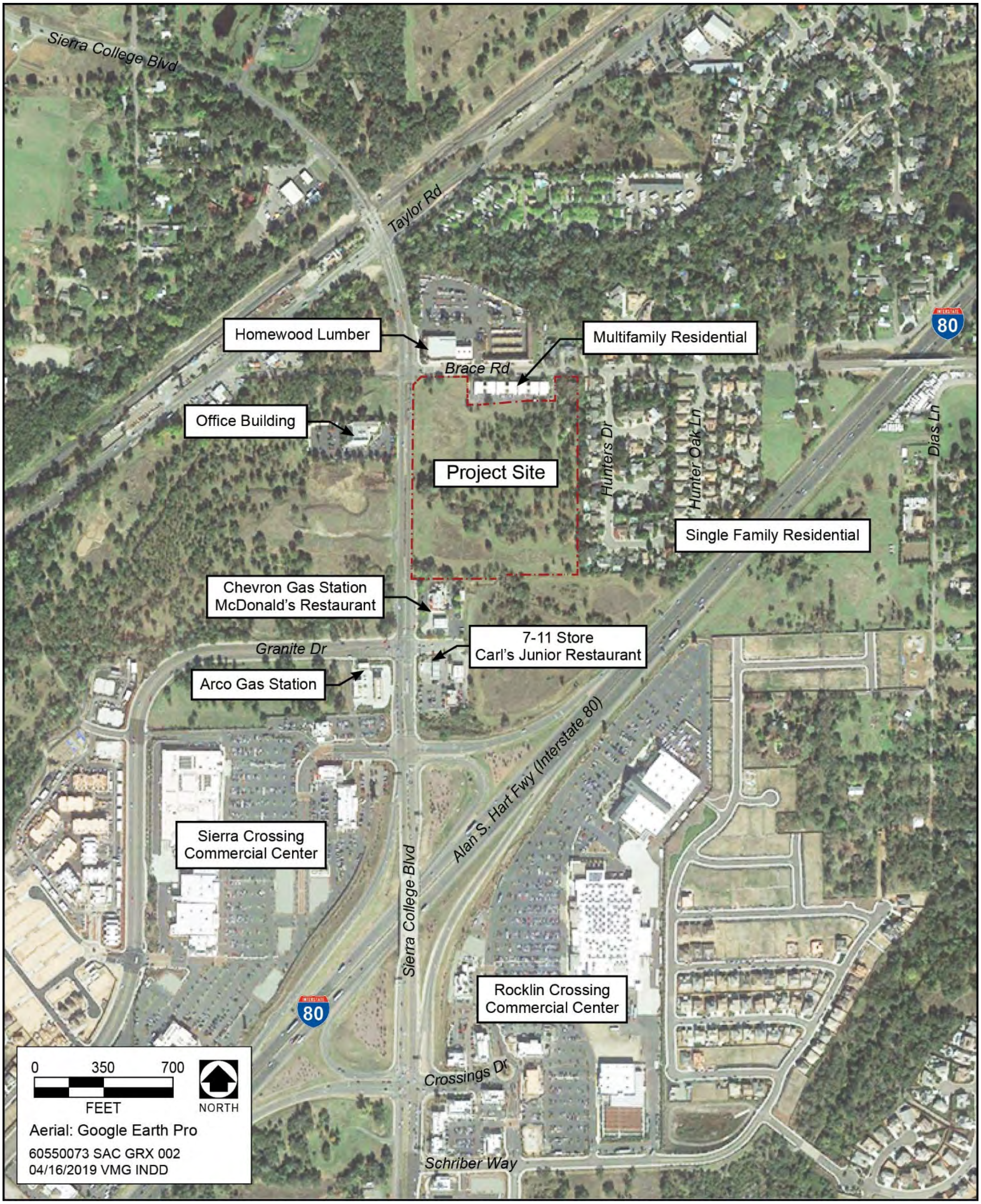
2.3.2.1 Applicant Objectives

- Construct and operate a new Costco warehouse that serves the local community with goods and services not only from nationally known businesses, but also from regional and local businesses.
- Reduce energy consumption by incorporating passive lighting into building design; using computer-controlled monitoring equipment and high-efficiency heating, ventilation, and air conditioning (HVAC) equipment; and promoting energy efficiencies that exceed state and federal code requirements.
- Provide a Costco warehouse in a location that is convenient for Costco members, the community, and employees to reach for shopping and work.
- Increase employment opportunities and contribute to the Town of Loomis's (Town's) job/housing balance.
- Provide a state-of-the-art Costco warehouse to serve Costco's membership in the greater Loomis area.
- Develop a fueling station and tire facility to serve customers of the retail warehouse.
- Enhance the area by constructing a warehouse that has an architectural design unique to Loomis, is sensitive to the adjacent community and future developments, and is compatible with the need for a new warehouse.
- Minimize circulation conflicts between automobiles and pedestrians.



Source: Data compiled by AECOM in 2017

Figure 2-1. Regional Location



Source: Data compiled by AECOM in 2017

Figure 2-2. Project Site

- Plan and design for public transit access.
- Provide a Costco warehouse in a location served by adequate existing infrastructure, including roadways and utilities.
- Develop a Costco warehouse large enough to accommodate all uses and services that Costco provides to its members elsewhere.

2.3.2.2 Town of Loomis Objectives

- Locate warehouse retail uses and a fueling station near existing interchanges to minimize impacts on Loomis. (General Plan Goal 6)
- Locate warehouse retail uses and a fueling station so as not to conflict with the character, scale, and architecture of the historic central business district.
- Locate warehouse retail on land sufficient to provide the necessary facilities for these types of uses.
- Improve Loomis's commercial base to increase municipal revenues through increased retail sales taxes, as well as employee spending and provide a wider range of goods and services for local residents, in addition to encouraging commercial uses near the freeway.
- Expand the space available for integrated retail sales of goods and services, and fuel in Loomis.

2.3.3 Site Plan

2.3.3.1 Warehouse and Fueling Station

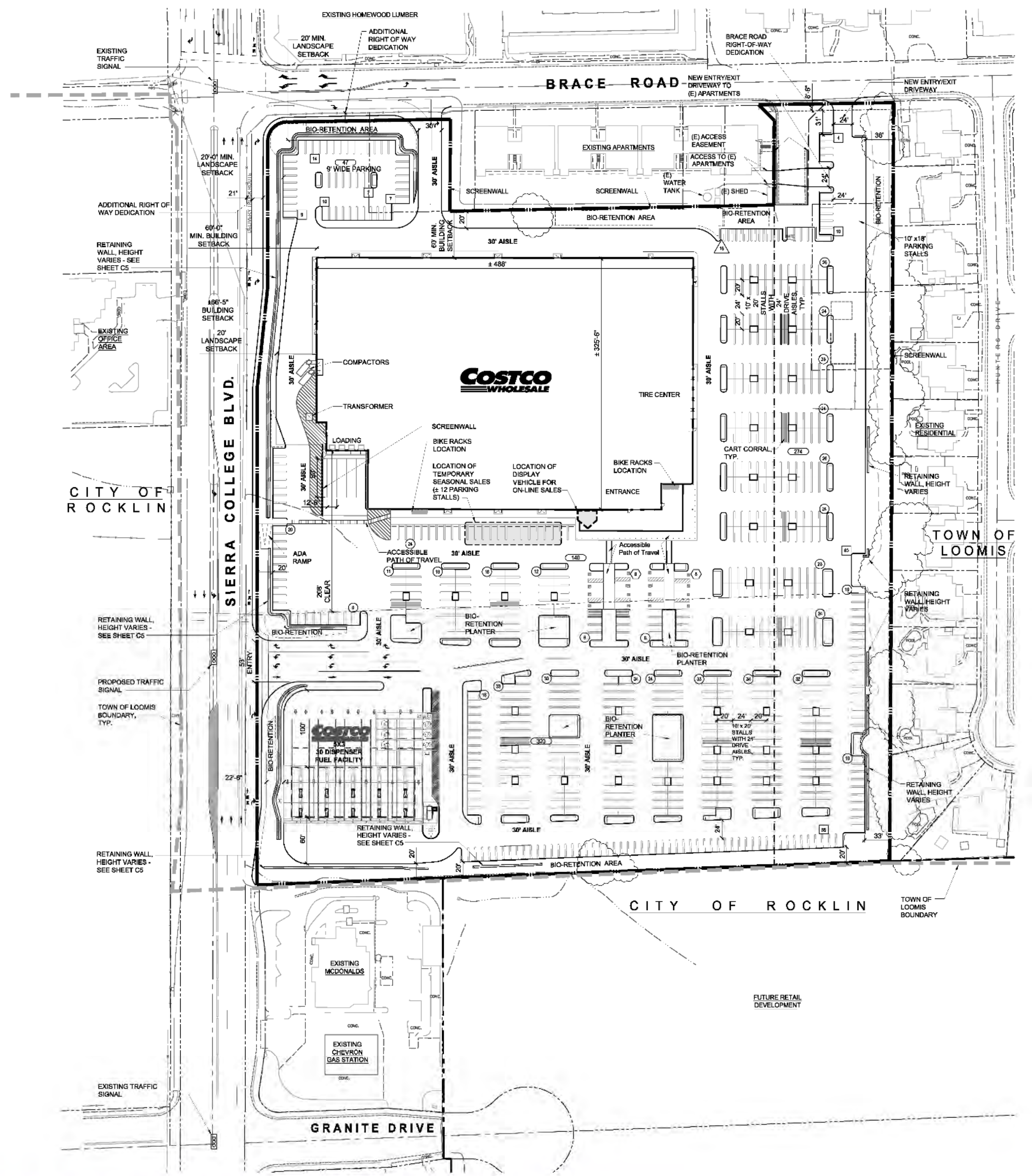
The site plan for the proposed project (Figure 2-3) depicts a warehouse retail store and an associated fueling station, enclosed by a retaining wall of varying in height up to eight feet tall. The proposed warehouse retail space would be constructed using a steel frame, masonry blocks, and metal paneling supported by a concrete slab on-grade foundation. The warehouse structure would be approximately 33 feet tall and would provide up to approximately 155,000 square feet of floor space dedicated to retail goods and services, including optical exams and sales, a photo center and processing, hearing aid testing and sales, food service preparation and sales (including meat and baked goods), and alcohol sales and tasting. The warehouse building would include a 5,478-square-foot tire center with member access via inside of the main Costco building. The tire center would include tire sales and a tire installation facility with four bays that face east to allow Costco employees to drive cars into the installation facility. The warehouse would be located near the northern boundary of the project site, while the fueling station would be located in the southwest corner of the site.

The warehouse building would be set back approximately 66 feet from Sierra College Boulevard, the western perimeter of the project site. This setback area would include a 20-foot landscaped parkway and drive aisle for delivery trucks. Along Brace Road, the northern perimeter, the project plan proposes a 60-foot building setback, including a 30-foot drive aisle and a 20-foot landscape buffer/drainage bioswale. The eastern and southern portions of the project site would contain surface parking and landscaping and a bioswale, which would provide setbacks of 33 feet and 20 feet, respectively, from the adjacent property line.

The loading dock for the Costco warehouse would be located on the southwest side of the warehouse, away from residential uses located north and east of the project site.

The fueling station would be located in the southwest corner of the project site, adjacent to Sierra College Boulevard. The station would include a 7,560-square-foot canopy and a 106-square-foot controller enclosure that would be located on the southern portion of the station's landscape planter. The enclosure's walls would be constructed of steel and painted in earth tones to match the warehouse.

The fueling station would contain five covered fueling bays, each with up to three, two-sided fuel dispensers for a total fueling capacity for 30 dispensers. The fueling dispensers would be fully automated and self-service for Costco members only, with a Costco attendant present to oversee operations and assist members with problems. Fuel would be stored in three underground tanks installed along the perimeter of the station.



Project Data

Client:	Costco Wholesale 999 Lake Drive Issaquah, WA 98027
Project Address:	Sierra College Boulevard Loomis, CA Town of Loomis

Site Data

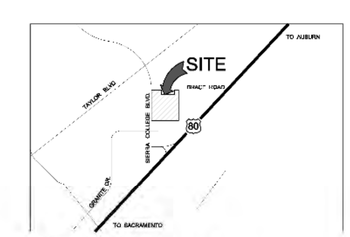
Costco Site Area: Right of Way Dedication	17.31 AC (754,042 s.f.) 0.50 AC (22,148 s.f.)
Jurisdiction:	Town of Loomis, CA
Existing Zoning:	GC - General Commercial / RM 5 - Medium Density Residential
Boundary Information:	This plan has been prepared using the Topographic Survey dated October 2016 prepared by Kier & Wright Civil Engineers & Surveyors, Inc.

Building Data

Total:	± 153, 000 s.f.

Parking Data

9' wide stalls:	176 stalls
10' wide stalls:	589 stalls
Accessible stalls:	16 stalls
Total Parking:	781 stalls (5.1 / 1,000)
5' wide Motorcycle stalls:	16 stalls
Parking Required: (Town of Loomis)	765 5.0 / 1,000



Vicinity Map
Scale: N.T.S.

COSTCO WHOLESALE
DBA # P256
DB+A
DAVID BABCOCK + ASSOCIATES

COSTCO LOOMIS, CA

CONCEPT SITE PLAN - OPTION 1A

SCALE: 1"=60'-0"
SEPTEMBER 10, 2019

SHEET 1 of 1

Source: Data provided by MG2 and adapted by AECOM in 2019

Figure 2-3. Proposed Site Plan – Option 1A

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2.3.3.2 Access and Road Improvements

To address comments received on the previous EIR published June 7, 2018, the proposed vehicle access to the project site now consists of three site access option plans: Option 1A; Option 1B; and Option 1C. The proposed site plan (Option 1A), as shown in Figure 2-3, provides access to the site at three locations, including a new signalized intersection on Sierra College Boulevard, a right-in/right-out only driveway located on Brace Road, and a full movement driveway located further east on Brace Road. Recognizing the interest in circulation and access around the project site, two alternative site access options (Option 1B and Option 1C) are fully analyzed in this recirculated EIR for comparison purposes (see Figures 2-4 and 2-5). Consistent with the traffic impact assessment for the project (Kittelson & Associates, Inc. 2019), details of all access points are described in more detail below.

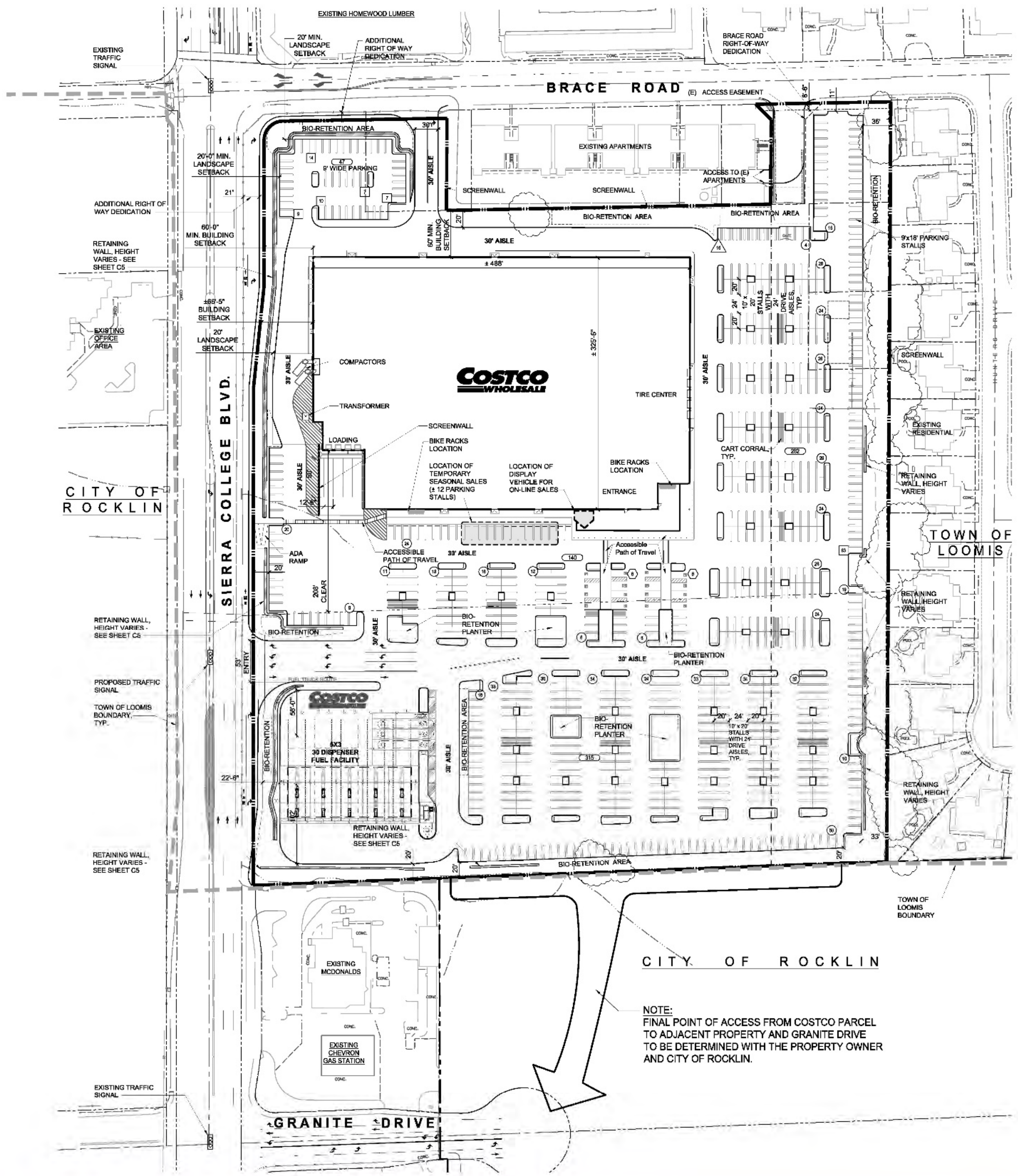
- **Project Driveway Access Option 1A (proposed project site plan)**
  - An unsignalized right-in/right-out only on Brace Road located approximately 215 feet east of Sierra College Boulevard (measured from Sierra College Boulevard curb to west curb of access)
    - The driveway will be open to the public and serve entering warehouse delivery trucks.
    - A raised median will be installed on Brace Road between Sierra College Boulevard and the existing driveway to the east to limit Costco access to right-turns only to maintain access to land use on the north side of the street and not impact the queue storage for the westbound left turn at Sierra College Boulevard.
  - A new signalized intersection along Sierra College Boulevard located approximately 750 feet south of Brace Road and 625 feet north of Granite Drive (measured centerline to centerline)
    - The proposed new intersection will include a northbound right-turn lane with right-turn signal overlap, one eastbound (entry) lane to the Costco site and three westbound (exit) lanes (interim dual left-turns and a separate right-turn).
    - The new intersection will be designed to accommodate a potential fourth approach (west leg) to serve potential future development on the vacant lot to the west.
  - An unsignalized full access on Brace Road located approximately 675 feet east of Sierra College Boulevard (measured from Sierra College Boulevard curb to west curb of access). This new access would be shared with an existing apartment building located to the west. Starlight Lane would be closed and vacated.
- **Project Driveway Access Option 1B includes three public site access points**:
  - An unsignalized right-in/right-out only on Brace Road located approximately 215 feet east of Sierra College Boulevard (measured from Sierra College Boulevard curb to west curb of access)
    - The driveway will be open to the public and serve entering warehouse delivery trucks.
    - A raised median will be installed on Brace Road between Sierra College Boulevard and the existing driveway to the east to limit Costco access to right-turns only to maintain access to land use on the north side of the street and not impact the queue storage for the westbound left turn at Sierra College Boulevard.
  - A new signalized intersection along Sierra College Boulevard located approximately 750 feet south of Brace Road and 625 feet north of Granite Drive (measured centerline to centerline)
    - The proposed new intersection will include a northbound right-turn lane with right-turn signal overlap, one eastbound (entry) lane to the Costco site and three westbound (exit) lanes (interim dual left-turns and a separate right-turn).
    - The new intersection will be designed to accommodate a potential fourth approach (west leg) to serve potential future development on the vacant lot to the west.
- A roadway connection between the south side of the Costco site and Granite Drive
    - The north-south drive aisle connection to Granite Drive will be located approximately 165 feet east of the existing private driveway access on the north side of Granite Drive serving McDonald's and Chevron (distance measured from east curb existing driveway to west curb of proposed of north-south drive aisle).
    - Granite Drive will be modified between Sierra College Boulevard and the new north-south Costco connection to provide side-by-side eastbound and westbound left-turn lanes separated by a new raised median on Granite Drive.

- **Project Driveway Access Option 1C includes four public site access points**:
  - An unsignalized right-in/right-out only on Brace Road located approximately 215 feet east of Sierra College Boulevard (measured from Sierra College Boulevard curb to west curb of access)
    - The driveway will be open to the public and serve entering warehouse delivery trucks.
    - A raised median will be installed on Brace Road between Sierra College Boulevard and the existing driveway to the east to limit Costco access to right-turns only to maintain access to land use on the north side of the street and not impact the queue storage for the westbound left turn at Sierra College Boulevard.
  - An unsignalized full access on Brace Road located approximately 675 feet east of Sierra College Boulevard (measured from Sierra College Boulevard curb to west curb of access). This new access would be shared with an existing apartment building located to the west. Starlight Lane would be closed and vacated.
  - A new signalized intersection along Sierra College Boulevard located approximately 750 feet south of Brace Road and 625 feet north of Granite Drive (measured centerline to centerline)
    - The proposed new intersection will include a northbound right-turn lane with right-turn signal overlap, one eastbound (entry) lane to the Costco site and three westbound (exit) lanes (interim dual left-turns and a separate right-turn).
    - The new intersection will be designed to accommodate a potential fourth approach (west leg) to serve potential future development on the vacant lot to the west.
  - A roadway connection between the south side of the Costco site and Granite Drive
    - The north-south drive aisle connection to Granite Drive will be located approximately 165 feet east of the existing private driveway access on the north side of Granite Drive serving McDonald's and Chevron (distance measured from east curb existing driveway to west curb of proposed of north-south drive aisle).
    - Granite Drive will be modified between Sierra College Boulevard and the new north-south Costco connection to provide side-by-side eastbound and westbound left-turn lanes separated by a new raised median on Granite Drive.

For Options 1B and 1C, the additional Granite Drive access would be on two parcels in the city of Rocklin, identified as Assessor's Parcel Numbers 045-042-053 and 045-042-055. The parcels are zoned by the City of Rocklin for Retail Business (C-2) (City of Rocklin 2016).

In conjunction with site development, Costco would provide street frontage improvements along Sierra College Boulevard, Brace Road, and Granite Drive to include new curbs, gutters, and sidewalks. At Sierra College Boulevard, Costco would provide the following improvements:

- Restripe the existing northbound right-turn lane on Sierra College Boulevard approaching Granite Drive from an exclusive right-turn lane to a shared through/right-turn lane (for Site Plan Options 1B and 1C only).
- Dedicate right-of-way and widen Sierra College Boulevard along the project site frontage and restripe the roadway to provide three northbound through travel lanes and a northbound Class II bicycle lane between Granite Drive and Brace Road.
- Signalize the proposed new Costco site access intersection on Sierra College Boulevard. The new signalized entry on Sierra College Boulevard would be designed to accommodate a potential fourth approach to serve future development in the city of Rocklin on the vacant lot across Sierra College Boulevard to the west.
- Provide traffic signal interconnect between the proposed new Costco site access signalized intersection and the adjacent intersections along Sierra College Boulevard at Brace Road and Granite Drive.
- Construct a separate northbound right-turn lane on Sierra College Boulevard approaching the proposed new signalized site access intersection. Provide a right-turn overlap signal phase at the intersection.
- Construct a southbound left-turn lane on Sierra College Boulevard approaching the proposed new signalized Costco site access intersection.
- Construct a separate northbound right-turn lane on Sierra College Boulevard approaching the signalized Brace Road intersection (the turn lane is proposed to include a 90-foot long taper and 200 feet of right-turn storage). Provide a right-turn overlap signal phase at the intersection.



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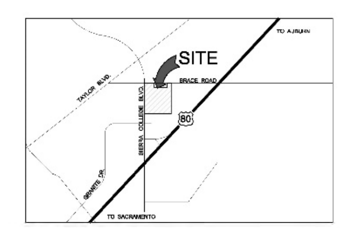
Boundary Information:	This plan has been prepared using the Topographic Survey dated October 2016 prepared by Kier & Wright Civil Engineers & Surveyors, Inc.

Building Data

Total:	153, 000 s.f.

Parking Data

9' wide stalls:	110 stalls
10' wide stalls:	658 stalls
Accessible stalls:	16 stalls
Total Parking:	784 stalls (5.1 / 1,000)
5' wide Motorcycle stalls:	16 stalls
Parking Required: (Town of Loomis)	765 5.0 / 1,000



Vicinity Map
Scale: N.T.S.

COSTCO WHOLESALE
DBA # P256

DB+A

DAVID BABCOCK + ASSOCIATES

COSTCO LOOMIS, CA

CONCEPT SITE PLAN - OPTION 1B

SCALE: 1"=60'-0"
OCTOBER 14, 2019

SHEET 1 of 1

Source: Data provided by MG2 and adopted by AECOM in 2019

Figure 2-4. Site Plan Option 1B

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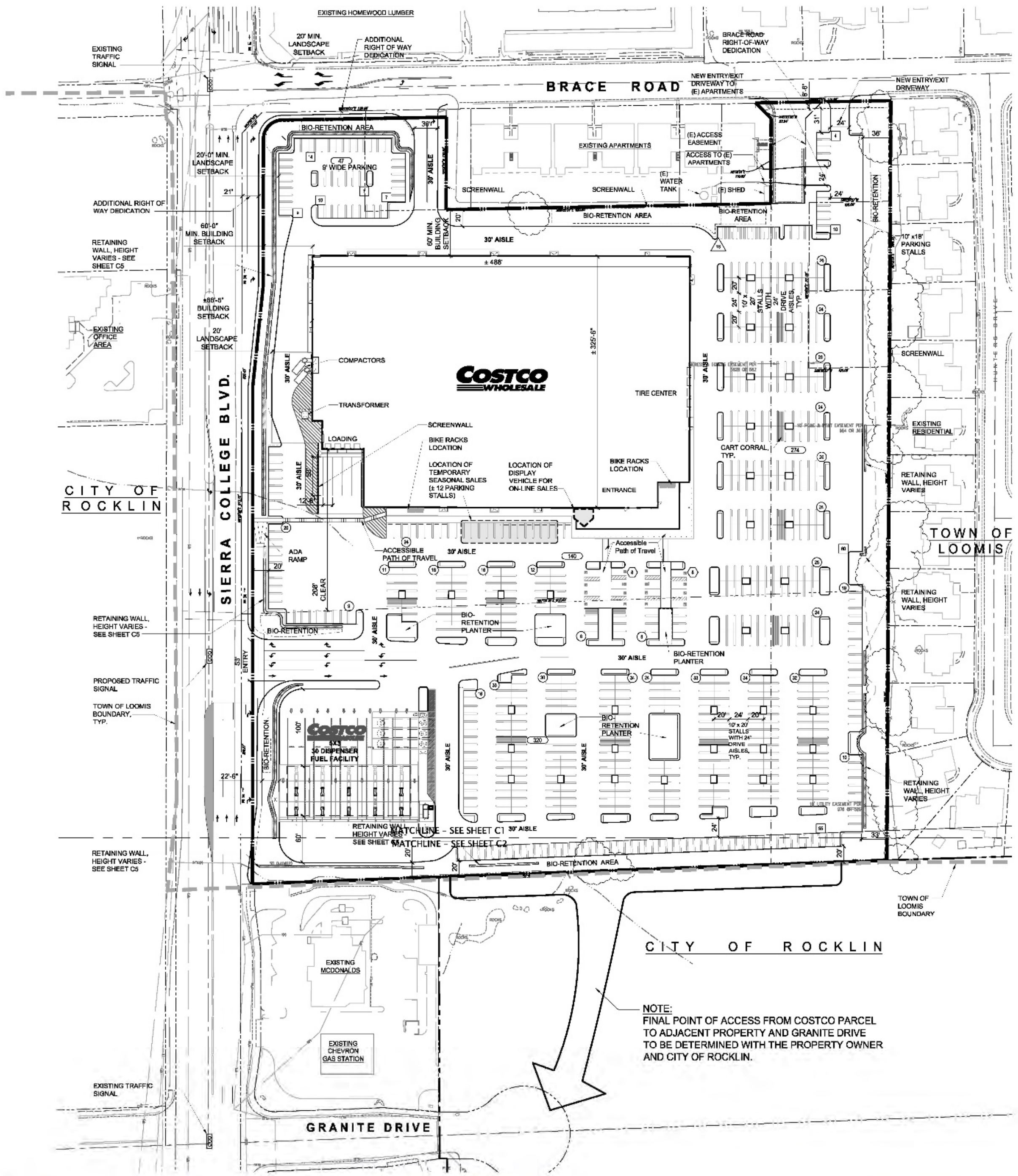

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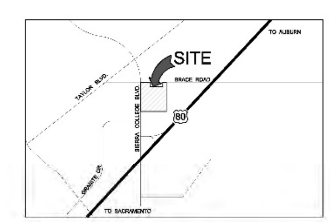
Total Parking:	781 stalls (5.1 / 1,000)
5' wide Motorcycle stalls:	16 stalls
Parking Required: (Town of Loomis)	765 5.0 / 1,000



Vicinity Map
Scale: N.T.S.

COSTCO WHOLESALE

DBA # P256

DB+A

COSTCO LOOMIS, CA

CONCEPT SITE PLAN - OPTION 1C

SCALE: 1"=60'-0"
OCTOBER 14, 2019

SHEET
1
of 1

Source: Data provided by MG2 and adopted by AECOM in 2019

Figure 2-5. Site Plan Option 1C

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- Dedicate right-of-way and construct standard half-street improvements along the Brace Road site frontage and install a raised median on Brace Road between Sierra College Boulevard and the existing Homewood Lumber driveway to the east to limit Costco access to right turns only.
- Widen and reconstruct Granite Drive east of Sierra College Boulevard to provide side-by-side eastbound and westbound left-turn lanes separated by a new raised median between Sierra College Boulevard and the new north-south drive aisle to the site (for Site Plan Options 1B and 1C only).

In addition to the recommended improvements to be constructed by Costco, the Town of Loomis will be separately completing widening of Sierra College Boulevard to three lanes northbound and three lanes southbound between Brace Road and Taylor Road as part of a funded Capital Improvement Plan project. The Sierra College Boulevard widening by the Town north of Brace Road is expected to be completed prior to opening of the Costco.

All roadway improvements will conform to the standards specified in the current version of the Town of Loomis Design & Improvement Standards (Town of Loomis 2018).

2.3.3.3 Architecture

The proposed warehouse and fueling station would feature a variety of massing techniques and material types (Figures 2-6 and 2-7). The warehouse's building architecture would incorporate varying parapet cap heights and would use metal panels, concrete masonry blocks, and landscaping to break the long horizontal and vertical planes associated with typical warehouse structures. The building's color palette would include brown, gray, and blue, which would be compatible with surrounding development and the rural image considered desirable by the Town. Similarly, the fueling station building and canopy would be covered with smooth metal fascia panels painted gray.

Building signage would include the Costco logo in the red and blue corporate colors. The signage would be scaled to the mass of the building elevation and would serve as an indicator for patrons, directing them toward the entrance. Signage on the warehouse wall would use externally illuminated reverse pan channel letters; the fueling station signage would also be externally illuminated. Signage would meet the regulations established by the Town in Chapter 13.38 (Signs) of the Loomis Municipal Code that are intended to appropriately limit the placement, type, size, and number of signs allowed within the Town, and to require the proper maintenance of signs (Town of Loomis 2018).

All new development within the General Commercial (CG) zone are subject to Design Review Approval, in this case by the Planning Commission, as a Use Permit (UP) will be required. The design review process examines building arrangements, setbacks, walls and fences, exterior appearances of buildings (selection of colors and materials), parking, grading, drainage, and landscaping, among other site planning considerations.

2.3.3.4 Parking

The site plan for Option 1A and 1C provides 781 parking stalls, each 9 or 10 feet wide by 20 feet long, including 16 accessible stalls. The site plan for Option 1B provides 784 stalls of similar size. The site plan also provides 16 motorcycle parking spaces, each 5 feet wide, and 39 bicycle parking spaces. A 30-foot-wide drive aisle would loop around the warehouse, providing access to the entire property for emergency vehicles under all options.

2.3.3.5 Landscaping and Lighting

The site plan incorporates perimeter landscape beds and drainage bioswales that would vary in width, ranging from 33 to 36 feet along the eastern perimeter of the project site to at least 20 feet along the northern, southern, and western perimeters (Figure 2-8). Street frontage trees would be provided at a minimum of one tree for every 30 feet of frontage and landscape islands would be provided in the parking field at a ratio of one island for every five lineal parking spaces, consistent with the landscape standards outlined in Title 13, Division 3, Chapter 13.34, "Landscaping Standards," of the Loomis Municipal Code (Town of Loomis 2018). The plant palette includes a mix of drought-tolerant shrubs and grasses, and a variety of shade trees that would be located in planters dispersed throughout the parking field and along the site perimeter.

The parking field would be illuminated with downward-pointing lights, each containing two light-emitting diode (LED) fixtures affixed to a pole. The poles would be 32 feet tall in the parking lot and 28 feet tall adjacent to the existing, adjacent residential development. The lighting fixtures would be "shoebox" style. The light standards would be designed to distribute light evenly to promote vehicular and pedestrian safety. Parking lights would be timer controlled and programmed to shut off after the warehouse closes. After closing time, lights would remain on only along the main driveways. Lighting fixtures would also be placed along the warehouse building at intervals of approximately 40 feet for safety and security. All lighting would incorporate the use of cutoff lenses to keep light from crossing the property boundary and illuminating adjacent parcels.

2.3.4 Utilities and Energy Conservation

2.3.4.1 Water

Placer County Water Agency would provide water to the project site. The proposed project would require construction of a looped water distribution system on-site that would connect to an 8-inch main in Sierra College Boulevard (Figure 2-9). The on-site system would consist of lines ranging in size from 10 to 12 inches in diameter. The system would provide sufficient flow and pressure to meet fire department requirements of 1,600 gallons per minute (gpm) at a residual pressure of 55 pounds per square inch (psi) for sprinklers and 4,000 gpm at a residual pressure of 20 psi for firefighting flow.

2.3.4.2 Sanitary Sewer

South Placer Municipal Utility District (SPMUD) would serve the project site. SPMUD operates under a joint powers agreement between the City of Roseville, SPMUD, and Placer County. The regional facilities funded by SPMUD include recycled water facilities, trunk sewer lines, and two wastewater treatment plants (WWTPs). All three member agencies transmit wastewater to these WWTPs.

The proposed project would construct a network of sewer lines on-site, ranging in size from 6 to 8 inches in diameter that would connect to an 8-inch sewer line located in Sierra College Boulevard. All sewer lines would be constructed to meet SPMUD's standard specifications. The project would incorporate grease separators to remove fat, oil, and grease generated by Costco's food preparation areas before they exit the site through gravity flow.

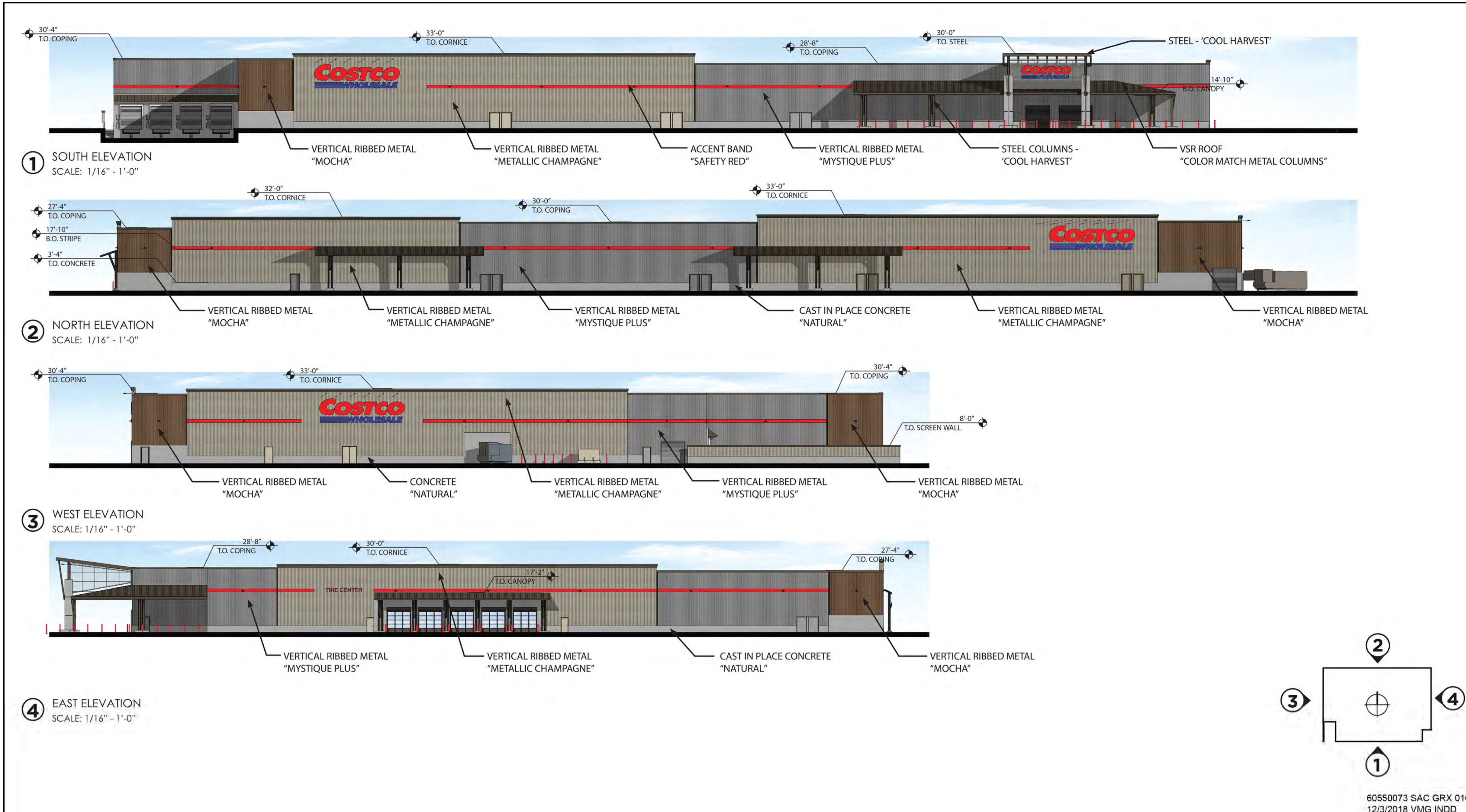
2.3.4.3 Drainage

The project site is located approximately 600 feet east of Secret Ravine, a primary drainage that accepts runoff from nearby properties. As described below, the site receives stormwater runoff at two locations from the existing residential development located adjacent to, and east of the project site.

Along the northern property boundary, an on-site swale accepts runoff from existing adjacent residential development. The swale directs the stormwater through an inlet, then the runoff flows alongside Brace Road until it is recaptured by a swale leading to Secret Ravine, which conveys the runoff downstream. With the proposed project, these stormwater flows would be intercepted at or near the property line and conveyed through an 18-inch-diameter storm drain pipe to the existing 24-inch culvert under Sierra College Boulevard.

The site also receives stormwater runoff along the southern property boundary. With the proposed project, the runoff would be intercepted and conveyed off-site in a similar fashion.

Approximately 86 percent of the project site would be covered by impervious surface in the form of buildings and a parking field. Stormwater runoff would sheet flow across the parking field, where it would be collected by curbs and swales before ultimately reaching a series of infiltration trenches along the perimeter of the property (Figure 2-10). Runoff would percolate through sand/filter soil and collect in catch basins inside the trenches before discharging into the drainage system, where it would be conveyed to one of three locations along Sierra College Boulevard. Infiltration trenches are designed and sized to meet the regulatory standards of the Phase I Municipal Separate Storm Sewer System (or MS4) Permit issued by the Central Valley Regional Water Quality Control Board. Specifically, all runoff generated during the 8th-percentile, 24-hour storm event on impervious surfaces constructed as part of the proposed project would be treated before being released from the project site.



Source: Data provided by MG2 and adopted by AECOM in 2019

Figure 2-6. Warehouse Building Elevations

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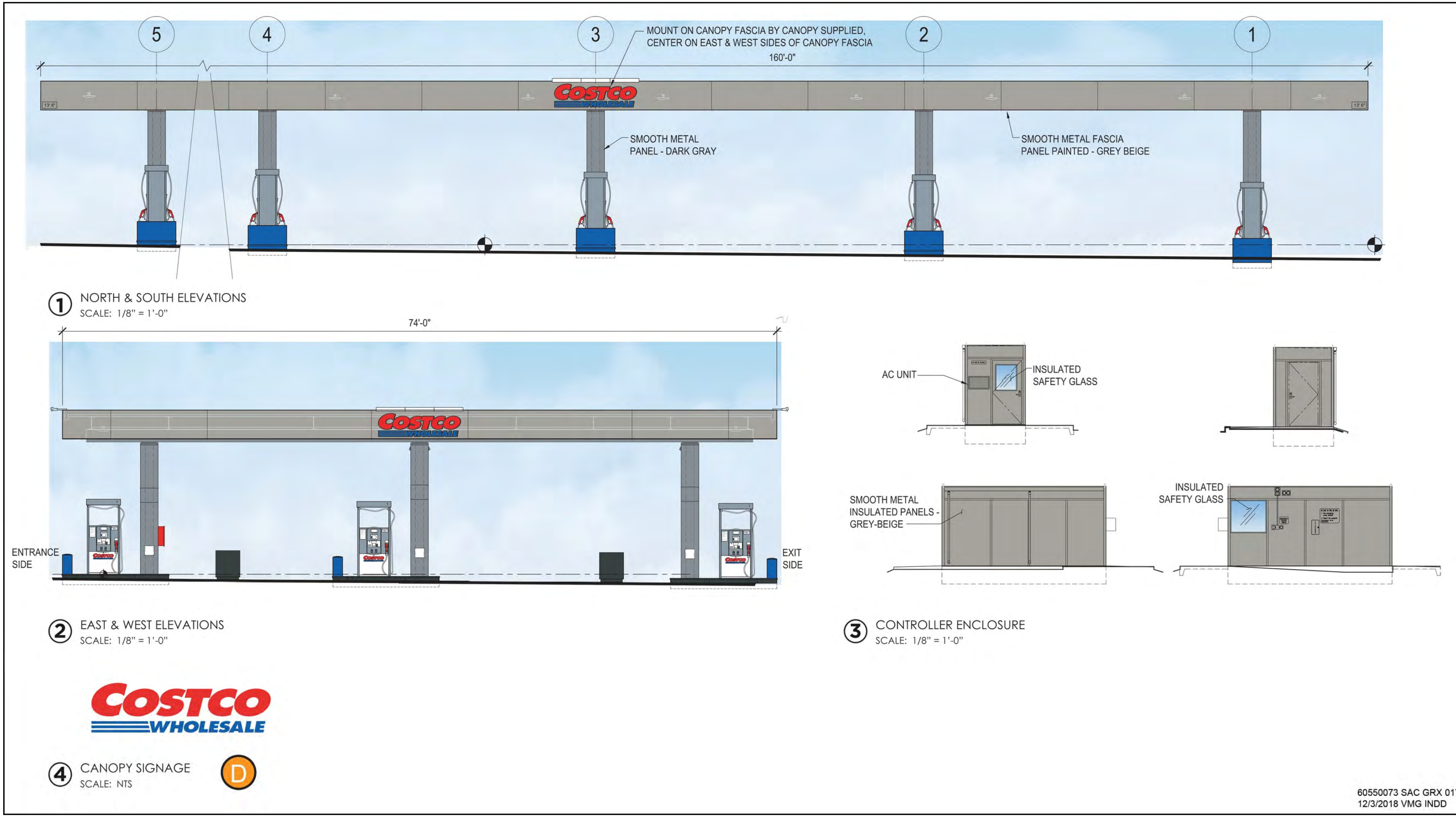

Source: Data provided by MG2 and adopted by AECOM in 2019

Figure 2-7. Fueling Station Building Elevations

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Source: Data provided by MG2 and adopted by AECOM in 2019

Figure 2-8. Landscape Plan

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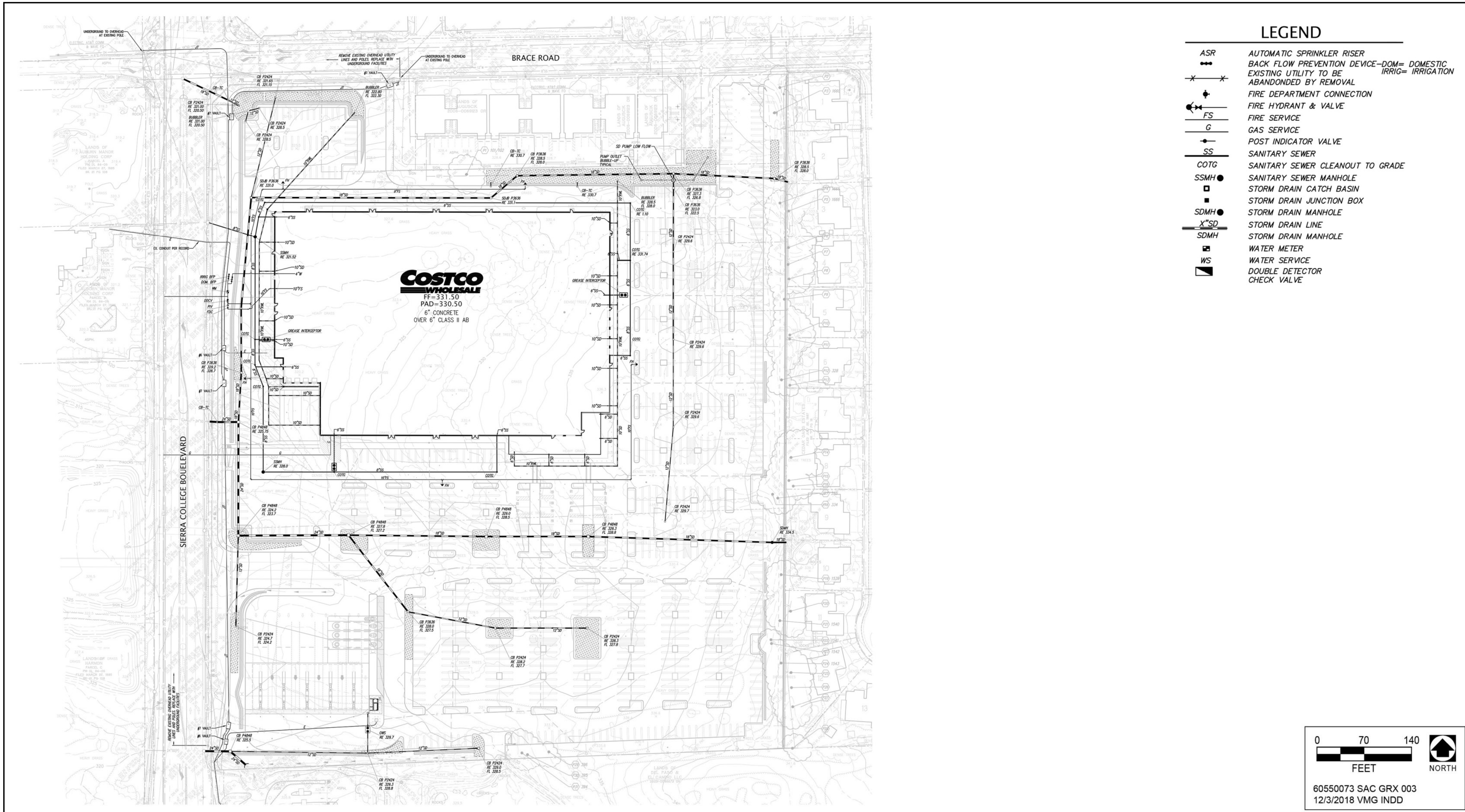

Source: Data provided by Keir & Wright Civil Engineers and Surveyors, Inc. and compiled by AECOM in 2019

Figure 2-9. Utility Plan

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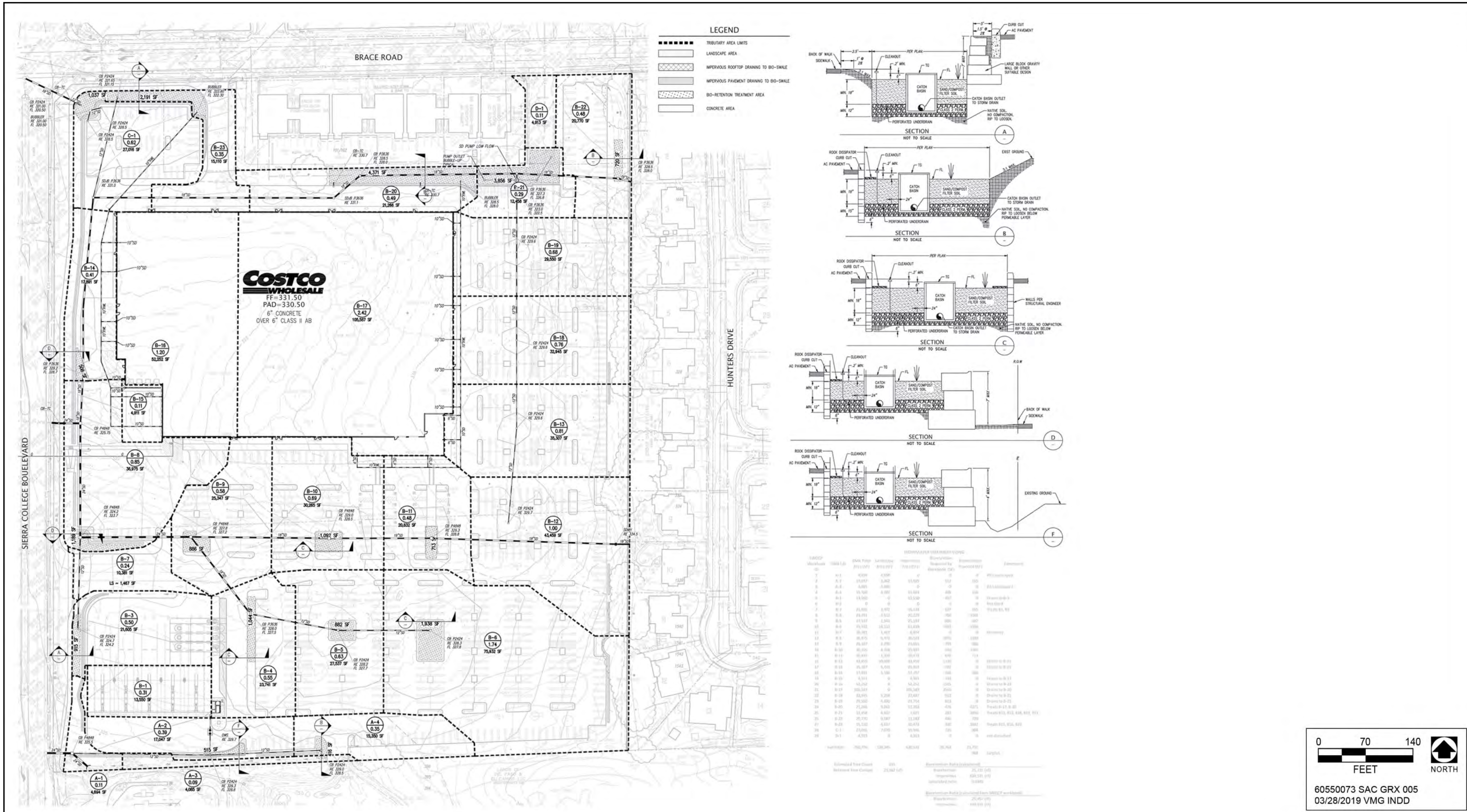

Source: Data provided by Keir & Wright Civil Engineers and Surveyors, Inc. and adopted by AECOM in March 2019

Figure 2-10. Drainage

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2.3.4.4 Energy Conservation

The proposed project would incorporate many energy-saving features into the design of the facility. The following practices and features used by Costco would be incorporated into the building and parking field design:

- Parking lot light standards are designed to distribute light evenly and use less energy than are used by a larger number of fixtures at lower heights. Using LED lamps provides a higher level of perceived brightness with less energy than other lamps, such as the high-pressure sodium type.
- New and renewable building materials are typically extracted and manufactured within the region. When masonry concrete is used, the materials purchased are local to the project, minimizing transportation-related emissions and impacts on the local roadway system.
- Use of pre-manufactured building components, including structural framing and metal panels, helps to minimize waste during construction.
- Pre-manufactured metal wall panels with insulation carry a higher energy efficiency rating (R-Value) and greater solar reflectivity to help conserve energy consumed to heat and cool the structure. Building heat absorption is reduced further by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.
- Costco uses a reflective “cool roof” material to produce lower heat absorption, thereby reducing energy demand for HVAC during peak summer periods. This roofing material meets the requirements of the U.S. Environmental Protection Agency’s Energy Star energy efficiency program.
- HVAC comfort systems are controlled by a computerized building management system to maximize efficiency.
- HVAC units are high-efficiency directed duct units.
- Parking lot lights are controlled by the project’s energy management system.
- Energy-efficient transformers (i.e., Square D Type EE transformers) are used.
- Variable-speed motors are used on make-up air units and booster pumps.
- Gas and water heaters are direct vent and 94 percent efficient or greater.
- Costco trucks are equipped with engine idle shutoff timers.

2.3.5 Operations

2.3.5.1 Retail Sales

The proposed project is for a warehouse retail store that would sell national brands and private-label merchandise for commercial and personal use. Other goods and services provided would include tire sales and installation, sales of motor vehicle fuel, optical exams and sales, a photo center and processing, hearing aid testing and sales, food service preparation and sales (including meat and baked goods), alcohol sales and tasting, and propane refueling. During seasonal sales promotions, temporary outdoor sales may occur within the parking field adjacent to the warehouse.

2.3.5.2 Hours

Costco is a membership-only retail/wholesale business. Warehouse and tire center hours are typically anticipated to be Monday through Friday from 10 a.m. to 8:30 p.m., Saturday from 9:30 a.m. to 6 p.m., and Sunday from 10 a.m. to 6 p.m. The fueling facility is anticipated to operate daily from 5 a.m. to 10 p.m.

2.3.5.3 Staffing

The proposed Costco facility would employ approximately 170 full-time employees.

2.3.6 Deliveries

An average of 10 to 13 large trucks would deliver goods on a typical weekday. The trucks would range in size from 26-feet long for a single-axle trailer to 70-feet long for a double-axle trailer. Warehouse shipments would be received between 2 a.m. and 1 p.m., averaging two to three trucks per hour, with most deliveries completed by 10 a.m., when the warehouse would open for the weekday. Deliveries to the warehouse would be made primarily in Costco trucks traveling from the company’s freight consolidation facility in Tracy, California. Trucks would travel along I-80 and exit at Sierra College Boulevard to access the proposed warehouse. Warehouse delivery trucks would enter the project site via Brace Road, complete the delivery and subsequently exit the site at the new signalized project access along Sierra College Boulevard. The proposed northbound right-turn lane on Sierra College Boulevard at Brace Road will facilitate truck entry. Costco fuel delivery trucks would enter the site via the new signalized project access along Sierra College Boulevard, service the fueling station, and then exit the site via the Costco signalized driveway along Sierra College Boulevard (Option 1A) or via the new north-south connection to Granite Drive linking back to Sierra College Boulevard (Options 1B and 1C). Similar to the Brace Road delivery truck access route, the proposed northbound right-turn lane on Sierra College Boulevard at the project access will facilitate truck entry.

Fuel would typically be delivered to the fueling station by double-axle trucks that would arrive five to seven times per day during hours of operation. During busy holiday weeks, an additional delivery is often required during the day. These deliveries occur any time between 6:00 a.m. and 7:00 p.m. To avoid blocking access to the fueling islands, trucks offloading fuel would be parked on top of the underground tanks located on the east side of the fueling facility.

The tire center would typically receive shipments one to two times per week via single- or double-axle trailer trucks. Deliveries for the tire center would be scheduled for before opening hours, typically 6 a.m.

2.4 Construction and Phasing

The proposed project would be constructed in a single phase over a period of 6 months, opening in late 2020 or early 2021. Grading and site preparation would take two months to complete. Utility installation, paving, and erection of the structure would follow over a two-month time frame. Construction would conclude with the application of architectural coatings and installation of landscaping during a one-month period.

Preparation for construction would begin with the demolition of existing building foundations and grubbing to remove vegetation. Abandoned utilities in the proposed development areas, including a domestic well and other existing features (if encountered), would be removed and the excavation(s) would be backfilled with engineered fill. Debris produced during demolition (e.g., wood, steel, piping, and plastics) would be separated and disposed of off-site. Existing utility pipelines or conduits would be abandoned in place and plugged with nonshrinking cement grout to prevent migration of soil and/or water.

Once this work has been completed, soil on portions of the property would be overexcavated and recompacted to reduce the potential for differential settlement and provide uniform support for the proposed warehouse and associated facilities. According to the preliminary grading plan (Figure 2-11), the finished floor elevation for the warehouse would be approximately 331.50 feet above mean sea level. The warehouse building pad area would be raised as much as approximately 10 feet by fill and would transition to an area of cut as deep as 5 feet. The fueling facility area would be raised approximately one to five feet above the existing ground surface. Excavations for deep utilities and the loading dock may exceed four feet and installing the underground storage tanks for the fueling facility would require excavation up to about 20 feet deep.

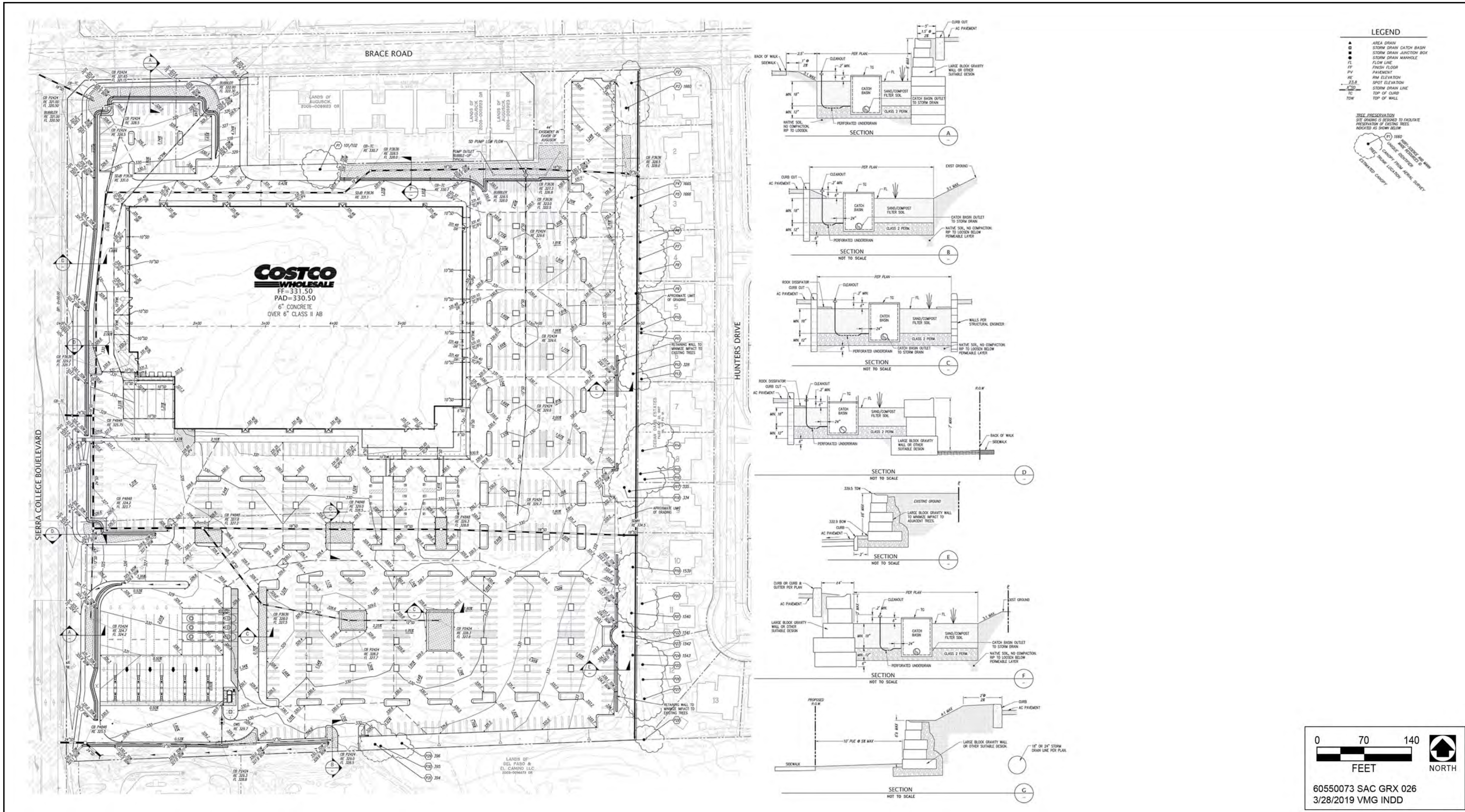
Earthwork would be balanced on-site, with the earth material cut during overexcavation used as fill to establish building pads. No import or export of soil would be necessary to construct the project. Staging and materials storage would occur on the project site.

2.5 Intended Uses of this Recirculated Environmental Impact Report

This document is an EIR prepared for the proposed project to establish compliance with CEQA. This EIR has been prepared by the Town as the lead agency under CEQA.

In its initial form, an EIR is composed primarily of a draft document known as a DEIR, and the lead agency's written responses to comments on the DEIR by the public and public agencies. This DEIR evaluates the potential physical impacts on the environment resulting from implementation of the proposed project. The DEIR proposes mitigation measures and alternatives that may reduce or avoid the significance of such impacts. After public review of the DEIR, a final EIR (FEIR) will be prepared, in which the Town will provide responses to comments related to the environmental analysis provided in the DEIR.

The Town has prepared this EIR to provide responsible and trustee agencies and the public with information about the potential environmental effects of implementing the proposed project. This DEIR was prepared in compliance with CEQA (as amended through California Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Title 14, Section 15000 et seq. [14 CCR Section 15000 et seq.]).



Source: Data provided by Keir & Wright Civil Engineers and Surveyors, Inc. and compiled by AECOM in 2019

Figure 2-11. Grading Plan

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The purpose of an EIR is not to recommend either approval or denial of a project, but to disclose the potentially significant environmental impacts of a project and potential methods to mitigate those impacts. According to Section 15064(f)(1) of the State CEQA Guidelines, preparation of an EIR is required whenever a project may result in a significant environmental impact. An EIR is an informational document used to inform public agency decision makers and the general public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe alternatives to the project that could feasibly attain most of the basic objectives of the project, while substantially lessening or avoiding any of the significant environmental impacts. Public agencies must consider the information presented in the EIR when determining whether to approve a project.

CEQA requires that state, regional, and local government agencies consider the environmental effects of projects over which they have discretionary authority before taking action on those projects (PRC Section 21000 et seq.). CEQA also requires that each public agency avoid or reduce to less-than-significant levels, wherever feasible, the significant environmental effects of any project it approves or implements. If a project would result in significant and unavoidable environmental impacts that cannot be feasibly reduced to less-than-significant levels, the project can still be approved; however, the lead agency must issue a “statement of overriding considerations” that explains in writing the specific economic, social, or other considerations that it believes would make those significant effects acceptable.

2.6 Permits and Approvals

The Town is the lead agency for the proposed project. To permit development as proposed by the applicant, the Town would be required to issue the following discretionary approvals:

Option 1A, Option 1B, and Option 1C

- Zoning Code Amendment
  - Section 13.26.040 Commercial district general development standards Table 2-6: Amend the code to allow Warehouse Retail within some locations in the CG District with a use permit.
  - Section 13.36.090 Parking design and development standards: Amend existing text to revise compact car stall width dimensions.
  - Section 13.36.100 Driveways and site access: Amend existing text to add standards for signalized driveways for warehouse retail uses.
  - Section 13.36.110 Loading space requirements Table 3-11: Amend the table to add loading space requirements for warehouse retail uses.
  - Section 13.30.080 Outdoor lighting: Amend the existing text to add outdoor fixture height limits for warehouse retail uses.
  - Section 13.80.020 Definitions of specialized terms and phrases: Amend the definition of “Warehouse Retail” to including clarifying text and add a definition for “Fueling Station.”
- A “UP” (Use Permit Required) to approve the Costco warehouse retail store, that includes a tire center and fueling facility;
- Design review approval of the site plan, building design, and preliminary landscape plan;

Additional responsible and trustee agencies (listed below) with potential permitting or approval authority over the project, or elements thereof, will have the opportunity to review this DEIR during the public review period, and will be able to use this information when considering issuance of any permits required for the project. Federal, state, and regional agencies that may have jurisdiction over specific activities associated with the proposed project include but are not necessarily limited to the following:

- **U.S. Army Corps of Engineers**: The project must receive water quality permits under the Clean Water Act, including a Section 401 water quality certification and Section 404 permits for discharge of fill into waters of the United States associated with impacts on 0.15 acre of vegetated palustrine emergent wetlands.
- **Central Valley Regional Water Quality Control Board:** The project must comply with conditions of the National Pollutant Discharge Elimination System permit.

- **California Department of Fish and Wildlife:** Permits must be issued under Sections 1600–1616 of the California Fish and Game Code for alteration to a lake or streambed.
- **California Department of Transportation:** Construction activity within California Department of Transportation right-of-way requires an encroachment permit as described in CCR Title 21, Division 2, Chapter 8.
- **Placer County Air Pollution Control District (PCAPCD):** Construction machinery with engines exceeding 50 horsepower must obtain a permit for operation from PCAPCD. For the proposed fueling station to be able to operate, PCAPCD must issue an Authority to Construct and Permit to Operate.
- **Placer County Water Agency (PCWA)**: PCWA is responsible for providing potable water to the project site and surrounding area. PCWA will review the project plans to ensure adequate water supply is available to serve the project and utility plans to ensure compliance with design standards prior to issuance of a "Will Serve" letter.
- **South Placer Municipal Utility District (SPMUD**): SPMUD is responsible for sewer service to the project and surrounding area. SPMUD will review the project and utility plans to ensure compliance with design standards prior to issuance of a "Will Serve" letter.
- **City of Rocklin.** If an additional project site access is provided to Granite Drive in the city of Rocklin, this would occur as a part of a separate proposed development project proposed to the City of Rocklin and, as such, encroachment permits involving public streets in the city of Rocklin would require approval.

3. Environmental Setting, Impacts, and Mitigation Measures

Chapter 3 presents the environmental impact evaluation for each environmental topic identified as potentially significant during the scoping process. Each environmental issue is addressed in a separate subsection of Chapter 3 of this recirculated EIR and is organized under the headings listed below. It has been determined that the proposed project would have no impact, less-than-significant impacts, or less-than-significant impacts with mitigation on certain resource areas and those areas are addressed in Section 5.3, “Effects Not Found to be Significant” of this DEIR.

Existing Conditions presents information describing the existing setting on or surrounding the project site that may be subject to change as a result of the implementation of the project. This setting describes the conditions that existed when the notice of preparation was sent to responsible agencies and the State Clearinghouse.

Regulatory Setting summarizes federal, state, and local regulations, plans, policies, and laws that are relevant to each environmental impact area. *Town of Loomis General Plan* (General Plan) policies and relevant sections of municipal ordinances are identified and described in the individual technical sections.

Impact Analysis includes the following subsections:

- *Methodology:* Identifies the steps taken to conduct the impact analysis for the particular environmental issue in question.
- *Thresholds of Significance:* Lists the criteria for determining the significance of project impacts for each environmental topic.
- *Topics Not Addressed Further:* Where applicable, identifies the significance thresholds that are not applicable to the proposed project and briefly explains why they are not considered further in the environmental impact analysis.
- *Environmental Impacts and Mitigation Measures:* Identifies the project impacts, the potential changes to the existing physical environment that could occur if the proposed project were to be implemented. Evidence based on factual and scientific data is presented to show the cause-and-effect relationship between the proposed project and the potential changes in the environment. The exact magnitude, duration, extent, frequency, range, or other parameters of a potential impact are ascertained, to the extent possible, to determine whether impacts could be significant.
- The level of significance identifies the impact’s significance level with implementation of the proposed project. Impacts are classified as follows:
  - *No Impact*—This determination is made when no impact would occur because of either the nature or the scope of the project.
  - *Less-than-Significant Impact*—This determination is made when the impact would not exceed the defined threshold(s) of significance or can be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and/or federal laws and regulations and/or through project design features.
  - *Less-than-Significant Impact with Mitigation*—This determination is made when a potentially significant impact can be reduced, avoided, or offset to a less-than-significant level by incorporating mitigation measures imposed by this EIR
  - *Significant Unavoidable Impact*—As required by Section 15126.2(b) of the State CEQA Guidelines, this determination is used when a residual impact that would cause a substantial adverse effect on the environment cannot be reduced to a less-than-significant level through any feasible mitigation measures. It is also used when feasible mitigation measures have been identified, but where there is no guarantee that the mitigation will be implemented because the mitigating action occurs outside the jurisdiction of the Town of Loomis. This determination requires a statement of overriding considerations (pursuant to State CEQA Guidelines Section 15093), which would be adopted by the Town before project approval. In adopting a

statement of overriding considerations, the lead agency is required to balance the benefits of a project against its unavoidable environmental impacts in determining whether to approve the project. If the benefits of a project are found to outweigh the unavoidable adverse environmental effects, then the project may be approved (State CEQA Guidelines Section 15093[a]).

Following the impact's significance level, the impact analysis identifies project-specific measures that would be required of the project to avoid a significant adverse impact, minimize a significant adverse impact, rectify a significant adverse impact by restoration, reduce or eliminate a significant adverse impact over time by preservation and maintenance operations, or compensate for the impact by replacing or providing substitute resources or environment.

- *Significance after Mitigation:* Discusses any significant adverse environmental impacts that cannot be feasibly mitigated or avoided, significant adverse environmental impacts that can be feasibly mitigated or avoided, and adverse environmental impacts that would not be significant.

Chapter 4, "Cumulative Impacts," describes potential environmental changes to the existing physical conditions that may result from implementation of the proposed project and any other reasonably foreseeable, planned, and approved future projects.

3.1 Regional Environmental Setting

Section 15125 of the State CEQA Guidelines requires that an EIR provide a description of physical environmental conditions in the vicinity of the project site, from both a local and regional perspective, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced. The purpose of this section is to provide the reader with a broad overview of the physical and planning environment in which the proposed project would be located. A more detailed, site-specific discussion of existing conditions is provided in each topical section. This information represents the baseline conditions against which the project is evaluated.

3.1.1 Environmental Setting

3.1.1.1 Location

Figure 3.1-1 shows the regional location of the project site. The project site is in the Town of Loomis in western Placer County, approximately 25 miles northeast of Sacramento, near Rocklin. I-80 provides regional access to the site and Sierra College Boulevard provides local access. The location of the project site corresponds to Section 28 of Township 11 North and Range 7 East on the 7.5-minute Rocklin, California U.S. Geological Survey quadrangle.

3.1.1.2 Geologic Setting

Placer County lies within the foothills of the Sierra Nevada Province, just east of the western boundary of the adjacent Sacramento Valley (northern) portion of the Great Valley geomorphic province. About 400 miles long and 40 miles wide, the Great Valley is an asymmetrical, synclinal trough formed by tilting of the Sierran block, with the western side dropping to form the valley and the eastern side abruptly uplifted to form the Sierra Nevada. Great Valley sediments consist of a thick sequence of alluvial, basin, and plain sediments eroded from the Sierra Nevada and transported primarily by the Sacramento River and its tributaries (Kleinfelder 2017).

Western and central Placer County generally have low seismicity, while the eastern county in the vicinity of Lake Tahoe has relatively high seismicity. However, no inferred faults or fault zones in Placer County are considered sufficiently well-defined to warrant designation as hazard zones that require site-specific studies before land development.

Certain soils with high clay content may expand or shrink under different soil moisture conditions, which could lead to structural damage. Soils considered to have moderate to high shrink-swell potential are limited to the low-lying areas, which are concentrated in western Placer County, from the city of Rocklin to the county line (Placer County 1994).

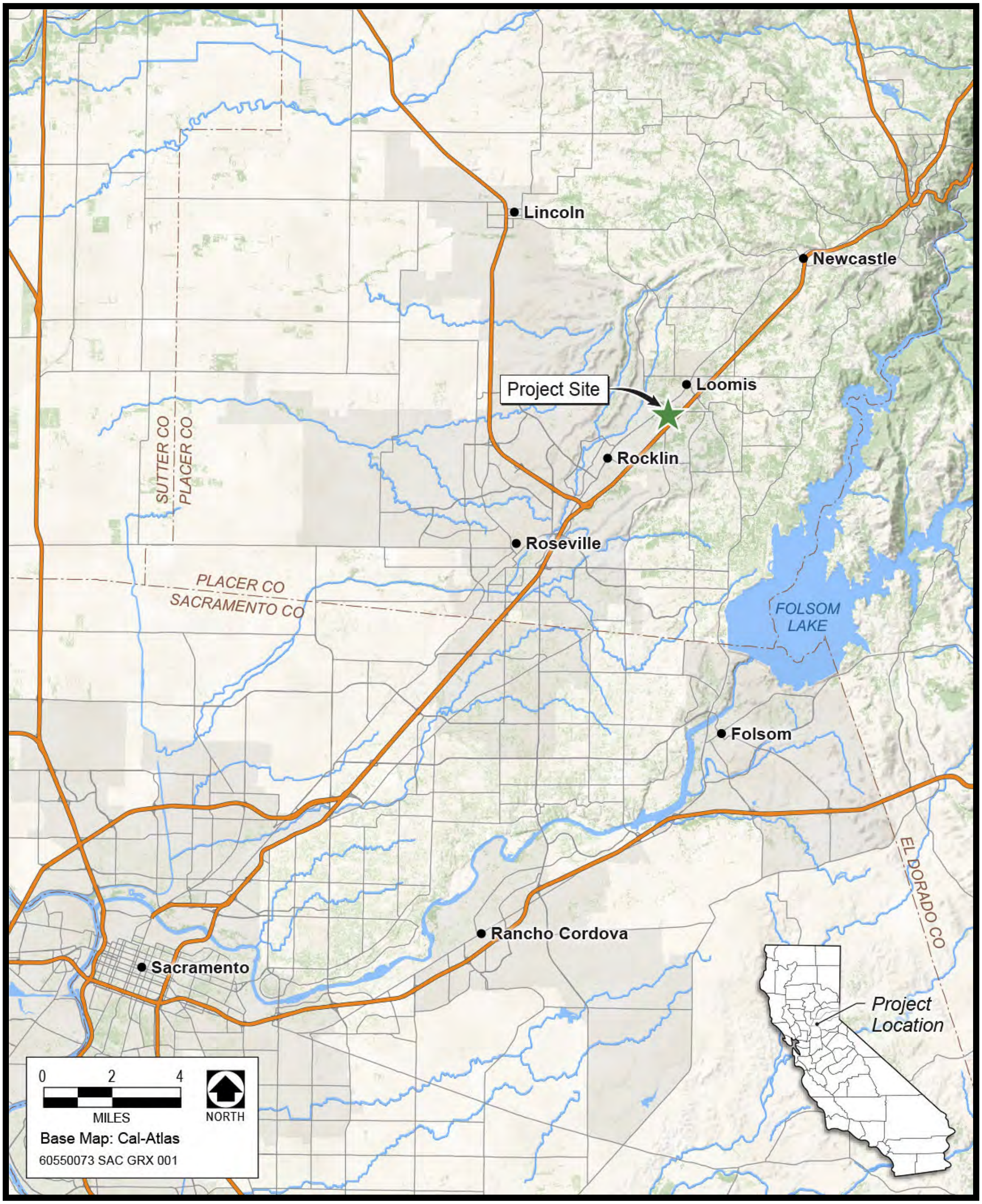
3.1.1.3 Climate

Placer County includes portions of three California air basins: Sacramento Valley, Mountain Counties, and Lake Tahoe. Existing air quality varies substantially between these air basins. Loomis is located within the Sacramento Valley Air Basin.

The Sacramento Valley Air Basin is characterized by cool winters and hot, dry summers, tempered by occasional westerly breezes from the Sacramento–San Joaquin Delta. Weather in summer, spring, and fall is generally a result of the movement and intensity of the semipermanent high-pressure area located in the Pacific Ocean several hundred miles to the west. Winter weather is generally a function of the size and location of low-pressure weather systems originating in the north Pacific. Average high temperature typically varies from 54 degrees Fahrenheit in the winter to approximately 92 degrees in the summer. The area averages approximately 25 inches of rain per year, with most rainfall occurring between November and April (HBG 2017).

3.1.1.4 Hydrology

The Town is located in the Dry Creek watershed. The watershed covers about 101 square miles of land area in Placer and Sacramento counties, with headwaters located in the upper portions of the Loomis Basin near Penryn and Newcastle. Ultimately, Dry Creek empties into the Natomas East Main Drainage Canal, a human-made flood control channel that captures runoff west of the unincorporated communities of Rio Linda and Robla in Sacramento County.



Source: Data compiled by AECOM in 2018

Figure 3.1-1. Regional Map

The Natomas East Main Drainage Canal directs water southward, eventually emptying into the Sacramento River in Discovery Park. Dry Creek experiences frequent flooding events in the Rio Linda area, well downstream of the Loomis planning area (Placer County 1994).

3.1.1.5 Land Use

Loomis is a rural community encompassing approximately 4,600 acres. The predominant land uses are single-family residential and large-lot residential-agricultural. Many residents maintain small-scale “hobby” agricultural activities on small ranches. The portions of town south of I-80 and west of Sierra College Boulevard support the majority of the residential-agricultural uses. The Town’s more compact residential development is concentrated near the Taylor Road corridor. A small industrial area is located in the northeastern part of Loomis. East of the Loomis town limits are unincorporated areas of Placer County, including the community of Penryn. To the west are the rapidly growing cities of Rocklin and Roseville, which are immediately adjacent to almost all of Loomis’s western corporate limits.

Loomis can be divided into three planning areas: the North Planning Area, the South Planning Area, and the Town Center. The project site is located in the southernmost portion of the Town Center (Figure 3.1-1). The Loomis Town Center is a 490-acre area that lies on both sides of I-80 and south of the Union Pacific Railroad tracks. The Town Center encompasses Loomis’s main commercial core along Taylor Road, several established and newer residential areas, and a substantial amount of vacant and underutilized land.

The North Planning Area, north of I-80, contains all existing commercial, office, and industrial development located within the town limits. This planning area also contains all medium-density and multifamily residential development, as well as larger areas designated for rural residential development. The South Planning Area, south of I-80, consists mostly of rural residential development.

The *Town of Loomis General Plan* (General Plan) includes goals and policies for the Town Center that are intended to create a focal point for personal shopping and services in the community. The General Plan policies encourage commercial uses along Sierra College Boulevard.

3.1.2 Regional Planning

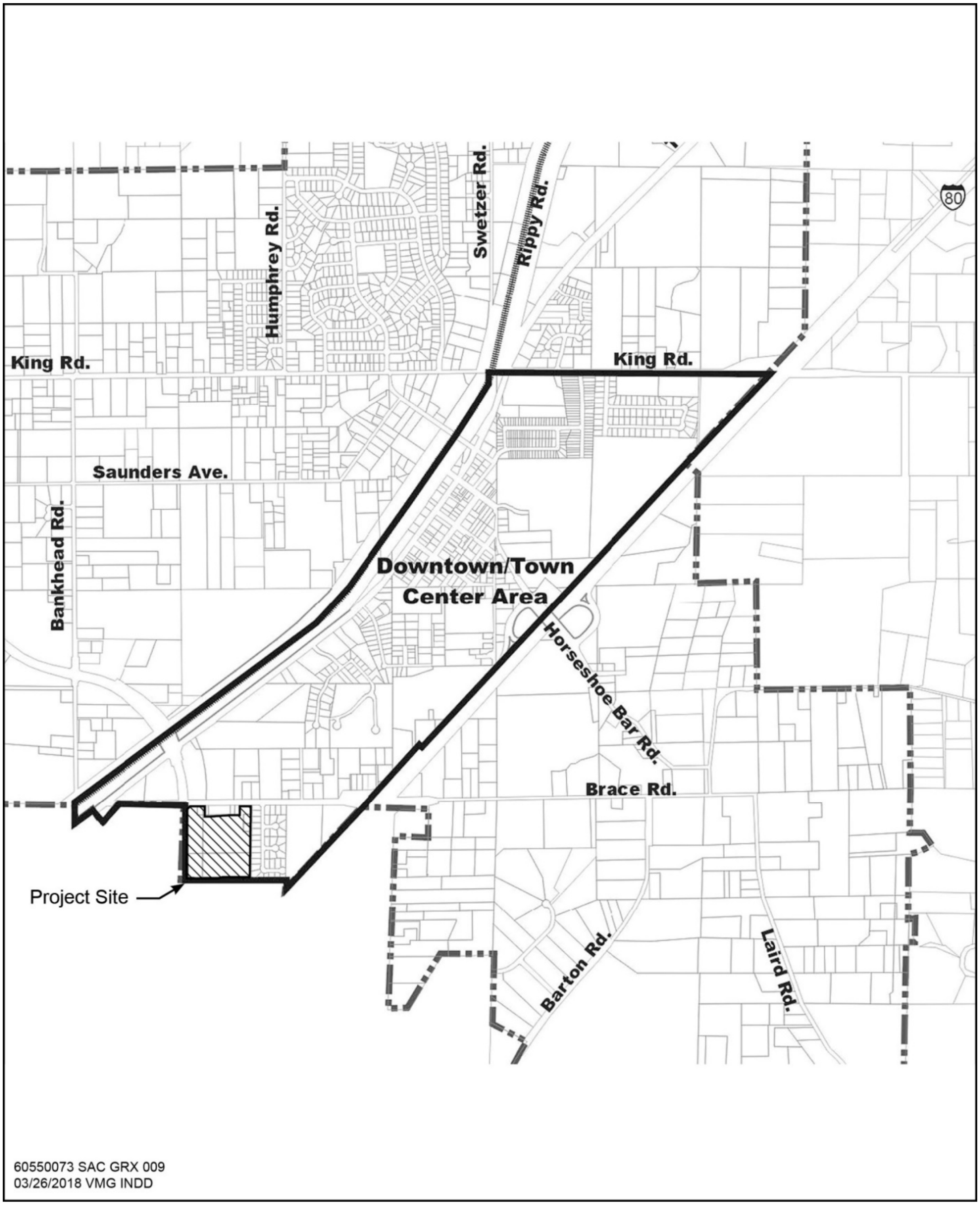
3.1.2.1 Metropolitan Transportation Plan/Sustainable Communities Strategy

The Sacramento Area Council of Governments (SACOG) is the metropolitan planning organization responsible for developing the federally required Metropolitan Transportation Plan (MTP) and the state-required Sustainable Communities Strategy (SCS) in coordination with the 22 cities, six counties (including Placer and El Dorado Counties), and other partner agencies in the greater Sacramento region. In 2016, SACOG approved the 2036 MTP/SCS, a regional transportation plan and land use strategy designed to support good growth patterns, including:

- increased housing and transportation options;
- inwardly focused growth and improved economic viability of rural areas;
- minimized direct and indirect transportation impacts on the environment;
- a transportation system that delivers cost-effective results and is feasible to construct and maintain;
- effective connections between people and jobs;
- improved opportunities for businesses and citizens to easily access goods, jobs, services, and housing; and
- real, viable choices for methods of travel.

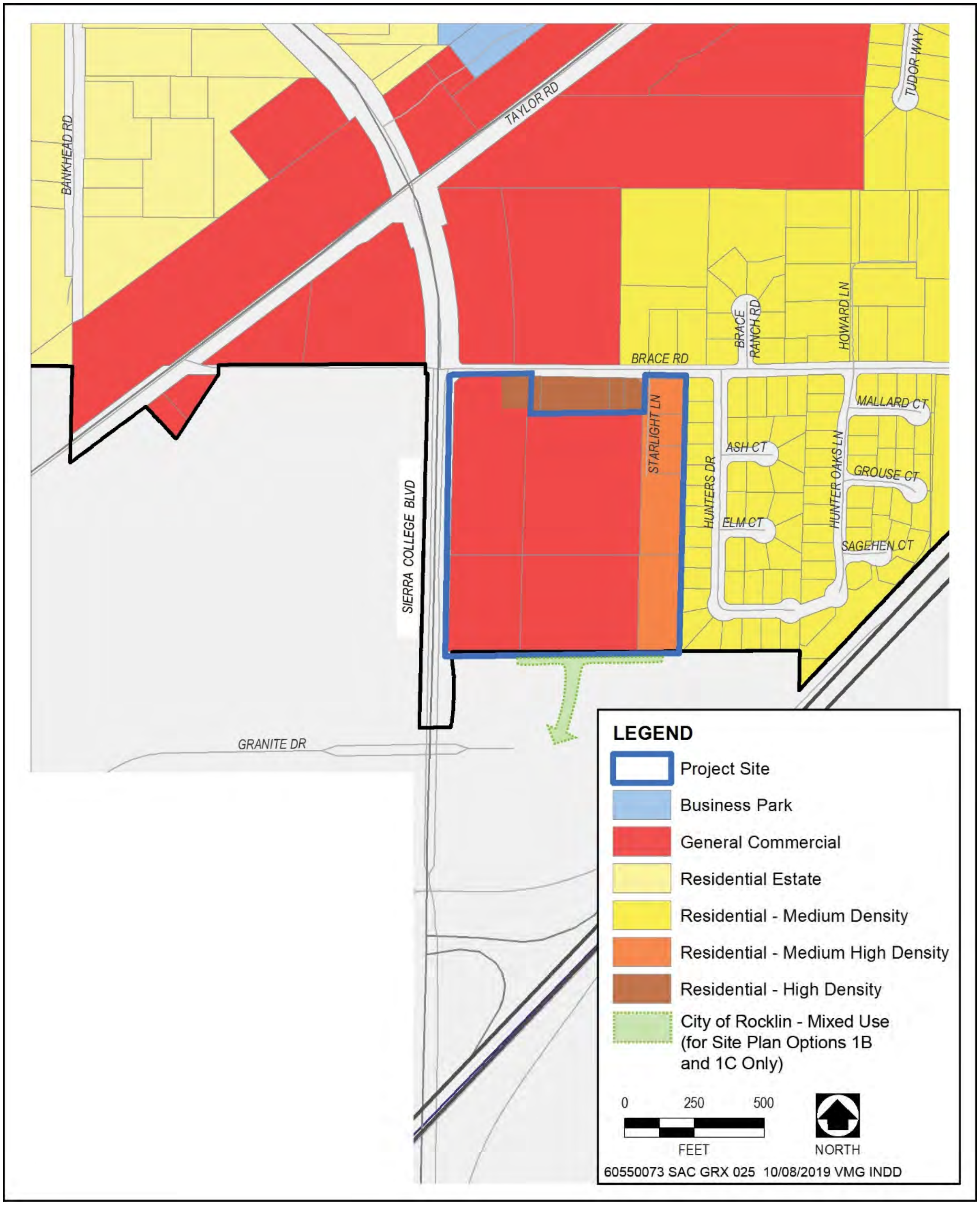
The MTP/SCS includes a land use strategy to improve mobility and reduce travel demand from passenger vehicles by prioritizing compact and transit-oriented development, reducing the growth in vehicle miles traveled and associated greenhouse gas emissions. The MTP/SCS also includes projections for the location of growth within the region, between jurisdictions and among housing place types (i.e., infill and greenfield development). According to the MTP/SCS, Loomis is a small, rural community that has experienced very little growth in the past 10 years despite its location in the fast-growing southwestern Placer County. The General Plan aims to maintain the Town’s rural character overall, with the *Loomis Town Center Master Plan* supporting some infill and redevelopment in the downtown area. Because of this, the MTP/SCS designates the Town Center area as a Center and Corridor Community, while characterizing the housing and industrial employment areas that border the Town Center as an Established Community and identifying the remaining portions of Loomis as a Rural Residential Community (see Figure 3.1-2).

MTP/SCS–identified growth of 1,629 new employees and 779 new housing units by 2036 is expected to happen slowly over the planning period in the Center and Corridor Community and Established Community. This growth is consistent with the uses included in the General Plan and current project applications, ranging from rural residential to mixed-use development with neighborhood-supporting commercial, office, and industrial employment. Employment growth will be concentrated along the I-80 corridor and in the Town Center area.



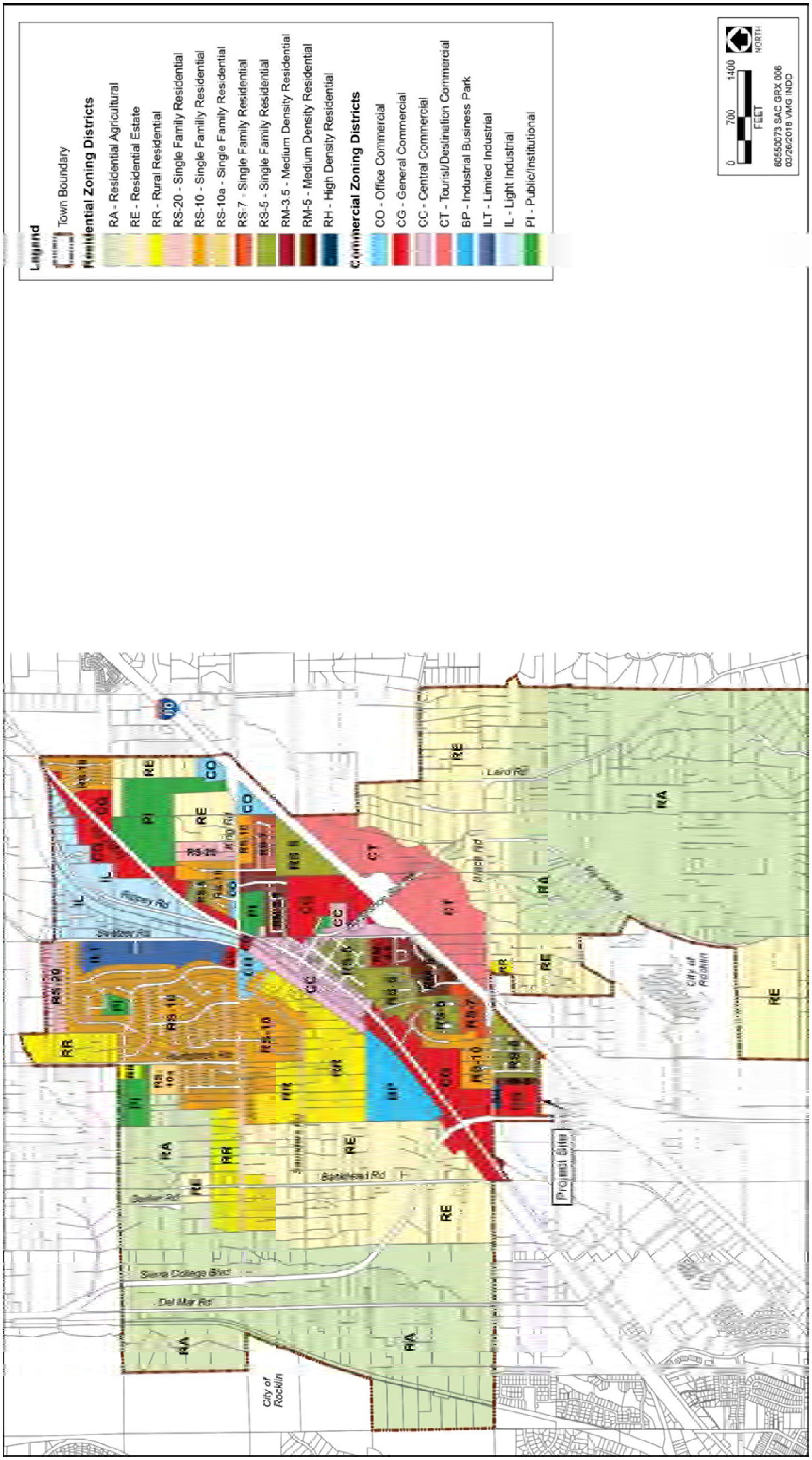
Source: Data compiled by AECOM in 2018

Figure 3.1-2. Downtown Town Center



Source: Data provided by Town of Loomis and compiled by AECOM in 2018

Figure 3.1-3. General Plan Land Use Designations



Source: Data provided by Town of Loomis and compiled by AECOM in 2018

Figure 3.1-4. Loomis Zoning Designation

3.2 Aesthetics

Aesthetic or visual resources are generally defined as both the natural and built features of the landscape that contribute to the experience and appreciation of the environment by the general public. This section describes the aesthetic and visual qualities of the project site and vicinity and evaluates the potential impacts of the proposed project related to aesthetics, including light and glare impacts. Cumulative impacts related to aesthetics are addressed in Chapter 4, "Cumulative Impacts."

3.2.1 Existing Conditions

3.2.1.1 Setting

The visual landscape of Loomis features rolling hills, oak woodlands, and grasslands that surround a more developed core. The landscape has a rural character, despite the more urbanized setting of nearby municipalities, including the cities of Rocklin and Roseville. Riparian corridors such as Secret Ravine enhance the visual setting as the wooded corridors break up the urban development pattern and provide vegetation and wildlife habitat. The project site is relatively flat, but trees and buildings obscure long-distance views.

The project site is located at the southern gateway to Loomis, just north of existing commercial centers oriented around the I-80/Sierra College Boulevard interchange (Figure 3.2-1). Sierra College Boulevard abuts the site's western boundary.

A mixture of developed properties and open space defines the visual character of the Sierra College Boulevard corridor in the vicinity of the project site. Directly north of the site is a multiple-family residential building, the Sierra Meadows Apartments (Figure 3.2-2). Homewood Lumber is located to the north, across Brace Road from the project site (Figure 3.2-3). Beyond Brace Road, obscured by trees, are railroad tracks that parallel Taylor Road (Figure 3.2-4). East of the project site is a single-family residential neighborhood (Figure 3.2-5). South of the site is a small commercial use with a gas station and fast food restaurant at the Sierra College Boulevard/I-80 interchange (Figure 3.2-6). West of the project site is a commercial office building set among otherwise vacant land (Figure 3.2-7).

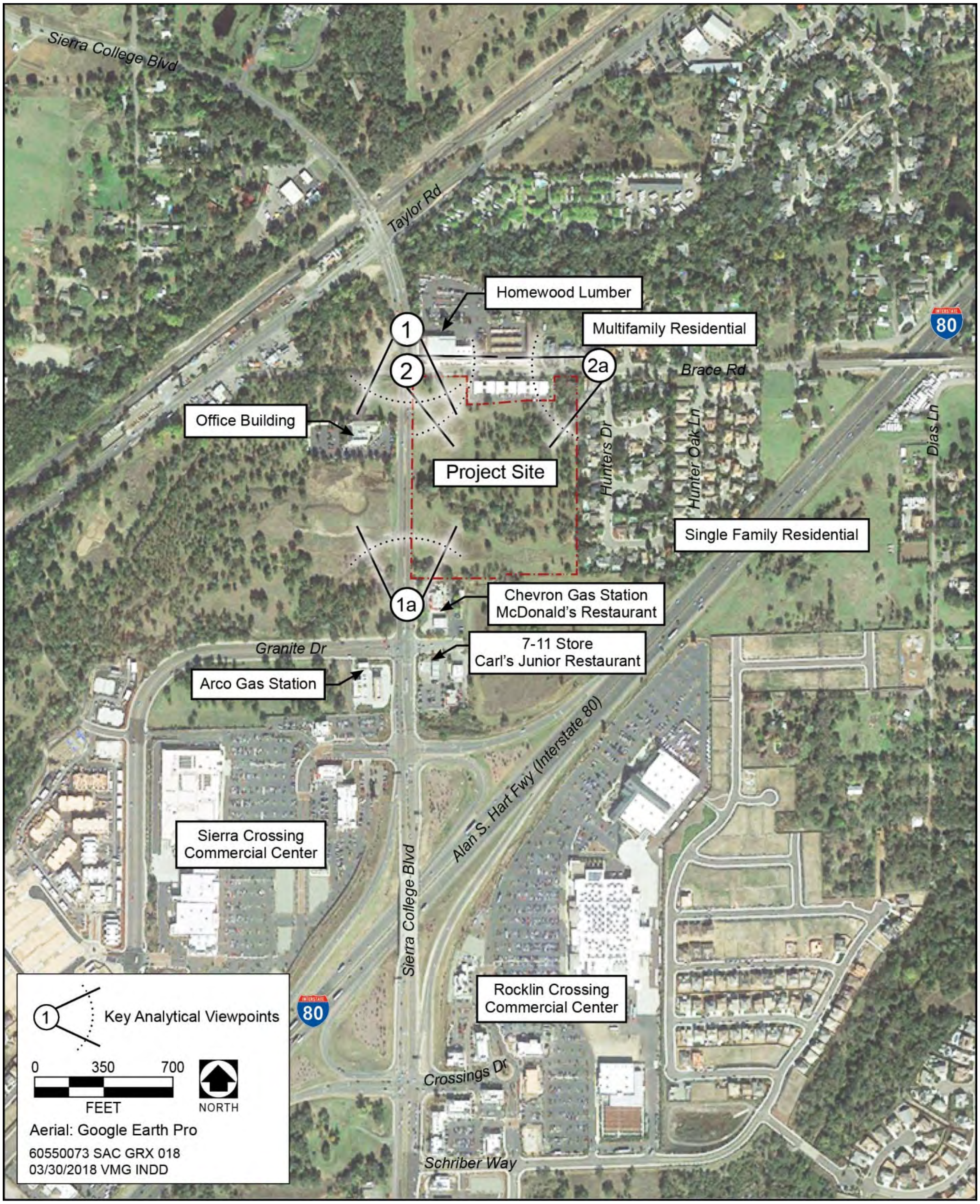
3.2.1.2 Views of the Project Site

Views of the project site are characterized by relatively flat topography and the presence of natural features including annual grassland (approximately 10 acres), valley oak woodland (approximately 8 acres), and valley freshwater marsh (approximately 0.2 acre). The density of on-site woodlands varies across the site. Most of the woodland contains oak trees, although a few scattered foothill pines are also visible (Salix 2016).

The Town considers the tree canopy provided by native and introduced tree species to be a significant visual resource of the Town that helps define the visual character of the community. See Section 3.2.2.3, "Regional and Local Plans, Policies, Regulations, and Ordinances," for detail on the Town's tree ordinance.

Viewers of the project site include the residents of the existing Sierra Meadows Apartments to the north and single-family residences to the east, and visitors to the Homewood Lumber lot and office building north and west of the project site, respectively. Additionally, pedestrians, cyclists, and motorists on Brace Road and Sierra College Boulevard have views of the site while traveling along adjacent roadway segments.

Two key viewpoints were identified for the analysis: Sierra College Boulevard and Brace Road. These two viewpoints were selected based on their usefulness in evaluating existing landscapes and potential impacts on visual resources with various levels of sensitivity, and from public locations with greatest visual exposure. The levels of visual quality, visual concern, and viewer exposure associated with each key viewpoint are identified and described below.



Source: Data from Google Earth Pro compiled by AECOM in 2018

Figure 3.2-1. Project Setting and Key Viewpoints

Figure 3.2-2. View along the Northern Site Boundary toward the Sierra Meadows Apartments

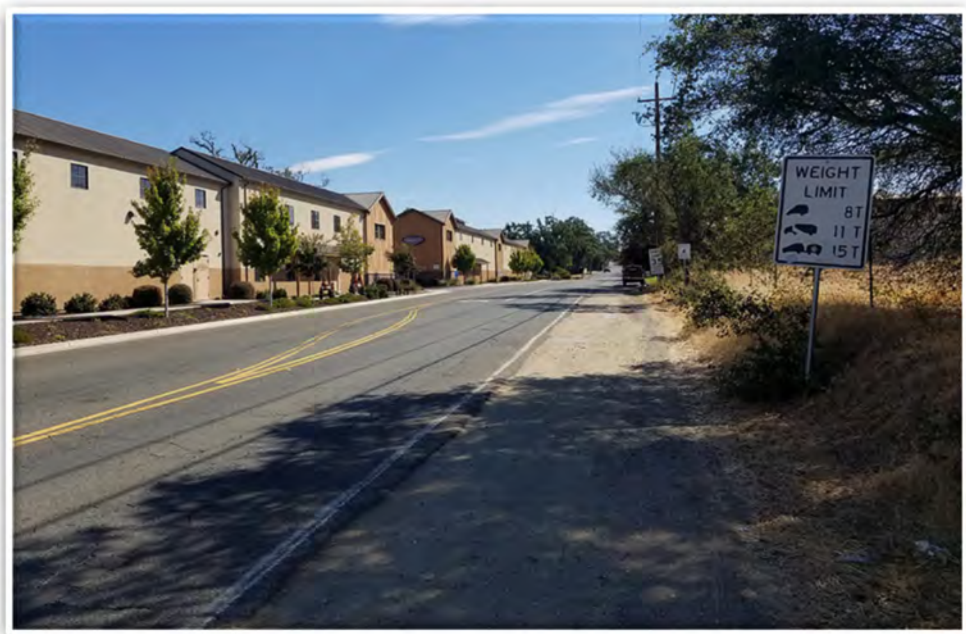


Figure 3.2-3. View along Brace Road, Looking East (Homewood Lumber on left, project site on right)

Figure 3.2-4. View toward the Eastern Property Boundary, Illustrating the Existing Tree Canopy

Figure 3.2-5. View of the Eastern Property Boundary, Illustrating Adjacent Residential Uses and Fencing

Figure 3.2-6. View of the Project Site as Observed along the Southern Boundary

Figure 3.2-7. View of the Fast Food Restaurant along the Southern Property Boundary

Figure 3.2-8. Visual Resources on and Adjacent to the Project Site, from Sierra College Boulevard: Key Viewpoints 1 and 1a (views south and northeast, respectively)

Key Viewpoint 1—Sierra College Boulevard

Key Viewpoint 1 represents views of the project site as observed by people traveling along Sierra College Boulevard (Figure 3.2-8). As shown, views of oak woodland and annual grassland are visible across the site. This viewpoint is accessible by all viewers, including motorists, pedestrians, and bicyclists, and has been selected to generally characterize the existing and proposed landscape that would be most easily viewed.

Visual Quality

High. Depending on the location and direction that observers travel along Sierra College Boulevard, views of the project site encompass an open landscape, much of which is natural in appearance, containing annual grassland and oak woodland. Sierra College Boulevard is not designated as a state scenic highway, nor does this roadway contain a scenic vista as designated by the *Town of Loomis General Plan* (General Plan).

Visual Concern

Moderate. Travelers on Sierra College Boulevard recognize this route as a major thoroughfare that connects with I-80. Motorists traveling north on this roadway past the project site have traveled past two commercial centers (Rocklin Crossing and Sierra Crossing) located at the Sierra College Boulevard interchange with I-80, while people traveling south see the structure and signage of the two existing centers in the distance. Retail stores, freeway signage, and wide fields of parking fronting along the roadway characterize those two commercial centers.

Viewer Exposure

High. Project site visibility for motorists on Sierra College Boulevard is high. No vegetation blocks views of the project site, so motorists traveling in either direction have extensive views across the site. The number of viewers is also high because of the location of the project site near an existing interchange with I-80 and the existing volume of vehicle trips along Sierra College Boulevard. However, the duration of the view is low to moderate, because motorists on Sierra College Boulevard travel at relatively high speeds, limiting their ability to view the project site as they focus on the roadway. Combining these four factors equally (visibility, distance zone, number of viewers, and duration of views) creates a high viewer exposure.

Key Viewpoint 2—Brace Road

Key Viewpoint 2 represents views of the project site as observed by people traveling along Brace Road (Figure 3.2-9). This viewpoint is accessible by all viewers, including motorists, pedestrians, and bicyclists, and has been selected to generally characterize the existing and proposed landscape that would be most easily viewed.

Visual Quality

Moderate. The Sierra Meadows Apartments buildings fronting Brace Road, combined with a mature stand of trees, shield direct views of the project site as observed along the roadway, except near the intersection with Sierra College Boulevard. Grassland and oak trees in the project site's interior are visible from the intersection of Brace Road and Sierra College Boulevard. Brace Road is not designated as a state scenic highway, nor does this roadway contain a scenic vista as designated by the General Plan.

Visual Concern

Low. Travelers along Brace Road have limited views of the project site. Views along Brace Road in this area are limited by the presence of the existing apartment buildings. Although grassland and trees on the site are visible from the intersection of Brace Road and Sierra College Boulevard, the presence of Homewood Lumber and the existing office building across Sierra College Boulevard provide visual indicators that the area is planned for commercial uses.

Viewer Exposure

Moderate. Project site visibility for motorists on Brace Road is moderate. The presence of existing structures and mature vegetation blocks direct views of the site for motorists traveling in either direction, except at the intersection of Brace Road and Sierra College Boulevard. The number of viewers is moderate, and the duration of the view is low, with the presence of intervening structures and vegetation limiting the site's visibility from most locations along this key vantage point. Combining these four factors equally (visibility, distance zone, number of viewers, and duration of views) creates a moderate viewer exposure.

Figure 3.2-9. Views of the Project Site, from Key Viewpoint 2 and 2a (Brace Road facing southeast and southwest, respectively)

3.2.1.3 Light and Glare

Because the project site is undeveloped, no on-site sources of ambient light or glare exist on the property. Light in the project area currently emanates from local residences and businesses as described above. Light sources include street lights and the lights of vehicles traveling on roads in the area.

Nighttime lighting is necessary to provide and maintain safe, secure, and attractive environments. Light that falls beyond the intended area of illumination is referred to as "light trespass." Types of light trespass include spillover light and glare. Spillover light, which is light that illuminates surfaces beyond the intended area, is typically caused by artificial lighting sources, such as from building security lighting, signs, parking lot lights, roadway lights, and stadium lights on playing fields. Spillover light can also come from headlights on vehicles using roadways in the vicinity of the project site. Glare is typically associated with high intensity light reflecting off objects with a smooth surface like mirrors or building with glass exterior. Spillover light can adversely affect light-sensitive uses, such as residential neighborhoods at nighttime. Because light dissipates as it moves farther from its source, the intensity of the lighting source is often increased to compensate for dissipating light, which can increase the amount of light that illuminates adjacent uses. The placement and type of light fixture determines the extent to which light will spill over onto adjacent properties and/or be visible from far away. Modern, energy-efficient fixtures that face downward, such as cutoff-type fixtures and shielded light fixtures, are less obtrusive than light fixtures that have been used in the past.

3.2.2 Regulatory Setting

3.2.2.1 Federal Plans, Policies, Regulations, and Laws

No federal plans, policies, regulations, or laws related to aesthetics are applicable to the proposed project.

3.2.2.2 State Plans, Policies, Regulations, and Laws

California Scenic Highway Program

California's 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. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260–263.

The California Department of Transportation defines a state scenic highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Suitability for designation as a state scenic highway is based on vividness, intactness, and unity (Caltrans 2008). None of the roadways adjacent to the project site or whose viewshed would be affected by the proposed project are scenic, as designated under this program.

3.2.2.3 Regional and Local Plans, Policies, Regulations, and Ordinances

Town of Loomis General Plan

According to the General Plan, "despite continuing growth, the wooded hills, grasslands, and agricultural areas surrounding the more urbanized core still retain a predominantly open, rural feeling. Loomis is still viewed as a pleasant small town, with commercial areas of pedestrian scale, and an historic architectural heritage" (Town of Loomis 2001). The General Plan does not identify any scenic vistas located in Loomis, although physical resources (tree canopy, rock outcroppings) are considered landscape features that contribute to community identity. The intent of the General Plan with respect to aesthetics is summarized in the relevant goals and policies listed below.

Land Use Goals

1. To preserve, maintain, and enhance creeks and riparian areas for both their aesthetic and wildlife habitat values.
3. To protect oak woodlands and significant stands of native trees.
4. To protect major landscape features within Loomis, including significant topography and rock outcroppings, open meadows and grazing areas.
6. To focus more intensive land uses near the downtown and freeway interchange, while maintaining the predominantly agricultural/rural character of Loomis outside the core area.

7. To attract new development and land uses that provide jobs to Town residents, provided that those uses are consistent with the Town's character.

8. To designate adequate land to accommodate new commercial and industrial development that is consistent with the Town's character.

Community Design and Character Goals

1. To ensure new development is designed to encourage neighborliness, a sense of belonging to the community, and community pride.

2. To maintain the distinct identity and small town neighborly character of Loomis through the appropriate design of new development, and by the preservation of open space and natural resources.

Community Design and Character Policies

1. The design of development should respect the key natural resources and existing quality development on each site, including ecological systems, vegetative communities, major trees, water courses, land forms, archaeological resources, and historically and architecturally important structures. Proposed project designs should identify and conserve special areas of high ecological sensitivity throughout the Town. Examples of resources to preserve include riparian corridors, wetlands, and oak woodlands.

2. Each development project should be designed to be consistent with the unique local context of Loomis.

   a. Design projects to fit their context in terms of building form, siting and massing.

   b. Design projects to be consistent with a site's natural features and surroundings.

4. Design each project at a human scale consistent with surrounding natural and built features.

   a. Project design should give special attention to scale in all parts of a project, including grading, massing, site design and building detailing.

   b. Project design should follow the rules of good proportion, where the mass of the building is balanced and the parts relate well to one another.

7. Respect and preserve natural resources within rural areas.

   a. Design buildings to blend into the landscape.

   b. Emphasize native vegetation and natural forms in site design and project landscaping.

8. Commercial development shall be subject to design criteria which visually integrate commercial development into the architectural heritage of the Town. Projects found inconsistent with Loomis' distinct character shall be denied or revised.

9. New lighting (including lighted signage) that is part of residential, commercial, industrial or recreational development shall be oriented away from sensitive uses, and shielded to the extent possible to minimize spillover light and glare. Lighting plans shall be required for all proposed commercial and industrial development prior to issuance of building permits.

Loomis Municipal Code

Chapter 13.30, "General Property Development and Use Standards"

Section 13.30 of the Loomis Municipal Code defines various structural and development standards regarding structural, fencing, and lighting height, mechanical equipment placement and screening, setbacks, material storage, and other development features. For example, Section 13.30.050 defines allowable structural heights.

Section 13.30.080 of the Loomis Municipal Code defines allowable heights and intensity for outdoor lighting, and provides light design guidelines. Specifically, lighting should be limited in height and directed, shielded, or recessed to reduce glare and reflections.

Section 13.30.100 of the Municipal Code establishes standards for the screening and separation of adjoining residential and nonresidential land uses, equipment and outdoor storage areas, and surface parking areas.

Specifically, commercial or industrial land uses on sites adjacent to residential uses must provide decorative screening of plant materials or a solid wall or masonry.

Chapter 13.34, "Landscaping Standards"

This chapter of the Municipal Code establishes requirements for landscaping and setbacks in all new development. As described in the code, landscaping must be provided in all areas of a site subject to development with structures, grading, or the removal of natural vegetation, including setbacks, unused areas, and parking areas as applicable. The Municipal Code also provides landscape standards to achieve aesthetic objectives and desirable microclimates, and to minimize water and energy demand and maintenance regulations so that site landscaping is maintained in a healthful and thriving condition at all times. All new projects must have a landscape plan reviewed and approved by the director before the start of grading or other construction, and before the issuance of a building permit.

Chapter 13.36, "Parking and Loading"

Chapter 13.36 provides standards for parking design, access, driveways, loading area design and screening, landscaping, and lighting.

Chapter 13.38, "Signs"

Chapter 13.38 provides standards for signage, including the number, size, type, materials, lighting, and placement of signage on commercial structures.

Chapter 13.54, "Tree Conservation"

The Loomis Municipal Code states that the tree canopy of both native and introduced species contributes significantly to the rural character of the town and offers residents environmental, social, financial (property values), and aesthetic benefits. The goal of the Tree Preservation Ordinance is to promote a healthy tree canopy needed for community enjoyment and vibrant, functioning ecosystems. The ordinance protects any native oak tree with a trunk that is a minimum of 6 inches in diameter as measured at breast height for interior live oak, valley oak, and oracle oak and 4 inches dbh for blue oak; any oak tree with multiple trunks that have an aggregate dbh of at least 10 inches, or any heritage tree. "Heritage tree" means any tree identified by Town Council resolution. It is unlawful to remove any protected tree or to perform any activity that would interfere with the condition of a protected tree without a tree permit issued by the Town Manager.

Section 13.62.040, "Design Review"

Section 13.62.040 of the Loomis Municipal Code includes the process for design review. Design review is intended to ensure that the design of proposed development and new land uses assists in maintaining and enhancing the small-town, historic, and rural character of the community. Design review approval is required for all proposed nonresidential development. The review authority may require any reasonable conditions of approval to ensure that a proposed project would comply with the findings of the design review.

Town of Loomis Community Design Guidelines (2002)

The Town adopted Design Guidelines in 2002 to provide a framework and guidance for proposed development or renovation projects within the Town. Since there is no singular style, element, or theme characterizing the Town, the Design Guidelines address the distinct commercial districts within the Town and the qualities characteristic of each of those districts. The proposed project is located just outside, but adjacent to District 5 Sierra College and Taylor Road. The Design Guidelines address walkways and setbacks, landscaping, building design, architectural guidelines, commercial design, site coverage, circulation and access, fencing, lighting, signage, and artwork.

3.2.3 Impact Analysis

3.2.3.1 Methodology

To analyze potential impacts of the proposed project on aesthetics, a description of the project site and the surrounding area was derived from site visits and photographs. The General Plan and Loomis Municipal Code were reviewed to determine what visual elements have been deemed valuable by the community, and which Town regulations are applicable to the project.

The following impact analysis focuses on the manner in which development could alter the visual elements or features that exist on or near the project site. The determination of when changes to the visual environment become a substantial adverse effect is based on the following primary factors:

- the existing scenic quality of an area;
- the level of viewer exposure and concern regarding visual change; and
- the level of actual visual change caused by the project as seen by a given viewer group.

The overall visual sensitivity of each location was first established based on existing visual quality, viewer exposure, and viewer concern. These factors were then considered together with the level of expected visual change or contrast and significance.

Visual change is an overall measure of the alteration or change in basic visual attributes, such as form, line, color, and texture, caused by a project. Thus, a substantial adverse effect can occur when a project results in high levels of visual change or obstruction of scenic views by sensitive receptors. However, any assessment of visual quality is subjective and depends on perspective and opinions regarding whether an alteration of the visual character may be adverse or beneficial.

Two key viewpoints (shown in Figure 3.2-1) were selected as representative of the most critical locations from which the project site would be seen from public viewing audience, once built. These viewpoints are selected based on their usefulness in evaluating existing landscapes and potential impacts on visual resources with various levels of sensitivity, in different landscape types and terrain, and from locations with greatest visual exposure.

3.2.3.2 Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, the proposed project would result in a significant impact related to aesthetics if it would:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- in non-urbanized areas, 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? or
- create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

3.2.3.3 Topics Not Addressed Further

The significance thresholds identified above related to scenic vistas and state scenic highways are not applicable to the proposed project because Town planning documents identify neither the project site nor adjacent areas as scenic corridors or vistas. In addition, no scenic highways as defined by Caltrans are located in the vicinity of the project site and development of the proposed project would not affect scenic resources visible from a state scenic highway. Therefore, these topics are not considered further in the environmental impact analysis below.

3.2.3.4 Environmental Impacts and Mitigation Measures

Impact 3.2-1: Degradation of Existing Visual Character of the Project Site and Surroundings. *Loomis is a non-urbanized area, so the appropriate threshold of significance is whether the project would substantially degrade the existing visual character or quality of public views of the site and its surrounding. By replacing oak trees and views of woodland and grassland habitat with a warehouse retail store and fueling station, the proposed project would affect views and change the visual character of the project site. Incorporation of development and use standards and landscaping standards, consistent with the Loomis Municipal Code, as well as design review of the proposed project would reduce impacts on the visual character of the project site. However, the coverage pattern for oak woodlands makes complete avoidance of impacts on oak trees infeasible because they are dispersed widely across the property. A final landscape plan that incorporates Town landscape standards and Tree Ordinance requirements has been prepared which identifies the plant type, size, and location as a means to achieve aesthetic objectives consistent with the Loomis Municipal Code. Despite replanting of trees and use of landscaping, the visual change from a vacant site covered with oak woodland and grassland to a commercial development would alter the visual character of the* *project site, potentially degrade the visual character of the project area, and introduce elements that would potentially detract from the visual character of the site and surroundings. This impact would be* ***potentially significant****.*

Construction Impacts

The proposed project would be constructed in a single phase over a period of 6 months. As described in detail in Chapter 2, "Project Description," of this EIR, preparation for construction of the project would begin with the demolition of an existing building foundations and grubbing to remove vegetation. Abandoned utilities in the proposed development areas would be removed and the excavation(s) would be backfilled with engineered fill. Soil on portions of the property would be over excavated and recompacted resulting in extensive disturbance to natural topography.

Temporary visual impacts would result from the presence of construction equipment in work zones and storage of material and earth necessary to carry out this work. These effects would be temporary and would vary in intensity throughout the construction period, as construction would be staged and equipment would be moved around the site. This impact would be **less than significant**.

Operational Impacts

Site development under all three site options would change the visual character from vacant land containing oak woodland intermixed with annual grassland to a developed condition with a warehouse retail store, parking field, and a fueling station. The warehouse would be located near the northern boundary of the project site, while the fueling station would be located on the southwest corner of the project site. The warehouse structure would be up to 33 feet tall and would provide up to approximately 155,000 square feet of floor space dedicated to retail goods and services.

Under all three Project Driveway Access Options, the proposed warehouse would feature a variety of massing techniques and material types (Figure 3.2-10). The building architecture would incorporate varying parapet cap heights and would use metal panels, concrete masonry blocks, and landscaping to break the long horizontal and vertical planes associated with typical warehouse structures. Figures 3.2-11, 3.2-12, 3.2-13, and 3.2-14 provide visual simulations of the building architecture that illustrate the use of projections to break the building's horizontal plane. The building's color palette would include blues, browns, and grays, which would be compatible with surrounding development and the rural image considered desirable by the Town of Loomis. The fueling station would include a canopy over the fuel islands and a controller enclosure that would be located on the southern portion of the station's landscape planter (Figure 3.2-15).

Building signage would include the Costco logo in red and blue. The signage would be scaled to the mass of the building elevation and would use externally illuminated reverse pan channel letters; the fueling station signage would also be externally illuminated. The regulations established by the Town in Chapter 13.38 (Signs) of the Loomis Municipal Code are intended to appropriately limit the placement, type, size, and number of signs allowed within the town, and to require the proper maintenance of signs. Compliance with related development standards is discussed later in this analysis.

The proposed project's landscape design is intended to create a visual image compatible with the Town character (Figure 3.2-16). As shown, the site plan incorporates perimeter landscape beds and drainage bioswales that would vary in width, ranging from a maximum of 33 to 36 feet along the eastern perimeter of the project site to approximately 20 feet along the northern, southern and western perimeters. Landscape islands would be provided in the parking field at a ratio of one island for every five lineal parking spaces. The plant palette includes a mix of drought-tolerant shrubs and grasses, and a variety of shade trees that would be located in planters dispersed throughout the parking field and along the site perimeter.

All new development in Loomis is subject to development standards to ensure that the proposed use is compatible with existing and future development on neighboring properties, and produces an environment of stable and desirable character, consistent with the General Plan. Review of a site plan to determine whether the design complies with relevant sections of the Loomis Municipal Code is part of the design review process.

Table 3.2-1 provides a comparison of whether and how the proposed project complies with relevant development standards outlined in the Loomis Municipal Code. Project compliance with the Town's development standards would ensure that the building form, siting, and massing would fit in with the local context and would reduce the potential for the project to substantially degrade the visual character or quality of the site.

Viewers of the project site would include residents, office workers, and travelers. Although there are exceptions, such as on a scenic roadway, residents tend to be more sensitive to changes in visual character than office workers, who mainly stay inside, and travelers, who may view the project site only temporarily. Residents in the apartments north of the project site along Brace Road would see the proposed building but a mature stand of trees shields views of the site. Most residents east of the project site would not see the proposed building because of the preservation of the existing, mature tree canopy found along the rear property boundary, inclusion of masonry privacy wall along the perimeter of site, and incorporation of a landscape setback (Figure 3.2-16, cross section E). Motorists traveling in either direction on I-80 would not have prominent views of the project site because of intervening trees and development and because the speed of travel would require motorists to focus on the roadway. The focus of the analysis is on public views as observed from the two key viewpoints described in Section 3.2.1.2, “Views of the Project Site.”

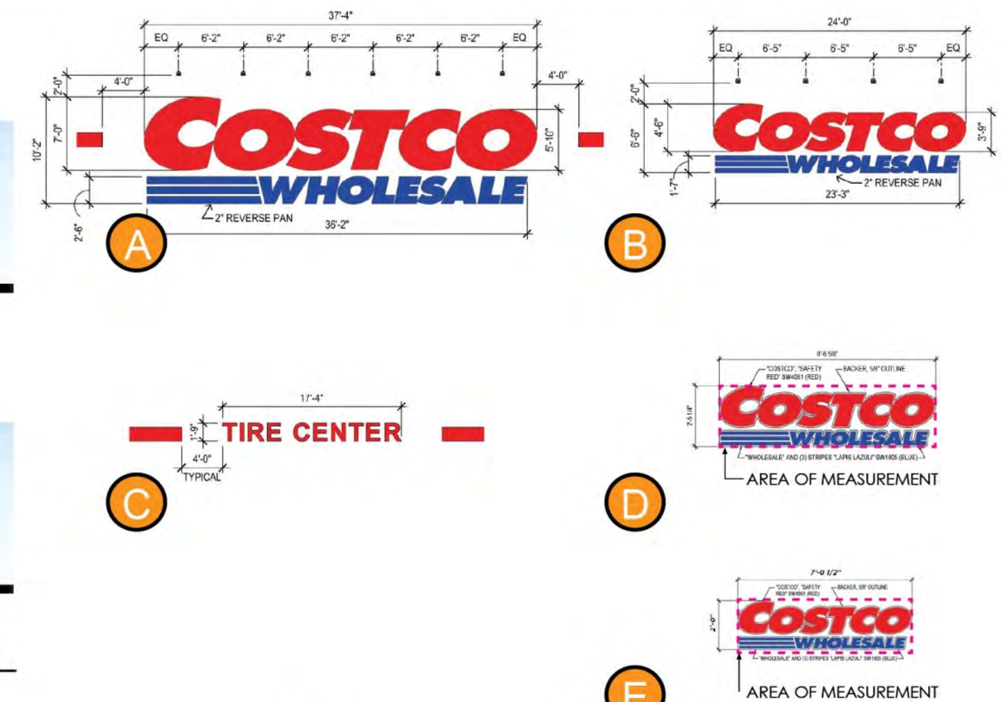
Key Viewpoint 1: Pedestrians, cyclists, and motorists traveling along Sierra College Boulevard and occupants of the office building across the roadway would have views of the proposed project. Views of the warehouse structure when traveling north on Sierra College Boulevard would become obscured as one travels closer to and past the site, because the grade midpoint along the project site is at an elevation of 323.5 feet while the finish grade of the project would be 330 feet. Separating the viewer from the project site would be a gravity block wall, varying in height up to 8 feet, supporting a landscaped, manufactured slope (see cross section G in Figure 3.2-16). A variety of 24-inch box trees, consisting of oaks, pistache, and crape myrtles, would be planted along the slope every 5 feet on center and shrubs and ground cover would be planted among the trees to further obscure views of the building.

The project would be more visible to motorists traveling southbound because the viewing parties would be farther away from the site and views of the warehouse would not be obscured by the retaining wall, although landscaping would provide a contrast and help maintain the tree canopy currently visible on the property. Views of the project by southbound travelers would be consistent with views of the existing retail centers located in the background around the interchange with I-80.

As discussed in Section 3.1, “Regional Environmental Setting,” of this EIR, the project site is located in the Town Center planning area that encompasses Loomis’s main commercial core. Placement at this location is consistent with goals and policies of the *Town of Loomis General Plan* that are intended to focus more intensive land uses near the downtown and freeway interchange to maintain a more rural feel for the outlying portions of the town. The proposed project is visually consistent with existing patterns of growth, as well as development trends along the I-80 corridor. Any change in physical character, structural prominence, or views along this roadway segment associated with the proposed project would be similar in nature and scale to that found immediately to the south of the site at the intersection with I-80 where the Rocklin and Sierra Crossing Commercial centers are found (see Figure 3.2-1).

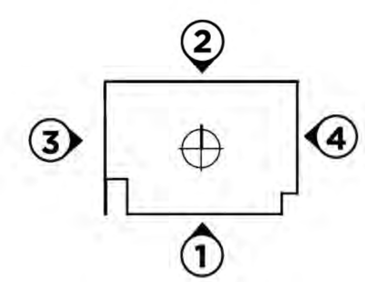
The change in visual character would be reduced in intensity through retention of the existing oak canopy where feasible and replacement of oaks lost to development, consistent with Chapter 13.54, “Tree Conservation,” of the Loomis Municipal Code and with Community Design and Character policies of the *Town of Loomis General Plan* that call for preservation of natural resources. It is not feasible to preserve all oak trees on-site because the pattern of coverage across the site and compliance with development standards for building setbacks and parking requirements preclude protecting all trees. The landscape plan proposes to replace protected trees removed from the property with 63 24” box Interior Live Oaks and 37 24” box Valley Oaks, to be planted around the perimeter landscape setbacks and within parking islands on the site (see mitigation in Section 3.4, “Biological Resources,” of this EIR).

Chapter 13.34, “Landscape Standards,” of the Loomis Municipal Code establishes requirements for landscaping and setbacks in all new development. As described in the code, landscaping must be provided in all areas of a site subject to development with structures, grading, or the removal of natural vegetation, including setbacks, unused areas, and parking areas as applicable. Native grasses and shrubs would be planted in the setbacks and storm water treatment planters consistent with policies that emphasize native vegetation and natural forms in site design and project landscaping (Figure 3.2-16).



4 EAST ELEVATION
SCALE: 1/16" - 1'-0"

	SIGN	SIZE	AREA SF EACH	QUANTITY	TOTAL SIGN SF
A	COSTCO WHOLESALE	7'-0" C	381 SF	3	1143 SF
B	COSTCO WHOLESALE	4'-6" C	158 SF	1	158 SF
C	TIRE CENTER	1'-9" T	31 SF	1	31 SF
D	COSTCO WHOLESALE *@FUEL FACILITY (LONG ELEVATION)*	1'-9" C	21 SF	2	42 SF
E	COSTCO WHOLESALE *@FUEL FACILITY (SHORT ELEVATION)*	1'-4" C	15 SF	2	30 SF
				TOTAL SF	1404 SF



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Source: Data provided by MG2 and adapted by AECOM in 2019

Figure 3.2-10. Warehouse Design

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Source: Data provided by MG2 and adapted by AECOM in 2019

Figure 3.2-11. Entry

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Source: Data provided by MG2 and adapted by AECOM in 2019

Figure 3.2-12. Corner Facade

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Source: Data provided by MG2 and adapted by AECOM in 2019

Figure 3.2-13. Loading Dock

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Source: Data provided by MG2 and adapted by AECOM in 2019

Figure 3.2-14. Tire Center Facade

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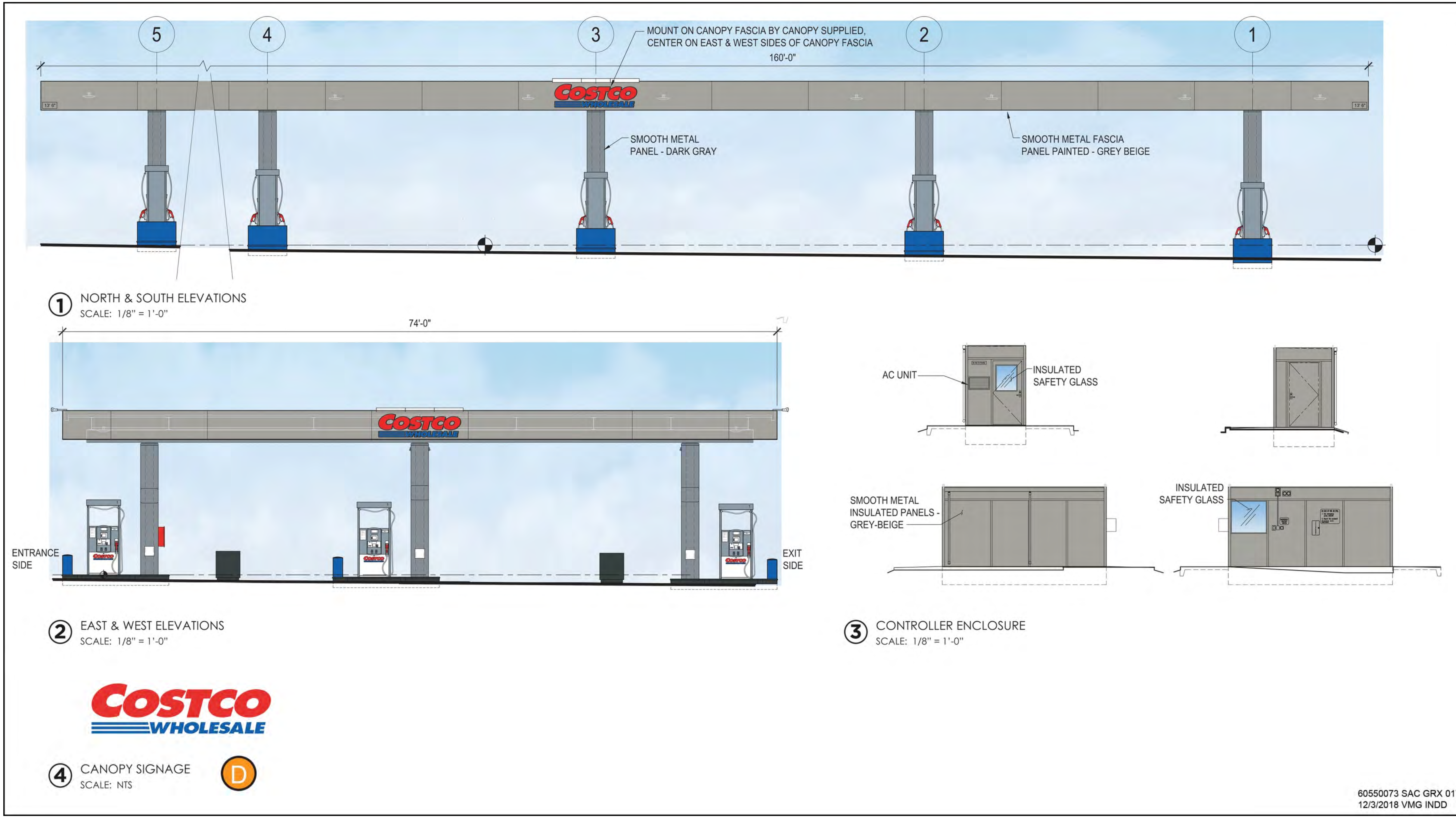

Source: Data provided by MG2 and adapted by AECOM in 2019

Figure 3.2-15. Fueling Station Design

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PRELIMINARY PLANT LEGEND:

Symbols	Botanical / Common Name	Size	WUCOLS	Comments
	Trees			
	Existing trees to remain			
	Lagerstroemia hyb. 'Dynamite' / Dynamite (Red) Crape Myrtle	24" box	L	Multi-branch, matched in size.
	Lagerstroemia hyb. 'Muskogee' / Muskogee (Lavender) Crape Myrtle	24" box	L	Matched Standards.
	Pistacia chinensis 'Keith Davey' / Keith Davey Pistache	24" box	L	Matched Standards.
	Quercus virginiana 'Heritage' / Heritage Southern Live Oak	24" box	M	Matched Standards.
	Quercus wislizenii/ Interior Live Oak	24" box	L	Matched Standards.
	Quercus Cobata / Valley Oak	24" box	L	Matched Standards.
	Shrubs			
	Callistemon viminalis 'Little John' / Little John Bottlebrush	5 gal.	L	
	Elaeagnus pungens / Silverberry	15 gal.	L	
	Frangula californica 'Eve Case' / Eve Case Coffeeberry	5 gal.	L	CA Native
	Grevillea lavandulacea 'Penola'/ Penola Lavender Grevillea	5 gal.	L	
	Rhus ovata/ Sugar Bush	15 gal.	L	CA Native
	Rosa meidrifora 'Coral Drift' / Coral Drift Shrub Rose	5 gal.	L/M	
	Rosa meigalpio 'Red Drift' / Red Drift Shrub Rose	5 gal.	L/M	
	Salvia leucantha 'Santa Barbara' Santa Barbara Sage	5 gal.	L	
	Perennials			
	Dianella revoluta 'Little Rev' / Little Rev Dianella	4" pot	L	
	Dietes vegeta 'Varigatum' / Variegated Fortnight Lily	5 gal.	L	
	Lomandra longifolia 'Breeze' / Breeze Mat Rush	1 gal.	L	
	Ornamental Grasses			
	Festuca mairei/ Atlas Fescue	1 gal.	L	
	Festuca idahoensis 'Siskiyou Blue'/ Siskiyou Blue Grass	1 gal.	L	CA Native
	Pennisetum orientale / Oriental Fountain Grass	1 gal.	L	
	Groundcovers			
	Arctostaphylos 'Pacific Mist'/ Pacific Mist Arctostaphylos	1 gal.	L	CA Native
	Cotoneaster dammeri 'Lowfast' / Lowfast Bearberry	1 gal.	L	
	Lantana hyb. 'Spreading Sunset' / Red-Orange Lantana	1 gal.	L	
	Rosmarinus officinalis 'Prostratus'/ Prostrate Rosemary	1 gal.	L	
	Storm Water Treatment Planter			
	Chondropetalum tectorum/ Cape Rush	1 gal.	L	
	Iris douglasiana / Douglas Iris	1 gal.	L	CA Native
	Juncus patens 'Occidental Blue' / Occidental Blue California Gray Rush	1 gal.	L	CA Native
	Lomandra longifolia 'Breeze'/ Breeze Dwarf Mat Rush	1 gal.	L	
	Muhlenbergia rigens / Deer Grass Deer Grass	1 gal.	L	CA Native

LANDSCAPE DATA:

Site Coverage
Total Costco Site Area: 17.34 AC (+-755,498 s.f.)

Parking Lot Interior Landscape
Interior Landscape Required: 22,997 SF [10% of gross area of parking lot (229,976 sf)]
Interior Landscape Provided: 24,110 SF

Tree Wells
Required: Provide one (1) tree for every 5 parking spaces
Provided: Provided one (1) tree for every 5 parking spaces

Street Frontage
Required: Provide at minimum of one (1) tree for every 30' of frontage
Provided: 23 Quercus wislizenii / Interior Live Oak - 24" box at 30'-0" o.c.
2 Heritage Southern Live Oak - 24" box at 30'-0" o.c.
Total Provided: 25 Frontage Trees

IRRIGATION DESIGN STATEMENT:

The irrigation system will be a water efficient low flow, point souce system designed to provide adequate watering to support palnt growth and insure deeply rooted plant material while avoiding excess water application. The system will be programmable, allowing operation during late night and/ or early morning hours, with multiple start times and cycles. The system will interface with a weater based sensor that will adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site will be selected on the basis of durability and ease of maintenance. Landscape irrigation will comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO).

WUCOLS LEGEND:

(Water Usage Classification of Landscape Species)

L Low Water Use
M Moderate Water Use

0 50 100
FEET
NORTH

60550073 SAC GRX 014
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Source: Data provided by MG2 and adapted by AECOM in 2019

Figure 3.2-16. Landscape Plan

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Table 3.2-1. Compliance with Town Development Standards

Development Standard	Required	Provided
General Property Development and Use Standards		
13.26.040 Commercial District General Development Standards *Minimum Lot Size*	Commercial General Zone 5,000 square feet	**Consistent:** The project design meets development standards for commercial use. At approximately 17 acres in size (757,123 sq. ft.), the project site exceeds the 5,000 sq. ft. minimum lot size requirement.
Building Setbacks		**Consistent:** The project design meets and exceeds the development standards for building setbacks outlined by the code.
	15-foot minimum in front	The front setback along Sierra College Boulevard is approximately 66 feet from the curb edge to the warehouse building. Included in the setback is 20 feet of landscaped parkway and a 30-foot-wide driveway aisle.
	15-foot rear when abutting R zone, otherwise no minimum	The rear setback would be 33 feet in width as measured from the edge of the rear residential property line to the parking field. The proposed setback incorporates existing trees and adds a retaining wall, bioswale, and proposed landscaping.
	15-foot minimum alongside area abutting R zone	Setbacks on the north side of the project include a 60-foot setback as measured from the edge of the proposed warehouse to the rear boundary of the existing apartment complex. Included in this setback is a 20-foot landscaped parkway with bioretention swale and 30-foot drive aisle for emergency vehicles.
	15 feet at side corner	The side-yard setback along the southern perimeter includes a 20-foot landscaped strip.
Maximum Floor Area Ratio	0.60 FAR	**Consistent:** The proposed warehouse building contains up to approximately 155,000 sq. ft. of floor space on a site that totals 757,123 sq. ft. This equates to a 0.20 FAR.
Lot Coverage	Range between 25 percent to 60 percent (When expressed as a range, the review authority may limit the maximum coverage allowed for a specific project to less than the maximum of the range, as determined appropriate for the site and project)	**Consistent:** The proposed warehouse would be less than the maximum range for lot coverage. The proposed warehouse structure would cover 157,349 sq. ft. of land surface according to the preliminary stormwater quality control plan, which equates to lot coverage of approximately 21 percent.
Building Height	35 feet or two stories (max)	**Consistent:** The proposed warehouse would range in height from 27 to 33 feet.
13.30.040 Fences and Walls		
A. Height Limitations	Each fence, wall, hedge, and berm otherwise allowed shall comply with the height limitations shown in Table 3-1. See also Figure 3-1. A fence or wall with a height greater than six feet and a length greater than fifty feet shall require design review in compliance with Section 13.62.040, except for open and wire fencing in the RA, RE, and RR zoning districts.	**Consistent:** The project design includes retaining walls of various sizes along the property boundary where necessary to separate adjoining uses, define the entry, limit access, and support graded slopes. A solid wall 8 feet in height is proposed along the eastern property boundary to serve as privacy shield. A 13-foot noise wall is proposed along the northern property boundary along the truck delivery road to All grading fencing would be subject to design review as outlined in Section 13.62.040 of the code.
D. Specific Requirements		
1. Differing Land Uses	Fencing required between differing land uses. Within side and rear yard setbacks a solid wall or fence of 6 feet is required; berms are allowed but cannot exceed 3 feet in height.	**Consistent:** See discussion A, above.
3. Outdoor Equipment, Storage and Work Area	Outdoor equipment, Storage and Work Areas located adjacent to residential uses must be screened from view in compliance with Section 13.30.100.	**Consistent:** There would be no outdoor mechanical equipment with the exception of two compactors located outside the loading dock on the west side of the building that would be screened by landscaping at the edge of the property along Sierra College Boulevard. All mechanical equipment would be located within the warehouse.

Table 3.2-1. Compliance with Town Development Standards

Development Standard	Required	Provided
Chapter 13.30.080 Outdoor Lighting	Outdoor lighting on private property shall comply with the following requirements:	**Consistent.**
A.	Outdoor light fixtures shall be limited to a maximum height of twenty feet or the height of the nearest building, whichever is less.	The proposed parking field would be illuminated with downward-pointing lights mounted on 32-foot tall poles in the interior of the lot, but that are 28 feet tall adjacent to the existing residential area, neither of which is taller than the proposed warehouse building. Lighting fixtures would be "shoebox" style designed to avoid light spill on adjacent land.
B.	Lighting shall be energy -efficient and shielded or recessed so that: 1. The light source is not visible from off the site; and 2. Glare and reflections are confined to the maximum extent feasible within the boundaries of the site. Each light fixture shall be directed downward and away from adjoining properties and public rights-of-way, so that no light causes areas off the site to be directly illuminated.	The project would utilize LED fixtures that that provide a higher level of perceived brightness with less energy than other lamps such as the high-pressure sodium type. Lights in the parking field would be timer controlled to promote energy efficiency. All lighting fixtures would be shielded to limit light intrusion and minimize glare. All lighting would incorporate the use of cutoff lenses to keep light from crossing the property boundary.
C.	No lighting on private property shall produce an illumination level greater than one footcandle on any property within a residential zoning district except on the site of the light source	All lighting fixtures would be shielded to limit light intrusion and minimize glare. All lighting would incorporate the use of cutoff lenses to keep light from crossing the property boundary.
D.	No permanently installed lighting shall blink, flash, or be of unusually high intensity or brightness, as determined by the director	Signs would not include blinking or flashing lights.
Chapter 13.30.110		**Consistent:** The proposed project would be consistent with the following design standards related to screening between different land uses:
A. Screening Between Different Land Uses.	A commercial or industrial land use proposed on a site adjacent to a residential zoning district shall provide screening at the parcel boundary as follows. Other nonresidential uses adjacent to a residential use may also be required by the director to comply with these requirements.	The project proposes a variety of screening methods into the site plan consistent with the intent of this code section. Building setbacks exceed the minimum required by code and would be landscaped with a variety of ground cover, shrubs, and trees. Refer to the discussion of setbacks proposed for the project under Chapter 13.30 of the code.
	1. The screen shall consist of plant materials and a solid wall of masonry or similar durable material, a minimum of six feet in height.	A solid wall 8 feet tall would be constructed along the eastern property boundary while a 13 foot noise wall is planned along the northern boundary Retaining walls are used to support graded slopes and are placed only at certain segments along the property perimeter where needed to support the graded pad. The height of the wall varies in order to avoid the look of a long, unbroken flat plane. The plan incorporates vegetated bioswales planted with native species into the perimeter landscape setback, which provides visual interest. See the write-up under Chapter 13.34 for a description of the proposed landscape design.
	2. The maximum height of the wall shall comply with the provisions of Section13.30.040.	See discussion under item A.(1).

Table 3.2-1. Compliance with Town Development Standards

Development Standard	Required	Provided
	3. Proposed walls and fences shall be designed to incorporate decorative features on both sides, as approved by the director, to avoid the appearance of long, unbroken flat planes without visual interest. Examples of decorative features include regularly spaced columns or pilasters, offsets and setbacks for portions of the wall or fence, and/or wells for trees or other landscaping.	See discussion under item A.(1) .
	4. A landscaping strip with a minimum width of five feet shall be installed adjacent to screening walls, except that ten feet of landscaping shall be provided between a parking lot and a screening wall, in compliance with Section 13.34.040(C)(4)(d).	See discussion under Chapter 13.26.040, Building Setbacks.
	5. The director may waive or approve a substitute for this requirement if the director first determines that:	See discussion under Chapter 13.26.040, Building Setbacks, and Chapter 13.34, Landscape Standards.
	a. The intent of this section can be successfully met by means of alternative screening methods; or	See discussion under Chapter 13.26.040, Building Setbacks, and Chapter 13.34, Landscape Standards.
	b. Physical constraints on the site make the construction of the required screening infeasible; or	See discussion under Chapter 13.26.040, Building Setbacks, and Chapter 13.34, Landscape Standards.
	c. The physical characteristics of the site or adjoining parcels make the required screening unnecessary.	See discussion under Chapter 13.26.040, Building Setbacks, and Chapter 13.34, Landscape Standards.
B. Mechanical Equipment, Loading Docks, and Refuse Areas.	1. Roof or ground mounted mechanical equipment (e.g., air conditioning, heating, ventilation ducts, and exhaust, etc.), loading docks, refuse storage areas, and utility services (electrical transformers, gas meters, etc.) shall be screened from public view from adjoining public streets and rights-of-way and adjoining areas zoned for residential uses.	**Consistent:** All mechanical equipment would be located within the warehouse. The loading dock is proposed to be located at the front of the building, parallel to Sierra College Boulevard. The loading dock would be screened with an architecturally-treated wall as depicted in Figure 3.2-13. The warehouse trash compactors would be located on the west side of the warehouse, facing Sierra College Boulevard. The compactors would be screened from view as a result of the 20-foot landscaped buffer and 30-foot drive aisle, and the proposed streetside retaining wall and berm.
	2. The method of screening shall be architecturally compatible with other on-site development in terms of colors, materials, and architectural style.	**Consistent:** All mechanical equipment would be located within the warehouse. See also discussion under item A, “Screening Between Different Land Uses,” above.
Chapter 13.34 Landscaping standards		
A. Setbacks	A landscape plan must be prepared as part of application for new development.	**Consistent: A** landscape plan has been submitted to the Town that identifies trees, shrubs, and ground cover to be planted around the perimeter of the site and within the parking field to create a developed image consistent with the town character and to screen the site from adjacent uses.
	Landscaping is required in all setbacks and open space areas including easements for utilities and drainage courses except when screened from public view or retained in natural condition.	The landscape plan provides 10 percent interior coverage. of the project area with trees, shrubs, and ground cover.
C. Parking		
1. Materials	Landscape materials in parking lot must include combination of trees, shrubs, and ground cover.	**Consistent:** The landscape plan identifies trees, shrubs, and ground cover to be planted around the perimeter of the site and within the parking field.

Table 3.2-1. Compliance with Town Development Standards

Development Standard	Required	Provided
4. Perimeter		**Consistent:** The proposed project is consistent with the following landscaping standards that address parking areas adjacent to streets, property lines, and residential uses:
a. Adjacent to Streets	Parking area for non-residential use adjoining a street shall be designed to provide a landscaped planting strip between the street right-of-way and parking area equal in depth to the setback required by the zoning district or fifteen feet, whichever is more.	Refer to the discussion of Chapter 13.26.040 pertaining to setbacks. Setbacks on the north side of the project include a 20-foot landscaped parkway with bioretention swale.
	i. The landscaping shall be designed and maintained to screen cars from view from the street to a height of minimum height of thirty-six inches, but shall not exceed any applicable height limit for landscaping within a setback.	A 20-foot-wide planting strip is proposed along the street frontage with Sierra College Boulevard, which would contain ground cover, shrubs, and one tree for every 30 feet of frontage.
	ii. Screening materials may include a combination of plant materials, earth berms, raised planters, or other screening devices which meet the intent of this requirement. A solid masonry wall with a maximum height of thirty-six inches may be used only where the director determines that no feasible alternative exists.	See discussion under Chapter 13.26.040, Building Setbacks, and Chapter 13.34, Landscape Standards.
	iii. Shade trees shall be provided at a minimum rate of one for every thirty linear feet of landscaped area.	The landscape plan proposes shrubs and one tree for every 30 feet of frontage.
	iv. Plant materials, signs, or structures within a traffic safety sight area of a driveway shall comply with Section 13.30.050(E).	The landscape plan provides for adequate line of sight for drivers exiting the driveway.
b. Adjacent to Side or Rear Property Lines	Parking areas for nonresidential uses shall provide a perimeter landscape strip at least six feet wide (inside dimension) where the parking area adjoins a side or rear property line. The requirement for a landscape strip may be satisfied by a yard or buffer area that is otherwise required. Trees shall be provided at the rate of one for each thirty linear feet of landscaped area.	Side-yard setbacks along the southern perimeter include a 20-foot landscaped strip. The rear landscape setback ranges from 33 to 36 feet in width as measured from the edge of the rear residential property line to the parking field. The existing oak trees along the rear boundary would be preserved, as would the existing solid wood fence forming the rear boundary of the residential property. An 8-foot tall privacy fence is also proposed. The landscape plan proposes shrubs and one tree for every 30 feet of frontage.
c. Adjacent to Structures	When a parking area is located adjacent to a nonresidential structure, a minimum five-foot wide landscape strip shall be provided adjacent to the structure, exclusive of any building entries, or areas immediately adjacent to the wall of the structure that serve as pedestrian accessways	See discussion under Item 4(b).
d. Adjacent to Residential	A parking area for a nonresidential use adjoining a residential use or zone shall provide a landscaped buffer yard with a minimum ten-foot width between the parking area and the common property line bordering the residential use. A solid masonry wall, solid fence, and a landscape buffer shall be provided along the property line to address land use compatibility issues such as nuisance noise and light/glare. Trees shall be provided at the rate of one for each thirty linear feet of landscaped area	Approximately 24,110 sq. ft. of landscaping would be located within the parking field, which is over 10 percent of the gross area of surface parking. Tree wells would be spaced at a rate of one tree for every five parking spaces.

Table 3.2-1. Compliance with Town Development Standards

Development Standard	Required	Provided
5. Interior		**Consistent:** The proposed project is consistent with the following landscaping standards associated with interior parking areas: See discussion under item 4(d).
a. Amount	Multifamily, commercial, and office uses shall provide landscaping within the parking area at a minimum ratio of ten percent of the gross area of the parking lot. One shade tree shall be provided for every five parking spaces.	See discussion under item 4(d).
b. Location	Landscaping shall be evenly dispersed throughout the parking area to shade as much of the parking area as feasible. Use of an orchard-style planting scheme (placement of trees in uniformly spaced rows) is encouraged for larger parking areas. Parking lots with more than one hundred spaces should provide a concentration of landscape elements at primary entrances, including specimen trees, flowering plants, enhanced paving, and project identification.	Trees would be planted in an orchard style to maximize shade provided by the tree canopy.
Chapter 13.38 Signs		
B. Commercial Standards	Single tenant building: Three of any combination of allowed sign types per primary building frontage.	**Consistent:** The project incorporates wall-mounted signs at least 1 foot below the roofline along the primary building frontage and at entry. No freestanding ground-mounted signs, awnings, or suspended signs are proposed. **Consistent:** The proposed project is consistent with the following commercial design standards:
Awning,	Below Roof (at least one foot below parapet)	No awning signs are planned.
Freestanding,	Freestanding ground monument signs shall have a maximum height of 6 feet.	No freestanding signs are planned.
Projecting, Wall	Below Roof (at least one foot below parapet)	See discussion under item B.
Suspended	Below eve/canopy at least eight feet above walking surface	No suspended signs are planned.
D. Design Criteria		**Consistent:** The proposed project is consistent with the following design criteria associated with building color and lighting:
1. Color	Colors should be harmonious with one another and relate to the dominant colors of the building or buildings being identified. Contrasting colors may be utilized if the overall effect of the sign is still compatible with the building colors and prevailing colors in the surrounding neighborhood (where a theme can be identified).	Corporate red and blue colors would be used.

Table 3.2-1. Compliance with Town Development Standards

Development Standard	Required	Provided
F. Lighting	1. The town prefers that a sign be illuminated by lights shining on the sign rather than by lights within the sign, although signs comprised of individually mounted, internally lit letters may be found acceptable. In the case of a sign comprised of a metal cabinet with a face of plastic or similar material, the face material shall be opaque except for the letters and artwork that convey the message. It is the intent of the town that a cabinet sign be designed and constructed to appear as much as possible as illuminated individual letters.	**Consistent**. Signage would use externally illuminated reverse pan channel letters; the fueling station signage would also be externally illuminated. Signs would not include blinking or flashing lights.
	2. External light sources shall be directed and shielded so that they do not produce glare on any object other than the sign, and/or off the site of the sign.	All lighting fixtures would be shielded to limit light intrusion and minimize glare.
	3. The light from an illuminated sign shall not be of an intensity or brightness that will interfere with the reasonable enjoyment of residential properties. In areas with low ambient nighttime illumination levels (i.e., areas of the town with little or no illuminated signing) a sign should be designed to use light, illuminated copy against a dark or opaque background.	Proposed signage would be oriented toward the street and is not planned in locations that face adjacent residential uses, with the exception of the directional signage for the Tire Center.
	4. Sign illumination shall not blink, flash, flutter, or change light intensity, brightness or color.	Signs would not include blinking or flashing lights.
	5. Colored lights shall not be used at a location or in a manner so as to be confused or construed as traffic control devices.	No signs or lights are planned near the street frontage.
	6. Neither the direct nor reflected light from primary light sources shall create a hazard to operators of motor vehicles.	All lighting would incorporate the use of cutoff lenses to keep light from crossing the property boundary.
	7. Reflective-type bulbs and incandescent lamps that exceed fifteen watts shall not be used on the exterior surface of signs so as to expose the face of the bulb or lamp to a public right-of-way or adjacent property.	The project would utilize LED fixtures.
	8 Light sources shall utilize energy efficient fixtures to the greatest extent possible.	The project would utilize LED fixtures that that provide a higher level of perceived brightness with less energy than other lamps such as the high-pressure sodium type. Lights in the parking field would be timer controlled to promote energy efficiency.
I Wall Signs	The following standards apply to wall signs in all zoning districts where allowed by Section 13.38.060	
	1. A wall sign may be located on any primary or secondary building frontage.	Wall signs would be located on both the primary frontage and the secondary frontage of the warehouse and fueling station canopy.

Table 3.2-1. Compliance with Town Development Standards

Development Standard	Required	Provided
	2. The area of the largest wall sign shall not exceed seven percent of the area of the building facade on which the sign is mounted or painted, including the area of windows, doors and recesses.	Signage sizing is depicted in Figure 3.2-10. As shown, none of the signs exceed 7% of the building façade on which it is located: South – sign area = 539 SF/ Allowed (7%) = 982 Sf East – sign area = 31 SF/ Allowed = 622 SF North – sign area = 381 SF/Allowed = 1,024 SF West – sign area = 381 SF/Allowed = 690 SF Fueling Station Sign Area = 21 SF and 15 SF/ Allowed = 33 SF and 15 SF
	3. No sign shall project from the surface to which it is attached more than required for construction purposes, and in no case more than twelve inches.	Signs would not project more than 12 inches
	4. No sign shall be placed so as to interfere with the operation of a door or window	No signs would be placed at doors and windows to obstruct their use.
Chapter 13.54, "Tree Conservation"	The ordinance protects any native oak tree with a trunk that is a minimum of 6 inches in diameter as measured at breast height for interior live oak, valley oak, and oracle oak and 4 inches dbh for blue oak; any oak tree with multiple trunks that have an aggregate dbh of at least 10 inches, or any heritage tree. "Heritage tree" means any tree identified by Town Council resolution. It is unlawful to remove any protected tree or to perform any activity that would interfere with the condition of a protected tree without a tree permit. When the Town Manager has granted a tree permit to remove a protected tree, the applicant must replace the tree with a living tree (or trees) of the same species on the property or within the Town of Loomis, in a location approved by the Town Manager…The property owner will replace the tree(s) and continue to replace the replacement tree(s) if the tree(s) die(s) any time within five years of the initial planting.	**Consistent:** The project applicant has conducted an arborist report that identifies the size, type, and health of each tree located on the property. Selection of Option 1A and 1B would require planting a total of 280 replacement trees or pay in-lieu fees. The landscape plan (Figure 3.2-16) proposes 63 Interior Live Oak replacement trees and 37 Valley Oak replacement trees. 217 Valley Oaks and 6 Blue Oaks are to be planted offsite. Options 1B and 1C would remove up to 45 additional trees beyond that under Site Option 1A. These trees would require replacement following the standards of the City of Rocklin Tree Ordinance.

Notes: FAR = floor area ratio; LED = light-emitting diode; sq. ft. = square feet

Source: Compiled by AECOM in 2019 using information prepared by Kier & Wright Civil Engineers

As previously stated, the coverage pattern for oak woodlands makes complete avoidance of impacts on oak trees infeasible because they are dispersed widely across the property. Therefore, the proposed project could substantially degrade the visual character of the site or surroundings from Key Viewpoint 1. This impact would be **potentially significant**.

Key Viewpoint 2: Pedestrians, cyclists, and motorists traveling along Brace Road would have intermittent views of the proposed warehouse. The existing apartment building fronting Brace Road and a mature stand of trees shield direct views of the site as observed along the roadway, except near the intersection with Sierra College Boulevard. The project design incorporates physical features intended to reduce impacts on surrounding vantage points. Use of a side-yard setback, a drainage swale ranging in width from 20 feet to 23 feet planted with shrubs, ground cover, and 24-inch box Live Oak trees would obscure views of the proposed warehouse for motorists traveling west on Brace Road (Figure 3.2-16).

Although the proposed project would be visually consistent with the adjacent lumberyard located on the north side of Brace Road, the loss of substantial tree cover and replacement of woodland and grassland habitat with a developed use would change the visual character of the site. This impact would be **potentially significant**.

Mitigation Measure AES-1: Prepare and Implement a Tree Protection Plan.

Prior to issuance of a building and tree removal permits, the project applicant shall prepare and submit to the Town a Tree Protection Plan consistent with Chapter 13.34 of the Loomis Municipal Code. The plan shall be prepared by a California licensed landscape architect, licensed landscape contractor, certified nurseryman, or other professional determined by the Town to be qualified, based on the requirements of state law. The Tree Protection plan shall be reviewed and approved by the Town to ensure consistency with the tree protection ordinance adopted ls. Replacement trees shall be required in all setbacks and open space areas, including easements for utilities and drainage courses, and in all parking areas adjacent to streets, property lines, and residential uses as follows:

Prior to final building inspection or the issuance of a certificate of occupancy, the project applicant shall enter into a maintenance agreement with the Town to guarantee the Applicant's proper maintenance of replacement trees.

Significance after Mitigation

Implementing Mitigation Measures AES-1 would reduce the potential degradation of the visual character of the project area to a **less-than-significant** level by retaining those trees on the property that are capable of being preserved and replacing some other trees that would be removed by the project on the project site and preparing a landscape plan that meets landscape standards to achieve aesthetic objectives, as required by the Loomis Municipal Code and Town of Loomis General Plan policies.

Impact 3.2-2: Creation of Substantial Light or Glare. *The proposed project would add new sources of light and glare to the area. However, the project design includes features to limit the duration of nighttime lighting, and compliance with the Loomis Municipal Code requiring the use of cutoff fixtures would reduce impacts from light and glare. Impacts to adjacent residential areas from headlights on vehicles from access roadways and parking areas would be minimized by proposed walls. This impact would be less than significant.*

The proposed warehouse, parking field, and fueling station under all three project driveway access options would introduce new light sources onto the project site. Lighting fixtures would be placed along the warehouse building at intervals of approximately 40 feet for safety and security. The proposed parking field would be illuminated with downward-pointing lights, each containing two light-emitting diode (LED) fixtures affixed to poles. The poles would be 32 feet tall in the parking lot and 28 feet tall adjacent to the existing residential area. Lighting fixtures would be "shoebox" style designed to avoid light spill on adjacent land.

The proposed lighting would exceed the height limit of 20 feet specified in Chapter 13.30.080, Outdoor Lighting, of the Loomis Municipal Code; however, project lighting was designed consistent with recommendations from the International Dark Sky Association[1] to minimize the effects of outdoor lighting including skyglow and light intrusion. For example, light standards have been designed to distribute light evenly to promote vehicular and pedestrian safety, while timers would be programmed to shut off lights at closing to control illumination in the parking field. After operating hours, lights would remain on only along the main driveways, which would substantially reduce illumination levels compared to a typical commercial development. All lighting would incorporate the use of cutoff lenses to keep light from crossing the property boundary and illuminating adjacent parcels. The surrounding setting includes security lights associated with the nearby commercial uses, including the fast food restaurant and gas station immediately to the south of the site and Homewood Lumber to the north. In addition, the proposed building architecture does not incorporate highly reflective materials such as mirrored glass in exterior façades that would be a source of glare for motorists or residents.

[1] The International Dark Sky Association maintains a list of design principles that can be implemented to minimize the effects of light in the night sky (International Dark-Sky Association 2018). These principles include:
- Lights are on only when needed
- Lights illuminate only areas that need it
- Lights should be no brighter than necessary
- Lights should be fully shielded

Application of these principles would reduce light trespass and protect against light trespass. (See discussion of consistency with Loomis Municipal Code section 13.30.080 in Table 3.2.1 above.)

Due to the size and nature of warehouse operations, an amendment to Section 13.30.080 of the Municipal Code is proposed as follows to allow for additional fixture height beyond the 20-foot limitation:

13.30.080 - Outdoor lighting.

Outdoor lighting on private property shall comply with the following requirements.

A. Outdoor light fixtures shall be limited to a maximum height of twenty feet or the height of the nearest building, whichever is less. Outdoor light fixtures associated with warehouse retail uses may exceed twenty feet but shall not exceed the height of the warehouse structure.

Warehouse retail uses have large parking fields that require illumination for circulation and pedestrian safety. By allowing the height of the fixtures to exceed 20 feet, fewer light fixtures are needed and safety is consistent throughout the parking field. By limiting the height of the fixtures to the height of the warehouse structure, the warehouse further serves to shield lighting from adjacent uses. Since this additional height allowance would only be applicable to warehouse retail uses, very few locations within the Town could capitalize on this height allowance due to the restricted locations allowed for warehouse retail. Therefore, the amendment would be highly limited in application and would not have the potential to be applied Town-wide or create adverse lighting effects.

The project would attract vehicular traffic that would use headlights at night that could affect adjacent residential properties. However, the apartments to the north of the project site currently have a wall and will have a 13-foot tall noise wall installed, and the single-family residence to the east will have a solid 8-foot tall wall installed between the project site and those properties.

Signage on the warehouse wall would use externally illuminated reverse pan channel letters; fueling station signage would also be externally illuminated. Because the proposed project would be designed in compliance with the Loomis Municipal Code, and nighttime illumination levels would be minimized by use of timers, the project would not create significant light or glare on adjacent property. This impact would be **less than significant**.

3.2.4 Significance after Mitigation

Implementation of Mitigation Measure AES-1 would reduce project-related impacts to a **less-than-significant** level. The proposed project would result in less-than-significant impacts related to creation of substantial light or glare. The project would not result in any unavoidable significant impacts on aesthetics that would not be addressed by mitigation required as a part of this EIR.

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3.3 Air Quality

This section describes existing local and regional air quality conditions; summarizes applicable air quality regulations at the federal, state, and local levels; and analyzes potential air quality impacts attributable to the proposed project. Cumulative impacts on air quality are addressed in Chapter 4, "Cumulative Impacts." Emissions from both stationary and mobile sources were estimated using the California Emission Estimator Model (CalEEMod), Version 2016.3.2. The results of this modeling are provided in Appendix B to this EIR.

3.3.1 Environmental Setting

3.3.1.1 Topography, Climate, and Meteorology

Air quality is defined by the concentration of pollutants relative to their impact on human health. Ambient concentrations of air pollutants are determined by the amount of emissions released by pollutant sources and the ability of the atmosphere to transport and dilute such emissions. Terrain, wind, atmospheric stability, and the presence of sunlight all affect transport and dilution. Therefore, existing air quality in the project area is influenced by topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources (discussed separately below).

The project site is in the town of Loomis, in Placer County. Placer County lies within multiple air basins: the Sacramento Valley Air Basin (SVAB), Mountain Counties Air Basin, and Lake Tahoe Air Basin. The project site is within the SVAB. In general, the SVAB is relatively flat and bounded by the north Coast Ranges to the west and the northern Sierra Nevada to the east. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Sacramento–San Joaquin Delta from the San Francisco Bay Area.

The mountain ranges that surround the SVAB reach heights of 6,000 feet or more at their peaks. When meteorological conditions are unfavorable for transport and dilution, the resulting physical barrier to airflow can entrap locally generated air pollutants and pollution that otherwise might have been transported northward on prevailing winds from the Sacramento metropolitan area. Although much of the SVAB is located at an elevation of more than 1,000 feet above sea level, the vast majority of its populace lives and works below that elevation. The valley is often subjected to inversion layers that, coupled with the area's geographic barriers and high summer temperatures, create a high potential for air pollution problems.

Poor air movement occurs most frequently in the fall and winter when high-pressure cells are present over the project area and meteorological conditions are stable. During these periods, the lack of surface winds combines with the reduced vertical flow caused by less surface heating to reduce the influx of air. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with agricultural burning activities or temperature inversions, which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground. The winds and unstable atmospheric conditions associated with the passage of winter storms result in periods of low air pollution and excellent visibility. Precipitation and fog also tend to reduce or limit some pollutant concentrations. However, between winter storms, high pressure and light winds contribute to low-level temperature inversions and stable atmospheric conditions, resulting in the concentration of air pollutants.

May through October is ozone season in the SVAB and is characterized by poor air movement in the mornings and the arrival of the Delta sea breeze from the southwest in the afternoons. In addition, with the longer daylight hours, a larger amount of sunlight is available to fuel photochemical reactions between volatile organic compounds (VOC) and oxides of nitrogen (NO_X), which in turn result in ozone formation.

Typically, the Delta breeze transports air pollutants northward out of the SVAB. However, during approximately half of the time from July to September, a phenomenon known as the Schultz Eddy prevents this from occurring. The Schultz Eddy phenomenon causes winds on the west side of the SVAB to shift to a northerly wind, blowing air pollutants southward back into the SVAB. This phenomenon exacerbates the concentration of air pollutant emissions in the air basin and can contribute to violations of ambient air quality standards.

The region has a Mediterranean climate, characterized by hot, dry summers and cool, rainy winters. The local meteorology of the project area is represented by measurements recorded at Auburn National Climate Data Center Station 040383, approximately 9 miles northeast of the project site. This is the nearest station to the project site within the SVAB that has current data. Normal annual precipitation is approximately 34.39 inches and occurs primarily from November through March (WRCC 2017a). Precipitation during the winter rainy season typically results when air masses move in from the Pacific Ocean and travel across California from west to east. The inland location and surrounding mountains typically prevent the area from experiencing much of the ocean breeze that moderates the temperatures in coastal regions. During July, typically the hottest month of the year, average temperatures range from about 61 degrees Fahrenheit (°F) to 93°F (WRCC 2017a). During January, typically the coldest month of the year, average temperatures range from a minimum of 36.6°F to a maximum of 54.0°F (WRCC 2017a).

Characteristic of the winter months in the SVAB are periods of dense and persistent low-level fog, which are most prevalent between storms. The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dry-land flows from the north. The predominant wind direction and speed is from the south at approximately 8 miles per hour, as measured at the Sacramento International Airport (WRCC 2017b, 2017c).

3.3.1.2 Criteria Air Pollutants

The U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) have identified six air pollutants as being indicators of ambient air quality: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (PM) with an aerodynamic diameter of 10 micrometers or less (PM_{10}), fine PM with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead. Because the ambient air quality standards for these air pollutants are regulated using human health and environmentally based criteria, they are commonly referred to as “criteria air pollutants.” Although EPA regulations may not be superseded, both state and local regulations may be more stringent. In general, the State of California’s standards, particularly those for ozone and PM (PM_{10} and $PM_{2.5}$), are more stringent than the federal standards. Differences in the standards are generally explained through interpretation of the health-effects studies considered during the standard-setting process.

This section provides a brief description of criteria air pollutants, including their source types and health effects, along with the most current attainment designations and monitoring data for the project area.

Ozone

Ozone is a colorless gas that is odorless at ambient levels. It exists primarily as a beneficial component of the ozone layer in the upper atmosphere (stratosphere), shielding the earth from harmful ultraviolet radiation emitted by the sun, and as a pollutant in the lower atmosphere (troposphere).

Ozone is the primary component of urban smog. It is not emitted directly into the air, but is formed through a series of reactions involving VOC and NO_X in the presence of sunlight. VOC emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X includes various combinations of nitrogen and oxygen, including nitric oxide, NO_2, and others, typically resulting from the combustion of fuels.

Emissions of both VOCs and NO_X are considered critical to ozone formation; therefore, either VOCs or NO_X can limit the rate of ozone production. When the production rate of NO_X is lower, indicating that NO_X is scarce, the rate of ozone production is NO_X-limited. Under these circumstances, ozone levels could be most effectively reduced by lowering current and future NO_X emissions (from fuel combustion), rather than by lowering VOC emissions. Rural areas tend to be NO_X-limited, while areas with dense urban populations tend to be VOC-limited. Both VOC and NO_X reductions provide ozone benefits in the region, but the Sacramento Federal Nonattainment Area (SFNA) exhibits a NO_X-limited regime; therefore, NO_X reductions are more effective than VOC reductions on a tonnage basis (SMAQMD et al. 2017).

Meteorology and terrain play a major role in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and clear skies provide the optimum conditions for formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. Therefore, ozone is a regional pollutant that often affects large areas. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry.

Individuals exercising outdoors, children, and people with lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for ozone effects. Short-term ozone exposure (lasting for a few hours) can result in changes in breathing patterns, reductions in breathing capacity, increased susceptibility to infections, inflammation of lung tissue, and some immunological changes. In recent years, a correlation has also been reported between elevated ambient ozone levels and increases in daily hospital admission rates and mortality

(EPA 2017a). An increased risk of asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

Emissions of the ozone precursors VOC and NO_X have decreased in the past several years. According to the most recently published edition of ARB's *California Almanac of Emissions and Air Quality*, NO_X and VOC emissions levels in the Sacramento metropolitan area are projected to continue to decrease through 2035, largely because of more stringent motor vehicle standards and cleaner burning fuels, as well as rules for controlling VOC emissions from industrial coating and solvent operations (ARB 2013a).

Carbon Monoxide

CO is a colorless and odorless gas that, in the urban environment, is produced primarily by the incomplete burning of carbon in fuels, primarily from mobile (transportation) sources. As of the 2014 EPA National Emissions Inventory, more than 50 percent of the nationwide CO emissions were from mobile sources (EPA 2018a). The remaining emissions are primarily from fires (both wildfires and prescribed fires), releases from vegetation and soil, wood-burning stoves, incinerators, and industrial sources. Relatively high concentrations are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300–600 feet) of heavily traveled roadways. Vehicular traffic emissions can cause localized CO impacts, and severe vehicle congestion at major signalized intersections can generate elevated CO levels, called "hot spots," which can be hazardous to human receptors adjacent to the intersections. Overall, CO emissions are decreasing, in part because the Federal Motor Vehicle Control Program has mandated increasingly lower emission levels for vehicles manufactured since 1973.

CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, drastically reducing the amount of oxygen available to the cells. Adverse health effects from exposure to high CO concentrations, which typically can occur only indoors or within similarly enclosed spaces, include dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (EPA 2017b).

Nitrogen Dioxide

NO_2 is one of a group of highly reactive gases known as oxides of nitrogen, or NO_X. NO_2 is formed when ozone reacts with nitric oxide (i.e., NO) in the atmosphere and is listed as a criteria pollutant because NO_2 is the more toxic than nitric oxide. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. The combined emissions of nitric oxide and NO_2 are referred to as NO_X and reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with ozone, the NO_2 concentration in a geographical area may not be representative of local NO_X emission sources. NO_X also reacts with water, oxygen, and other chemicals to form nitric acids, contributing to the formation of acid rain.

Inhalation is the most common route of exposure to NO_2. Breathing air with a high concentration of NO_2 can lead to respiratory illness. Short-term exposure can aggravate respiratory diseases, particularly asthma, resulting in 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. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these subgroups (EPA 2017c).

Sulfur Dioxide

SO_2 is one component of the larger group of gaseous oxides of sulfur (SO_X). SO_2 is used as the indicator for the larger group of SO_X, as it is the component of greatest concern and found in the atmosphere at much higher concentrations than other gaseous SO_X. SO_2 is typically produced by such stationary sources as coal and oil combustion facilities, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with SO_2 exposure pertain to the upper respiratory tract. On contact with the moist mucous membranes, SO_2 produces sulfurous acid, a direct irritant. Concentration rather than duration of exposure is an important determinant of respiratory effects. Children, the elderly, and those who suffer from asthma are particularly sensitive to effects of SO_2 (EPA 2017d).

SO_2 also reacts with water, oxygen, and other chemicals to form sulfuric acids, contributing to the formation of acid rain. SO_2 emissions that lead to high concentrations of SO_2 in the air generally also lead to the formation of other

SO_X, which can react with other compounds in the atmosphere to form small particles, contributing to particulate matter pollution, which can have health effects of its own.

Particulate Matter

PM is a complex mixture of extremely small particles and liquid droplets made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. Natural sources of particulates include windblown dust and ocean spray. The major areawide sources of $PM_{2.5}$ and PM_{10} are fugitive dust, especially from roadways, agricultural operations, and construction and demolition. Other sources of PM_{10} include crushing or grinding operations. $PM_{2.5}$ sources also include all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. Exhaust emissions from mobile sources contribute only a very small portion of directly emitted $PM_{2.5}$ and PM_{10} emissions; however, they are a major source of VOCs and NO_X, which undergo reactions in the atmosphere to form PM, known as secondary particles. These secondary particles make up the majority of PM pollution.

The size of PM is directly linked to its potential for causing health problems. EPA is concerned about particles that are 10 micrometers in diameter or smaller, because these particles generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects, even death. The adverse health effects of PM_{10} depend on the specific composition of the particulate matter. For example, health effects may be associated with metals, polycyclic aromatic hydrocarbons, and other toxic substances adsorbed onto fine PM (referred to as the “piggybacking effect”), or with fine dust particles of silica or asbestos. Effects from short- and long-term exposure to elevated concentrations of PM_{10} include respiratory symptoms, aggravation of respiratory and cardiovascular diseases, a weakened immune system, and cancer (WHO 2016). $PM_{2.5}$ poses an increased health risk because these very small particles can be inhaled deep in the lungs and may contain substances that are particularly harmful to human health.

Direct emissions of $PM_{2.5}$ in the Sacramento metropolitan area decreased between 2000 and 2010, but are projected to increase very slightly through 2035. Similarly, emissions of diesel PM (DPM) decreased from 2000 through 2010 because of reduced exhaust emissions from diesel mobile sources; these emissions are anticipated to continue to decline through 2035 (ARB 2013a).

Lead

Lead is a highly toxic metal that may cause a range of human health effects. Lead is found naturally in the environment and is used in manufactured products. Previously, the lead used in gasoline anti-knock additives represented a major source of lead emissions to the atmosphere. Soon after its inception, EPA began working to reduce lead emissions, issuing the first reduction standards in 1973. Lead emissions have decreased substantially as a result of the near-elimination of leaded gasoline use. Metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Although the ambient lead standards are no longer violated, lead emissions from stationary sources still pose “hot spot” problems in some areas. As a result, ARB has identified lead as a toxic air contaminant (TAC).

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotients. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death, although it appears that lead does not directly affect the respiratory system.

Monitoring Station Data and Attainment Area Designations

Health-based air quality standards have been established for criteria pollutants by EPA at the national level and ARB at the state level. These standards were established to protect the public with a margin of safety from adverse health impacts caused by exposure to air pollution. In addition to criteria pollutants, California has established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride.

Table 3.3-1 presents the national ambient air quality standards (NAAQS) and the California ambient air quality standards (CAAQS). These health-based pollutant standards are reviewed with a legally prescribed frequency and are revised, as warranted by new data on health and welfare effects. Each standard is based on a specific averaging time over which the concentration is measured. Different averaging times are based on protection from short-term, high-dosage effects or longer term, low-dosage effects. NAAQS may be exceeded no more than once per year; CAAQS are not to be exceeded.

Table 3.3-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [a]	National Standards [b]	
		Concentration [c]	Primary [c,d]	Secondary [c,e]
Ozone [f]	1 hour	0.09 ppm (180 μg/m^3)	–	Same as primary standard
	8 hours	0.070 ppm (137 μg/m^3)	0.070 ppm (147 μg/m^3)	
Respirable particulate matter—10 micrometers or less [g]	24 hours	50 μg/m^3	150 μg/m^3	Same as primary standard
	Annual arithmetic mean	20 μg/m^3	–	
Fine particulate matter—2.5 micrometers or less [g]	24 hours	–	35 μg/m^3	Same as primary standard
	Annual arithmetic mean	12 μg/m^3	12 μg/m^3	15 μg/m
Carbon monoxide	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
	8 hours (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
Nitrogen dioxide [h]	Annual arithmetic mean	0.030 ppm (57 μg/m^3)	0.053 ppm (100 μg/m^3)	Same as primary standard
	1 hour	0.18 ppm (339 μg/m^3)	100 ppb (188 μg/m^3)	None
Sulfur dioxide [i]	Annual arithmetic Mean	–	0.030 ppm (for certain areas) [i]	–
	24 hours	0.04 ppm (105 μg/m^3)	0.14 ppm (for certain areas) [i]	–
	3 hours	–	–	0.5 ppm (1,300 μg/m^3)
	1 hour	0.25 ppm (655 μg/m^3)	75 ppb (196 μg/m^3)	–
Lead [j,k]	30-day average	1.5 μg/m^3	–	–
	Calendar quarter	–	1.5 μg/m^3 (for certain areas) [j]	Same as primary standard
	Rolling 3-month average	–	0.15 μg/m^3	
Visibility-reducing particles [l]	8 hours	See footnote l	No national standards	
Sulfates	24 hours	25 μg/m^3		
Hydrogen sulfide	1 hour	0.03 ppm (42 μg/m^3)		
Vinyl chloride [j]	24 hours	0.01 ppm (26 μg/m^3)		

Notes: μg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; ppb = parts per billion; ppm = parts per million

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

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standards.

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

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

[e] *National Secondary Standards:* Levels of air quality necessary to protect public welfare from any known or anticipated adverse effects of a pollutant.

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

[g] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m^3 to 12.0 μg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m^3, as was the annual secondary standard of 15 μg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[h] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from 100 ppb to 0.100 ppm.

[i] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical of 0.075 ppm.

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

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

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

Source: ARB 2017a

Concentrations of criteria air pollutants are measured at several monitoring stations in the SVAB. Table 3.3-2 summarizes the air quality data from the closest station to the project site, in Roseville on North Sunrise Avenue approximately 6.5 miles southwest of the project site, for the most recent 3 years of complete data (2014–2016). As shown, the 8-hour average ozone concentration exceeded the CAAQS and NAAQS in all 3 monitoring years, as did the 1-hour ozone concentration relative to the CAAQS. The 24-hour average $PM_{2.5}$ NAAQS was not exceeded during any of the past 3 years. The 24-hour average PM_{10} CAAQS was not exceeded at all in the past 3 years, while the NAAQS for 24-hour average PM_{10} was exceeded one time in both 2015 and 2016. No exceedances have been registered for NO_2 near the project site for the last 3 years.

Table 3.3-2. Summary of Data regarding Annual Ambient Air Quality near the Project Site

	2014	2015	2016	2017	2018
Ozone					
Maximum 8-hour average concentration (ppm)	0.086	0.084	0.092	0.089	0.084
Maximum 8-hour average concentration (ppm) (2015/2008 national)	0.087	0.085	0.093	0.088	0.083
Number of days 8-hour standard exceeded (2015/2008 national)	19/10	6/3	20/8	9/4	11/8
Number of days 8-hour standard exceeded (state)	21	6	21	10	11
Maximum 1-hour concentration (ppm) (state)	0.097	0.098	0.115	0.117	0.110
Number of days 1-hour standard exceeded (state)	4	1	5	4	4
Carbon Monoxide [a]					
Not available					
Nitrogen Dioxide					
Maximum 1-hour concentration (ppm) (state/national)	54.0/54.1	50.0/50.8	50.0/50.0	52/52.8	54/54.4
Number of days state standard exceeded (state/national)	0/0	0/0	0/0	0/0	0/0
Annual average (ppm)	8	8	8	7	7
Sulfur Dioxide [b]					
Not available					
Fine Particulate Matter—2.5 Micrometers or Less					
Maximum 24-hour average concentration (µg/m^3) (state/national)[c]	30.7/22.2	44.1/29.1	24.4/21.2	28.8/27.8	172.8/171.8
Number of days national standard exceeded (measured/estimated)[d]	0/0	0/0	0/0	0/0	3/17
State annual average (µg/m^3)	10.5	8.1	6.9	7.4	12.2
Respirable Particulate Matter—10 Micrometers or Less					
Maximum 24-hour concentration (µg/m^3) (state/national)[c]	31.8/30.2	59.1/35.7	39.1/39.2	65.8/66.0	211.3/202.2
Number of days state standard exceeded (measured/estimated)[d]	0/0	0/–	0/0	5/–	16/–
Number of days national standard exceeded (measured/estimated)[d]	0/0	1/–	1/–	0/0	2/2
Annual average (state/national)[c]	18.0/17.9	–/13.0	–/15.8	–/–	–/–

Notes: — = data not available; µg/m^3 = micrograms per cubic meter; ppm = parts per million

[a] Carbon monoxide is not currently monitored at any station in the Sacramento Valley Air Basin (SVAB). The highest recorded carbon monoxide concentration in the last 10 years was 1.94 ppm in 2009, which is approximately 22% of the 8-hour standard.

[b] Since 2013, sulfur dioxide has not been monitored at any station in the SVAB.

[c] State and national statistics may differ for the following reasons: State statistics are based on California-approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. State statistics are based on local conditions while national statistics are based on standard conditions. The State of California generally uses more stringent criteria than the U.S. government for ensuring that data are sufficiently complete for calculating valid annual averages.

[d] Measured days are those days on which an actual measurement was greater than the level of the state daily standard or the national daily standard. Measurements are typically collected every 6 days. The number of estimated days represents a mathematical estimate of those days on which concentrations would have been greater than the level of the standard, had monitoring occurred on each day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

Source: ARB 2017b

Monitoring stations in the SVAB have not monitored for CO or SO_2 in the past 5 years. However, monitoring data are available for both CO and SO_2 for 2012 and prior years. Monitoring data are available for CO from the North Highlands–Blackfoot Way monitoring station, which is approximately 11.5 miles southwest of the project site. These monitoring data show a declining trend in CO concentrations over time. The maximum registered CO concentration in the past 10 years is 1.90, approximately 21 percent of the 8-hour standard. The nearest available monitoring station to the project site with SO_2 data is the Sacramento–Del Paso Manor station, which is approximately 16 miles southwest of the project site. The highest measurement at this site in the past 10 years is 0.004, less than 10 percent of the state 24-hour average standard. Therefore, it is highly unlikely that any exceedances of CO or SO_2 have occurred near the project site in the past 5 years (ARB 2017b).

EPA and ARB use the type of monitoring data presented in Table 3.3-2 to designate attainment status for criteria air pollutants based on the NAAQS and CAAQS, respectively. The purpose of these designations is to identify areas with air quality problems and thereby initiate planning efforts for improvement.

The three basic designation categories are “attainment,” “nonattainment,” and “unclassified”:

- **Attainment:** This designation signifies that pollutant concentrations in the area do not exceed the established standard. In most cases, a maintenance plan is required for a region after it has attained an air quality standard and is designated as an attainment or maintenance area after previously being designated as nonattainment. Maintenance plans are designed to ensure continued compliance with the standard.
- **Nonattainment:** This designation indicates that a pollutant concentration has exceeded the established standard. Nonattainment may differ in severity. To identify the severity of the problem and the extent of planning and actions required to meet the standard, nonattainment areas are assigned a classification that is commensurate with the severity of their air quality problem (e.g., moderate, serious, severe, extreme).
- **Unclassified:** This designation indicates that insufficient data exist to determine attainment or nonattainment.

The California designations also include a subcategory called “nonattainment-transitional,” which is given to nonattainment areas that are progressing and nearing attainment.

As shown in Table 3.3-3, the portion of Placer County within the SVAB, where the project site is located, meets the NAAQS for all criteria air pollutants except ozone and the 24-hour average $PM_{2.5}$ standard, and meets the CAAQS for all criteria air pollutants except ozone, PM_{10}, and $PM_{2.5}$.

In October 2017, Placer County Air Pollution Control District (PCAPCD) held a public hearing to consider, and ultimately adopted, the *Sacramento Regional 2008 National Ambient Air Quality Standard 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Attainment and Progress Plan) (SMAQMD 2017). The Attainment and Progress Plan geographically covers the SFNA, which includes all of Sacramento and Yolo counties, and portions of Placer, El Dorado, Solano, and Sutter counties. The project site is located in the portion of Placer County that lies within the SFNA. The Attainment and Progress Plan documents how the region is meeting requirements under the federal Clean Air Act (CAA) in demonstrating reasonable further progress and attainment of the 2008 NAAQS (PCAPCD 2017a).

On behalf of all air districts that compose the SFNA, the Sacramento Metropolitan Air Quality Management District approved and submitted to ARB in October 2017 the Sacramento Federal Ozone Nonattainment Area Redesignation Substitution Request for the 1-Hour Ozone Standard, which includes all of Sacramento and Yolo counties, and portions of Placer, El Dorado, Solano, and Sutter counties (PCAPCD 2017b).

3.3.1.3 Toxic Air Contaminants

In addition to criteria air pollutants, the U.S. EPA and the California Air Resources Board also regulate hazardous air pollutants, also known as toxic air contaminants (TACs). TACs may be emitted by stationary, area, or mobile sources. Common stationary sources of TAC emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to the requirements of local air districts’ permits. The other, often more substantial, sources of TAC emissions are motor vehicles on freeways, on high-volume roadways, or in other areas with high numbers of diesel vehicles, such as distribution centers. Off-road mobile sources are also major contributors of toxic air contaminant emissions and include construction equipment, ships, and trains.

Table 3.3-3. Attainment Designations for the Placer County Portion of the Sacramento Valley Air Basin

Pollutant	Federal Standard	California Standard
Ozone[a]	Nonattainment (1-hour) [a]	Nonattainment (1-hour) [b]
	Nonattainment (8-hour) [c]	Nonattainment (8-hour)
Particulate Matter—10 Micrometers or Less	Attainment (24-hour)	Nonattainment (24-hour)
		Nonattainment (annual)
Particulate Matter—2.5 Micrometers or Less	Nonattainment (24-hour)	Nonattainment (annual)
	Attainment (annual)	
Carbon Monoxide	Attainment (1-hour)	Attainment (1-hour)
	Attainment (8-hour)	Attainment (8-hour)
Nitrogen Dioxide	Unclassified (1-hour)	Attainment (1-hour)
	Attainment (annual)	Attainment (annual)
Sulfur Dioxide [d]	Attainment (1-hour)	Attainment (1-hour)
	Attainment (24-hour)	Attainment (24-hour)
	Attainment (annual)	–
Lead	Attainment (3-month rolling average)	Attainment (30-day average)
Hydrogen Sulfide	No Federal Standard	Unclassified (1-hour)
Sulfates		Attainment (24-hour)
Visibility-Reducing Particles		Unclassified (8-hour)

Notes:

[a] Air quality meets the federal 1-hour ozone standard (77 *Federal Register* 64036, October 18, 2012). The U.S. Environmental Protection Agency (EPA) revoked this standard, but some associated requirements still apply. The Sacramento Metropolitan Air Quality Management District attained the standard in 2009, and has requested that EPA recognize attainment to fulfill the requirements.

[b] Per Health and Safety Code Section 40921.5(c), the classification is based on 1989–1991 data, and therefore does not change.

[c] 2008 standard.

[d] Cannot be classified.

Source: PCAPCD 2017c

The term TAC collectively refers to a diverse group of air pollutants that may cause or contribute to an increase in chronic (i.e., long-duration) and acute (i.e., severe but short-term) adverse effects on human health. There are hundreds of different types of toxic air contaminants with varying degrees of toxicity. The health risks of individual toxic air contaminants vary greatly; at a given level of exposure, one toxic air contaminant may pose a hazard that is many times greater than another. TACs are usually present in minute quantities in the ambient air; however, their toxicity or health risk may pose a threat to public health even at low concentrations. TACs can be separated into carcinogens and noncarcinogens, based on the nature of the effects associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Noncarcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis. According to the *California Almanac of Emissions and Air Quality* (ARB 2009), most of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (i.e., DPM). Other TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

DPM differs from other TACs because it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, type of lubricating oil, and presence or absence of an emission control system. Unlike the other TACs, no ambient monitoring data are available for DPM because no routine measurement method currently exists. However, emissions of DPM are forecasted to decline; it is estimated that emissions of DPM in 2035 will be less than half those in 2010, further reducing statewide cancer risk and non-cancer health effects (ARB 2016a).

3.3.1.4 Odors

The ability to detect odors varies considerably among the population and is subjective. Some individuals can smell minute quantities of specific substances while others may not have the same sensitivity but may be sensitive to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person (e.g., from a fast-food restaurant or bakery) may be perfectly acceptable to another. Unfamiliar odors may be more easily detected and likely to cause complaints than familiar ones.

Several examples of common land use types that generate substantial odors are wastewater treatment plants, landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging plants. In addition, odors can be caused by agricultural activities, such as dairy operations; horse, cattle, or sheep (livestock) grazing; fertilizer use; and aerial crop spraying.

Offensive odors can affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects, such as stress.

3.3.1.5 Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others, because of the types of population groups or activities involved. Children, pregnant women, the elderly, those with existing health conditions, and athletes or others who engage in frequent exercise are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered sensitive receptors include schools, daycare centers, parks and playgrounds, and medical facilities.

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to the pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution, even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent as the majority of the workers tend to stay indoors most of the time.

The project site is adjacent to residential and commercial buildings. Multi-family dwelling units are located north of the project site with single-family homes located to the east of the project site. The nearest sensitive receptors are within the multi-family units to the north (situated south of Brace Road, between Starlight Lane and Sierra College Boulevard) and single-family homes to the east (along Hunters Drive), both located approximately 50 feet from of the project site boundary.

3.3.2 Regulatory Setting

EPA, ARB, and PCAPCD are responsible for regulating air quality in the vicinity of the project site. Each agency develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although EPA regulations may not be superseded, in general, both state and local regulations are more stringent. The regulatory frameworks for criteria air pollutants, TACs, and odor emissions are described separately below.

3.3.2.1 Criteria Air Pollutants

Federal Plans, Policies, Regulations, and Laws

The primary legislation that governs federal air quality regulations is the Clean Air Act, enacted in 1970 and amended by Congress most recently in 1990. The CAA delegates primary responsibility for clean air to EPA. EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies.

Under the CAA, EPA has established the NAAQS for seven potential air pollutants: CO, ozone, NO_2, PM_{10} and $PM_{2.5}$, SO_2, and lead (as shown above in Table 3.3-1). The purpose of the NAAQS is two-tiered: primarily to protect public health, and secondarily to prevent degradation to the environment (i.e., impairment of visibility, damage to vegetation and property).

The CAA also requires each state to prepare an air quality control plan, referred to as a state implementation plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments and to determine whether implementing them will achieve ambient air quality standards. If EPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area.

State Plans, Policies, Regulations, and Laws

ARB is responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, adopted in 1988, required ARB to establish CAAQS (as shown above in Table 3.3-1). ARB has also established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particulate matter, in addition to the above-mentioned criteria air pollutants regulated by EPA. In most cases, the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals. The CCAA requires that all air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practicable date. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and areawide emission sources and provides districts with the authority to regulate indirect sources.

ARB is the lead agency for developing the SIP in California. Air districts and other agencies prepare air quality attainment plans or air quality management plans, and submit them to ARB for review, approval, and incorporation into the applicable SIP. ARB also maintains air quality monitoring stations throughout the state in conjunction with air districts. ARB uses the data collected at these stations to classify air basins as being in attainment or nonattainment with respect to each pollutant and to monitor progress in attaining air quality standards.

ARB has established emission standards for vehicles sold in California and for various types of equipment. California gasoline specifications are governed by both state and federal agencies, which have imposed numerous requirements on the production and sale of gasoline in California during the past 15 years. In December 2004, ARB adopted a fourth phase of emission standards (Tier 4) in the Clean Air Non-road Diesel Rule that are nearly identical to those finalized by EPA earlier that year. The standards required engine manufacturers to meet after-treatment–based exhaust standards for NO_X and PM, starting in 2011, that were more than 90 percent lower than current levels, putting emissions from off-road engines virtually on par with those from on-road, heavy-duty diesel engines. ARB has also adopted control measures for DPM and more stringent emissions standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

California's adopted 2007 *State Strategy for the State Implementation Plan for Federal $PM_{2.5}$ and 8-Hour Ozone Standards* (2007 SIP) was submitted to EPA in November 2007 as a revision to the SIP (ARB 2017c). In July 2011, ARB approved revisions to the 2007 SIP that updated the ARB rulemaking calendar, made adjustments to transportation conformity budgets, revised reasonable further progress tables and made associated reductions for contingency purposes, and updated actions to identify advanced emission control technologies (ARB 2017c). In 2008, EPA strengthened the 8-hour ozone standard to 75 parts per billion (ppb), and again further strengthened this standard in 2015 down to 70 ppb. Sixteen areas in California were designated nonattainment in 2012. In 2012, EPA also strengthened the annual fine particulate matter ($PM_{2.5}$) standard to 12 micrograms per cubic meter ($\mu g/m^3$) and designated four areas in California as nonattainment for this standard. ARB released the *Revised Proposed 2016 State Strategy for the State Implementation Plan*, describing the proposed commitment to achieve the reductions necessary from mobile sources, fuels, and consumer products to meet federal ozone and $PM_{2.5}$ standards over the next 15 years (ARB 2017c).

Regional and Local Plans, Policies, Regulations, and Ordinances

Placer County Air Pollution Control District

PCAPCD attains and maintains air quality conditions in Placer County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. PCAPCD inspects stationary sources of air pollution, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA, CAAA, and CCAA. The clean-air strategy of PCAPCD includes preparing plans and programs for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, and issuing permits for stationary sources of air pollution. The rules and regulations include procedures and requirements to control the emission of pollutants and to prevent adverse impacts.

All projects within PCAPCD's jurisdictional area are subject to PCAPCD rules and regulations in effect at the time of construction. Specific PCAPCD rules that could be applicable to the proposed project may include but are not limited to the following:

- Rule 205: Nuisance. A developer and proposed project cannot emit any quantities of air contaminants or other materials that would cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; or that would endanger the comfort, repose, health, or safety of any persons or the public; or that would cause or have natural tendency to cause injury or damage to business or property.
- Rule 212: Storage of Organic Liquids. To limit emissions from storage tanks for organic liquids, any facility where organic liquids having a vapor pressure greater than 25.8 mm Hg [millimeters of mercury] (0.5 psi [pound per square inch]) are placed, stored, or held in any stationary tank, reservoir or other bulk container shall comply with the provisions of this rule.
- Rule 213: Gasoline Transfer into Stationary Storage Containers. The operation shall comply with the provisions of this rule for the transfer of fuel from any tank truck or trailer into any stationary storage container with a capacity of more than 250 gallons.
- Rule 214: Transfer of Gasoline into Vehicle Fuel Tanks. The operation shall comply with the provisions of this rule for the transfer of fuel from any stationary storage tank into any motor vehicle fuel tank.
- Rule 217: Cutback and Emulsified Asphalt Paving Materials. The developer or contractor is required to use asphalt paving materials that comply with the VOC content limits specified in the rule.
- Rule 218: Architectural Coatings. The developer or contractor is required to use coatings that comply with the content limits for VOCs specified in the rule.
- Rule 228: Fugitive Dust. The developer or contractor is required to control dust emissions from earthmoving activities or any other construction activity to prevent airborne dust from leaving the project site.
- Rule 247: Natural Gas–fired Water Heaters, Small Boilers, and Process Heaters. If a proposed project would install natural gas-fired units (i.e., boilers, steam generators, and process heaters) with a rated heat input capacity greater than or equal to 75,000 Btu [British thermal units] and less than 5 million Btu per hour, the unit is required to comply with the NO_X and CO emissions standards.
- Rule 501: General Permit Requirements. To provide an orderly procedure for the review of new sources of air pollution and modification and operation of existing sources through the issuance of permits. Any project that includes the use of equipment capable of releasing emissions to the atmosphere may be required to obtain permit(s) from PCAPCD before equipment operation.

PCAPCD has also produced the *CEQA Air Quality Handbook*, which outlines guidance for analyzing construction and operational emissions from land use projects. PCAPCD also includes a list of analysis expectations and methodologies for CEQA analyses. On October 13, 2016, the PCAPCD Board of Directors adopted the *Review of Land Use Projects under CEQA Policy*, which includes recommendations for thresholds of significance for criteria air pollutant emissions. In developing the thresholds, PCAPCD took into account health-based air quality standards and the strategies to attain air quality standards, historical CEQA project review data in Placer County, and the geographic and land use features of Placer County. PCAPCD's emissions thresholds of significance are discussed further below in Section 3.3.3.2, "Thresholds of Significance."

Town of Loomis General Plan

State law requires each city and county to adopt a general plan "for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning" (Government Code Section 65300). The *Town of Loomis General Plan* (Town of Loomis 2001) contains a set of goals, policies, and programs that address important community issues and is the basis for land use and public policy decisions. The Natural Resources and Open Space portion of Section VII, "Conservation of Resources," in the *Town of Loomis General Plan* contains the following air quality policy and measures applicable to the proposed project:

- **Policy 1: Air quality.** Loomis will contribute toward the attainment of State and Federal air quality standards in the Sacramento Valley Air Basin through the following, and other feasible measures.

a. Site preparation and development activities shall incorporate effective measures to minimize dust emissions and the emissions of pollutants by motorized construction equipment and vehicles.

b. During the review of development plans, the Town should require that project proponents conduct their own air quality analysis to determine air quality impacts and potential mitigation measures.

d. Recognizing that trees and other vegetation can provide a biological means of reducing air contaminants, existing trees should be retained and incorporated into project design wherever feasible. The additional planting of a large number of trees along roadways and in parking areas shall be encouraged.

e. The Town shall require carbon monoxide modeling for development projects that, in combination with regionally cumulative traffic increases, would result in a total of 800 or more trips at an affected intersection or cause the level of service to drop to D or lower at the intersection.

…

h. If an initial air quality screening indicates that emissions of any pollutant could exceed 10 pounds per day, the Town shall require such development projects to submit an air quality analysis to Placer County APCD [PCAPCD] for review. Based on the analysis, the Town may require appropriate mitigation measures consistent with the latest version of the AQAP [air quality attainment plan] or other regional thresholds of significance adopted for the air basin.

i. New development shall pay its fair share of the cost to provide alternative transportation systems, including bikeways, pedestrian paths, and bus stop facilities.

j. The Town shall require that new developments dedicate land sufficient for park-and-ride lots, when the location is appropriate for such facilities.

3.3.2.2 Toxic Air Contaminants

Air quality regulations also focus on TACs, known in federal regulations as hazardous air pollutants (HAPs). In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. This contrasts with criteria air pollutants, for which acceptable levels of exposure can be determined and for which the ambient standards have been established. Instead, EPA and ARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology for toxics (MACT and BACT) to limit emissions. These statutes and regulations, in conjunction with additional rules set forth by PCAPCD, establish the regulatory framework for TACs.

Federal Plans, Policies, Regulations, and Laws

The CAA requires EPA to identify and set national emissions standards for HAPs to protect public health and welfare. Emissions standards are set for what are called “major sources” and “area sources.” Major sources are defined as stationary sources with potential to emit more than 10 tons per year of any HAP or more than 25 tons per year of any combination of HAPs; all other sources are considered area sources. There are two types of emissions standards: those that require application of MACT, and those that are health-risk based and deemed necessary to address the risks that remain after implementation of MACT. For area sources, the MACT standards may be different because of differences in generally available control technology. The CAA also requires EPA to issue vehicle or fuel standards containing reasonable requirements that control toxic emissions of, at a minimum, benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics.

State Plans, Policies, Regulations, and Laws

TACs in California are regulated primarily through the Tanner Air Toxics Act (Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act (Assembly Bill 2588; Chapter 1252, Statutes of 1987). A total of 243 substances have been designated TACs under California law; they include the 189 (federal) HAPs adopted in accordance with Assembly Bill 2728, which required the state to identify the federal HAPs as TACs to make use of the time and costs the EPA had already invested in evaluating and identifying hazardous/toxic substances. The Air Toxics Hot Spots Information and Assessment Act seeks to identify and evaluate risks from air toxics sources, but does not regulate air toxics emissions. TAC emissions from individual facilities are quantified and prioritized. “High-priority” facilities must perform a health risk assessment and, if specific thresholds are violated, must communicate the results to the public in the form of notices and public meetings. TACs are generally regulated through statutes and rules that require the use of MACT or BACT to limit TAC emissions.

According to the *California Almanac of Emissions and Air Quality* (ARB 2013a), most of the estimated health risk from TACs is attributed to relatively few compounds, the most dominant being DPM. In 2000, ARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 85 percent decrease in statewide diesel health risk by 2020 relative to the diesel health risk year in the year 2000 (ARB 2000). Additional regulations apply to new trucks and diesel fuel. Subsequent ARB regulations on diesel emissions include the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-road Diesel Vehicle Regulation, and the New Off-road Compression Ignition Diesel Engines and Equipment Program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment.

The *Air Quality and Land Use Handbook: A Community Health Perspective*, published by ARB, provides guidance on land use compatibility with sources of TACs (ARB 2005). The handbook is not a law or adopted policy but offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities. Since the 2005 publication of the Handbook, ARB also published a Technical Advisory as a supplement to the Handbook to provide information on scientifically based strategies to reduce exposure to emissions near high-volume roadways in order to protect public health (ARB 2017a). This Technical Advisory demonstrates that reduced exposure to traffic-related pollution can be achieved while pursuing infill development that independently provides public health benefits. The Technical Advisory identifies strategies to reduce air pollution exposure near roadways, including those that reduce vehicular emissions, such as incorporation of roundabouts for speed reduction, traffic signal management, and speed limit reductions on high-speed roadways (those greater than 55 miles per hour); strategies that reduce the concentrations of traffic pollution, such as urban design that promotes air flow, solid barriers to pollution, and vegetation to reduce pollutant concentrations; and strategies that remove pollution from indoor air such as through high efficiency filtration. This Technical Advisory does not negate the ARB Handbook but offers multiple variables for consideration for land use, transportation, and environmental planning and development.

The State of California has also implemented regulations to reduce DPM emissions. Two such regulations applicable to the proposed project include Title 13, Sections 2485 and 2449, of the California Code of Regulations, which limit idling time to a maximum of 5 minutes for heavy-duty commercial diesel vehicles (defined as diesel vehicles heavier than 10,000 pounds gross vehicle rated weight) and off-road diesel-fueled construction vehicles, respectively (ARB 2016b). These regulatory measures are driven by the ARB Airborne Toxic Control Measure and subsequent amendments.

Regional and Local Plans, Policies, Regulations, and Ordinances

At the local level, air pollution control or management districts may adopt and enforce ARB control measures. Under PCAPCD Rule 501 (General Permit Requirements), Rule 502 (New Source Review), and Rule 507 (Federal Operating Permit), all sources that could emit TACs must obtain permits from PCAPCD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new-source review standards and air toxics control measures. It is important to note that the air quality permitting process applies only to stationary sources; properties may be exposed to elevated levels of TACs from mobile sources (e.g., freeway traffic) that are not subject to this process or to any requirements regarding implementation of BACT for Toxics. Rather, emissions controls on mobile sources are subject to regulations implemented at the federal and state levels.

3.3.3 Impact Analysis

3.3.3.1 Methodology

The discussion below presents the methods used for the air quality analysis and explains how the significance of the proposed project's air quality impacts was determined. Potential air quality impacts associated with short-term construction and long-term operations were evaluated in accordance with PCAPCD-recommended and ARB-approved methodologies. PCAPCD's significance thresholds serve as a proxy for determining whether the proposed project could violate air quality standards, cause a substantial contribution to an existing or projected air quality violation, and/or conflict with any applicable air quality plan. Appendix B presents the modeling inputs and resultant air emissions estimates.

Construction-related air emissions were modeled using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2, and compared with the applicable thresholds of significance (described) to determine potential impacts. CalEEMod allows the user to input project-specific parameters. In this case, project-specific construction inputs included items such as site acreage and construction schedule. Where project-specific information was not available, default parameters provided by the model were used. Default assumptions provided by the model are typically conservative to avoid underestimating emissions. In addition, to conservatively estimate the maximum daily emissions, construction emissions were modeled based on certain construction activities taking place on-site concurrently, thereby representing the most intensive day of construction for each phase. Construction-related emissions are compared with the applicable PCAPCD thresholds, as described in Section 3.3.3.2 below.

After construction, operation of the warehouse and fueling station would generate air pollutant emissions. CalEEMod was used to estimate these long-term operational emissions, as well as emissions associated with area and energy sources (i.e., natural gas combustion, landscape maintenance, periodic architectural coating, and consumer products). Operational emissions associated with day-to-day activities of the proposed project were quantified using CalEEMod defaults, and project-specific trip generation rates and distances were based on the traffic impact study prepared in support of this EIR. As described below, additional project-generated emissions were estimated for project-related activities not captured within the CalEEMod modeling scenario. The total of all estimated emissions was summed to provide an annual operational emissions estimate for comparison to the PCAPCD thresholds of significance.

The CalEEMod emissions estimates do not include emissions from the fueling station as a stationary source. To account for emissions associated with refueling and spillage processes, emission factors from the CARB Revised Emission Factors Report (ARB 2013b) were used to estimate emissions for the fueling station loading and breathing processes. It was assumed that the annual fuel throughput for the proposed project would be 20 million gallons per year. The estimated air emissions associated with operation of the proposed fueling station were added to those generated by CalEEMod.

Vehicle miles traveled (VMT) estimates, as described in the project's Transportation Impact Analysis, were used to generate project-specific inputs in CalEEMod to estimate project-related air pollutant emission from additional daily customer and employee trips to and from the site. In addition to estimating air pollutant emissions using CalEEMod, emission factors from EMFAC2017 and OFFROAD2017 were used to estimate emissions from delivery (warehouse goods and fuel) truck trips, as well as on-site idling of delivery trucks and passenger vehicles in queue at the fueling station. Emission factors from OFFROAD 2017 were used to estimate greenhouse gas (GHG) emissions from transport refrigeration units (TRUs) operating on the warehouse goods delivery trucks. It was estimated that up to 13 warehouse delivery trucks would come to the site daily; up to 4 of the 13 warehouse delivery trucks would be equipped with TRUs. Based on the annual fuel throughput of 20,000,000 gallons per year and tanker truck capacity, this analysis assumed 7 fuel delivery trucks would come to the site per day. Idling emission rates are in grams per hour, and emissions were estimated assuming each delivery truck with or without TRUs would idle for up to 5 minutes upon arrival and 5 minutes upon departure, as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations. Finally, mobile operations would include the passenger vehicle queuing at the fueling station. The fueling station design allows for up to 30 vehicles in queue at a time. This analysis assumed the peak-hour queue would have 30 vehicles in queue continuously for the peak-hour time period. The estimated air emissions associated with these mobile operations were added to those estimated by CalEEMod for the additional VMT from customer and employee trips to and from the site. CO impacts were evaluated using the screening-level procedures provided by PCAPCD (2017c).

The impact analysis does not directly evaluate airborne lead. Because regulations require the use of unleaded fuel and prohibit lead in new building materials, neither construction nor future operations of the proposed project would generate lead emissions.

A Health Risk Assessment for the proposed project was performed to evaluate TAC emissions associated with project construction and operations that could affect surrounding sensitive receptors (CAPCOA 2010). The Health Risk Assessment evaluation was based on modeled emissions estimates using CalEEMod, EMFAC, and OFFROAD, as described above. The American Meteorological Society/U.S. EPA Regulatory Model (AERMOD) dispersion model (Version 19191) was used to estimate pollutant concentrations at specific distances from project emission sources using hourly meteorological data. At the direction of PCAPCD, the Sacramento International Airport meteorological station was used. Additional details on this site are described in more detail in Appendix B2 Exposure factors were used to calculate the dose associated with exposure to the estimated unit concentration results obtained using AERMOD. ARB created the HARP2 software to assist in the development of emissions inventories, dispersion modeling, and risk assessment. For this project, HARP2 was used solely to estimate cancer risk via HARP2's Air Dispersion Modeling and Risk Tool (ADMRT), Version 19121; ADMRT was developed to encapsulate the exposure factors and guidance of the 2015 OEHHA Health Risk Assessment (OEHHA, 2015). The Health Risk Assessment evaluated the 30-year cancer risk for resident receptors using the OEHHA-Derived Method. Factors that affect the dose that a receptor would receive include but are not limited to age-specific daily breathing rates as well as exposure time, frequencies, and duration.

Non-cancer health risks for chronic exposure (a one-year average exposure and an 8-hour average chronic non-cancer health impact from repeated 8-hour exposure) and acute exposure (one-hour average) were calculated by HARP2 using the hazard index (HI) approach for the receptors and toxic substances emitted from the project. For each TAC, the hazard quotient (HQ) was calculated by dividing the predicted exposure from the model by the reference exposure level (REL) for the substance. The TAC-specific HQs were then summed to calculate the project total HQ. Because substances may affect different target organ systems, such as the pulmonary or gastrointestinal systems, the HIs were calculated separately for each target organ system, and the highest HI was used to characterize the potential health risks. The cancer potency factors and RELs used are consistent with the current values published by ARB (ARB 2019). The RELs are intended to represent exposure levels below which adverse health effects do not occur. Therefore, a HI below one indicates that the project will not cause adverse health risks.

Lastly, PCAPCD recommends that odor impacts be addressed in a qualitative manner. Such an analysis must determine whether the proposed project would result in excessive nuisance odors, as defined in the California Code of Regulations and Health and Safety Code Section 41700, “Air Quality Public Nuisance.”

3.3.3.2 Thresholds of Significance

An air quality impact would be considered significant if it would exceed any of the thresholds of significance listed below, which are based on Appendix G of the State CEQA Guidelines and on PCAPCD’s *CEQA Air Quality Handbook* (PCAPCD 2017c). Based on Appendix G of the State CEQA Guidelines, the proposed project would result in a significant impact on air quality if it would:

- conflict with or obstruct implementation of the applicable air quality plan;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard;
- expose sensitive receptors to substantial pollutant concentrations; or
- result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

As stated in Appendix G of the State CEQA Guidelines, the significance criteria established by the applicable air quality management district may be relied on to make the above determinations. Thus, pursuant to the PCAPCD-recommended thresholds (PCAPCD 2017c) for evaluating project-related air quality impacts, the proposed project would result in a significant impact on air quality if it would:

- generate construction-related criteria air pollutant or precursor emissions that exceed the PCAPCD-recommended daily thresholds of 82 pounds per day (lb/day) for VOC, NO_X, or PM_{10};
- generate long-term regional criteria air pollutant or precursor emissions that exceed the PCAPCD-recommended daily thresholds of 55 lb/day of VOC or NO_X, or 82 lb/day of PM_{10};
- generate emissions of toxic air contaminants or $PM_{2.5}$ that would cause an excess cancer risk level of more than 10 in in one million or exceed a Hazard Index of 1; or
- expose sensitive receptors to excessive nuisance odors, as defined under PCAPCD Rule 205. [See “Regional and Local Plans, Policies, Regulations, and Ordinances,” in Section 3.3.2.1, “Criteria Air Pollutants,” above.]

Because there is considerable overlap between the threshold questions, this section has been organized to address the following topics:

- Short-term, construction-related emissions
- Long-term, operational emissions
- Exposure of sensitive receptors to substantial pollutant concentrations
- Exposure to objectionable odors

Two of the Appendix G checklist questions address conflicts with an air quality plan and contribution to an air quality violation. The criteria air pollutant significance thresholds serve as a proxy for these impacts; therefore, the evaluation of potential conflicts with air quality plans and air quality violations is consolidated.

For cumulative impacts, PCAPCD states that if a project's impacts would be significant at the project level (i.e., would exceed any of the thresholds listed above), it could also be considered significant on a cumulative level. Section 4 of this EIR addresses cumulative impacts in detail.

3.3.3.3 Environmental Impacts and Mitigation Measures

Impact 3.3-1: Generation of Temporary, Short-Term, Construction-Related Emissions of Criteria Pollutants and Precursors. *Short-term construction activities would not generate emissions of criteria air pollutants that would exceed PCAPCD's daily construction emissions thresholds. The impact would be **less than significant**.*

Construction emissions are described as "short-term" or temporary in duration, but have the potential to adversely affect air quality. Construction would result in temporary emissions of volatile organic compounds (VOCs), nitrogen oxides (NO_X), and particulate matter (PM). Ozone precursor emissions of VOCs and NO_X are associated primarily with construction equipment exhaust and the application of architectural coatings. PM emissions are associated primarily with fugitive dust generated during site preparation and grading and vary depending on the soil silt content, soil moisture, wind speed, acreage of disturbance, vehicular travel to and from the construction site, and other factors. PM emissions are also generated by equipment exhaust and re-entrained road dust from vehicular travel on paved and unpaved surfaces.

Construction activities would include site preparation (e.g., excavation, grading, and clearing); exhaust emissions from the use of off-road equipment, material delivery, and construction worker commutes; asphalt paving; and application of architectural coatings. Construction is assumed to begin in 2020 and occur over 6 months. Construction phases (grading, base for paving, paving, concrete foundations and slab on grade, building construction, and architectural coating) would all take place consecutively. The site is anticipated to be balanced (i.e., construction would not require the substantial import of fill or removal of excavated material).

Table 3.3-4 summarizes the maximum daily emissions of VOCs, NO_X, and PM_{10} associated with each phase of construction. See Appendix B for model output files and assumptions.[1]

Table 3.3-4. Summary of Modeled Maximum Daily Construction-Related Emissions of Criteria Air Pollutants and Precursors

Portion of Construction Phase	Maximum Daily Emissions (lb/day)		
	VOCs	NO_X	PM_{10}
Rough Grading	6.5	76.1	12.9
Base for Paving	6.8	29.8	1.7
Paving	6.3	19.5	1.2
Concrete Foundation / Slab on Grade	4.2	23.5	1.4
Building Erection	3.8	35.5	3.5
Architectural Coatings	80.0	76.1	12.9
Maximum Daily Emissions	80.0	76.1	12.9
PCAPCD Significance Threshold	82	82	82
Exceeds Threshold?	No	No	No

Notes: lb/day = pounds per day; NO_X = oxides of nitrogen; PCAPCD = Placer County Air Pollution Control District; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; VOC = volatile organic compound
See Appendix B for detailed modeling assumptions, outputs, and results.

Source: Data compiled by AECOM in 2019

[1] As noted under Impact 3.3-4, there are three options that are analyzed in this EIR related to site access. The short-term criteria air pollutant emissions analysis is of the worst-case option – the one that involves the most potential earth disturbance (Option 1C).

As shown, the modeled daily emissions generated by short-term construction activities would not exceed the PCAPCD-recommended thresholds of significance.

Existing Regulations

Although PM_{10} emissions would not exceed the PCAPCD emissions thresholds, PCAPCD Rule 228, Fugitive Dust, requires a Dust Control Plan for construction and grading activities. Similarly, while not required to meet PCAPCD thresholds of significance, idling restrictions for on-road and off-road construction equipment would be required to comply with ARB regulations and California law developed to address poor air quality in California, of which emissions from heavy-duty vehicles are known to be a major contributor.

California Air Resources Board Idling Restrictions for On-Road and Off-Road Construction Equipment. The construction contractors will be required to minimize idling time of heavy equipment by:

- shutting equipment off when not in use or reducing the time of idling to 5 minutes, as required by Title 13, Sections 2449(d) and 2485 of the California Code of Regulations;
- prohibiting idling within 1,000 feet of sensitive receptors; and
- posting clear signage of this requirement for workers at the entrances to the site and within 1,000 feet of sensitive receptors.

PCAPCD Dust Control Requirements to Reduce Particulate Matter Emissions. The construction contractors will be required to submit a construction emission/dust control plan for approval by PCAPCD before ground disturbance to comply with PCAPCD Rule 202, Visible Emissions, and Rule 228, Fugitive Dust. PCAPCD minimum dust control requirements would include:

- Keep unpaved areas subject to vehicle traffic wet, treated with a chemical dust suppressant, or covered.
- Maintain a maximum speed of 15 miles per hour for any vehicles and equipment traveling across unpaved areas unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust exceeding Ringelmann 2 or visible emissions from crossing the project boundary line.
- Stabilize storage piles and disturbed areas not subject to vehicular traffic by keeping them wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.
- Before any ground disturbance, including grading, excavating, and land clearing, apply sufficient water to the area to be disturbed to prevent emitting dust exceeding 40 percent opacity and to minimize visible emissions crossing the boundary line.
- Wash down construction vehicles leaving the site to prevent dust, silt, mud, and dirt, from being released or tracked off-site.
- Suspend grading and earthmoving operations when wind speeds are high enough to result in visible dust emissions crossing the boundary line, despite the application of dust mitigation measures.
- Maintain all trucks transporting loose materials such as sand, silt, or dirt to or from the site such that no spillage can occur from holes or other openings in cargo compartments, and ensure that loads are either covered with tarps or wetted and loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than 6 inches from the top and that no point of the load extends above the top of the cargo compartment.

Compliance with ARB regulations would further reduce emissions from daily use of heavy-duty construction equipment. Implementation of the PCAPCD dust control requirements and enhanced exhaust control practices, as required by Rule 228 and Rule 202, would also reduce emissions of criteria air pollutants from short-term construction activities, including reducing NO_X emissions further. PM_{10} emissions are below the PCAPCD emissions thresholds, and application of existing regulations would reduce PM emissions further. The impact would be **less than significant**.

Impact 3.3-2: Generation of Long-Term Operational Emissions of Criteria Pollutants and Precursors. *Long-term operational emissions associated with day-to-day warehouse and fueling station activities would not exceed PCAPCD's thresholds of significance for criteria pollutants and precursors. Thus, operational emissions of criteria air pollutants and precursors would not violate or* *contribute substantially to an existing or projected air quality violation or conflict with air quality planning efforts. This impact would be* ***less than significant****.*

Daily activities associated with long-term operations of the proposed warehouse and fueling station would generate criteria air pollutant emissions and precursors from mobile, energy, and area sources. Mobile sources include vehicular trips to and from the project site. Area sources include consumer products (i.e., cleaning supplies, kitchen aerosols, toiletries), natural gas combustion for water and space heating, landscape maintenance equipment, and periodic architectural coatings. Construction emissions are considered short term and temporary, but operational emissions are considered long term and would occur for the lifetime of the project. Therefore, operational emissions have greater potential to affect the attainment status of an air basin, particularly as a result of increased traffic. For the proposed project, emission sources include gas venting from loading and breathing processes associated with the fueling station, as well as on-site idling of delivery trucks (warehouse goods and fuel) and associated TRUs as well as passenger vehicles idling while in the queue line at the fueling station. The proposed warehouse and fueling station total operational emissions are shown in Table 3.3-5. See Appendix B1 for model output files and assumptions.

As shown in Table 3.3-5, the proposed project's total daily operational emissions would not exceed PCAPCD's thresholds of significance.

The PCAPCD thresholds of significance are considered the allowable amount of emissions each project can generate without conflicting with or obstructing implementation of the applicable air quality plans developed to maintain and attain ambient air quality standards (PCAPCD 2016). The proposed project would not generate long-term operational emissions that would exceed the PCAPCD thresholds, and thus, would not conflict with or obstruct implementation of any applicable air quality plan. This impact would be **less than significant**.

Table 3.3-5. Summary of Modeled Maximum Daily Long-Term Operational Emissions of Criteria Air Pollutants and Precursors [a]

Emissions Source	Daily Emissions (lb/day)		
	VOC	NO_X	PM_{10}
Area	4.00	0.00092	0.00036
Energy	0.06	0.51	0.04
Mobile [b]	5.03	36.76	12.19
Evaporative (from fueling center operations)	28.05	0.00	0.00
Total Daily Operational Emissions [c]	**37**	**37**	**12**
PCAPCD Thresholds of Significance	**55**	**55**	**82**
Exceeds Thresholds?	**No**	**No**	**No**

Notes:

lb/day = pounds per day; NO_X = oxides of nitrogen; PCAPCD = Placer County Air Pollution Control District; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; TRUs = transport refrigeration units; VOC = volatile organic compound

See Appendix B for detailed modeling assumptions, outputs, and results. The trip rates and lengths in CalEEMod were adjusted so that the total net travel demand (vehicle miles traveled, or "VMT") matches the project-specific estimates and delivery and queuing-related emissions were estimated outside of CalEEMod.

[a] Operational emissions were modeled for year 2020.

[b] Mobile emissions include those from daily customer and worker trips, daily trips and on-site idling of warehouse and fueling center delivery trucks and associated TRUs, and idling of vehicles in queue at the fueling center.

[c] Total emissions may not add correctly due to rounding.

Source: Data compiled by AECOM in 2019

Impact 3.3-3: Generation of Local Mobile-Source Carbon Monoxide Emissions. *Operational CO emissions associated with day-to-day warehouse and fueling station activities would not result in or substantially contribute to CO concentrations that would exceed the California 1-hour ambient-air quality standard of 20 ppm or the 8-hour standard of 9.0 ppm. Therefore, this impact would be* ***less than significant****.*

CO concentration is a direct function of vehicle idling time, and thus, traffic flow conditions. Under stagnant meteorological conditions, CO concentrations near congested roadways and/or intersections may reach unhealthy levels that adversely affect nearby sensitive land uses.

The *Town of Loomis General Plan* contains an air quality policy and measures intended to serve as the basis for land use and public policy decisions. Included in the policy is a recommended threshold for determining the need for further analysis of potential impacts from CO emissions related to mobile-source operations. The intent of this policy is to identify the potential for, and avoid adverse impacts related to CO, particularly as a result of increased traffic. One way to do this has been to use dispersion modeling to quantify CO concentrations likely to result from projects or at high-volume intersections or along high-volume roadways. However, since this policy was developed, CO emissions have decreased, in part because the Federal Motor Vehicle Control Program has mandated increasingly lower emission levels for vehicles manufactured since 1973. Between 2000 and 2016, national average CO concentrations decreased by approximately 61 percent and regional average CO concentrations in the California and Nevada region decreased by approximately 60 percent (EPA 2018b). Accordingly, as mobile emissions standards have become more stringent and CO emissions from vehicles have decreased over time, dispersion modeling for CO is typically no longer necessary for impact assessment. Since the publication of the *Town of Loomis General Plan* in 2001, PCAPCD has published its updated *CEQA Air Quality Handbook* (2017), which provides screening levels for CO impact assessment that are more applicable to today's standards and anticipated potential project impacts. Therefore, with consideration for the changing environment in mobile-source emissions standards and declining trends for CO emissions, local mobile-source CO concentrations were assessed to meet the intent of the General Plan policy but using the more current screening-level procedure provided by PCAPCD (PCAPCD 2017c).

PCAPCD recommends a screening approach to determine whether traffic would cause a potential CO hotspot at affected intersections. A project is identified to have potential CO impacts if:

- the project's CO emissions from vehicle operation would be more than 550 lb/day; ***and***
- traffic generated by the proposed project would result in deterioration of intersection peak-hour level of service (LOS) from an acceptable peak-hour LOS (e.g., A, B, C, or D) to an unacceptable LOS (e.g., E or F); ***or***
- the project would contribute additional traffic that would substantially worsen and already existing unacceptable peak-hour LOS on one or more intersections in the project vicinity. "Substantially worsen" is defined by PCAPCD as a situation where a delay would increase by 10 seconds or more when project-generated traffic is included.

Maximum daily mobile-source operational CO emissions would be approximately 67.69 lb/day. With consideration of on-site idling, total CO emissions from mobile operations plus this on-site idling would be approximately 84.05 lb/day. This would not exceed the PCAPCD screening level of 550 lb/day. Therefore, the proposed project would not exceed the PCAPCD screening-level criteria.

As stated, CO emissions attributable to on-site truck idling were also considered in this analysis. Up to 13 large trucks would deliver goods on a typical weekday, averaging two to three trucks per hour, with most deliveries completed by 10:00 a.m., when the warehouse would open for the day. It is assumed that there will be nine trucks per day without TRUs, and four trucks per day that would include TRUs. In addition, up to seven fuel delivery trucks would be on-site daily, dispersed throughout the day. The loading dock for the Costco warehouse would be located on the southwestern side of the warehouse, away from residential uses located to the north and east of the project site. A smaller on-grade door would be located on the west side of the building to receive bread deliveries and shipments. To reduce idling time, Costco trucks are equipped with engine idle shut-off timers.

Because the proposed project meets PCAPCD's recommended screening criteria, and because delivery truck trips would be dispersed throughout the day and are anticipated to average less than three per hour, the proposed warehouse and fueling station would not violate air quality standards for CO. Therefore, this impact would be **less than significant**.

Impact 3.3-4: Exposure of Sensitive Receptors to Toxic Air Contaminant Emissions. *Construction of the proposed project would generate temporary emissions of TACs from off-road construction equipment, on-road construction worker and vendor vehicles, earthmoving activities, and paving and architectural coating activities. Long-term operations of the proposed project would include daily mobile operations that would generate emissions from diesel-powered delivery trucks and associated TRUs, as well as operation of a fuel dispensing facility that could result in the emissions of TACs, primarily benzene. These emissions could result in the exposure of sensitive receptors to TAC emissions, but exposures would not approach PCAPCD significance thresholds. Therefore, this impact would be* ***less than significant****.*

The exposures of sensitive receptors (e.g., existing off-site residents) to TAC emissions from short-term sources (construction) and long-term operational sources (mobile, stationary, and other sources) are discussed separately below.

The Office of Environmental Health Hazard Assessment developed a Guidance Manual for the Preparation of Health Risk Assessments. According to Office of Environmental Health Hazard Assessment methodology, health effects from carcinogenic toxic air contaminants are usually described in terms of individual cancer risk, which is based on a 30-year lifetime exposure. A Health Risk Assessment was performed in support of this EIR to evaluate the potential for exposure by sensitive receptors to project-generated TACs. Emissions estimates for the proposed project, as described in Section 3.3.3.1, Methodology, and further details included in Appendices B1 and B2 were used to determine concentrations of each pollutant at sensitive receptor locations in order to evaluate the excess cancer risk a receptor is exposed to as a result of the proposed project.

Construction of the proposed project would generate emissions of TACs from a variety of sources, including off-road construction equipment, on-road vehicles, earthmoving activities, architectural coating activities, and paving activities. These activities may expose nearby receptors to TACs, including residents adjacent to the eastern and northern project site boundaries. The greatest potential for TAC emissions during construction would be related to DPM emissions associated with operation of heavy-duty construction equipment. The HRA assumed $PM_{2.5}$ exhaust emissions to be the equivalent of DPM.

Off-road construction equipment was represented by adjacent volume sources covering the footprint of the project site. On-road emissions from construction-worker vehicles, haul trucks, material delivery trucks, and on-site work trucks traveling to and from the project site were also modeled as adjacent volume sources. Table 3.3-6 summarizes the construction emissions used in the HRA.

Table 3.3-6. Unmitigated Construction-Related Emissions (lb/year)

Emissions Source	ROG	Exhaust $PM_{2.5}$
Off-Site (Mobile Vehicles)	52.34	4.10
On-Site (Off-Road Equip/Vehicles)	2,055.20	180.64

Notes: lb/year = pounds per year; $PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns; ROG = reactive organic gases

After construction of the proposed project, long-term operations would generate emissions of TACs from a variety of sources, including stationary sources, volume sources, and mobile sources. Operational emission sources evaluated in the dispersion modeling include bulk transfer (loading), pressure driven losses (breathing), fueling/hose permeation and spillage processes associated with the fueling station, along with exhaust from diesel engines powering TRUs and on-road vehicles, idling of delivery trucks, and idling of passenger vehicles in queue at the fueling station. Modeling assumed the on-road emissions from operational vehicles associated with the project site as adjacent volume sources. Modeling assumed loading and breathing processes as point sources, while refueling and spillage were included as adjacent volume sources. It should be noted that the landscaping plan includes the inclusion of trees throughout the parking area and surrounding the site perimeter. The Sacramento Air District funded a study that indicates that trees and other vegetation have been shown to alter pollutant transport and dispersion, reducing pollutant concentrations by 65-85 percent on the leeward (downwind) side of a tree line. As such, there may be a benefit of reduced pollutant concentrations at sensitive receptor locations due to the proposed landscaping. However, this reduction has not been estimated at this planning stage and therefore has not been taken into consideration for the following results. Table 3.3-7 summarizes the mobile operations-related emissions used in the HRA, and Table 3.3-8 summarizes the fueling station emissions used in the HRA.

Table 3.3-7. Unmitigated Mobile Operations-Related Emissions (lb/year)

Emissions Source	ROG	Exhaust $PM_{2.5}$
Diesel Vehicles	-	24.36
Gasoline Vehicles	753.55	-

Notes: lb/year = pounds per year; $PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns; ROG = reactive organic gases

Table 3.3-8. Fueling Station Related ROG Emissions (lb/year)

Process	Benzene	Toluene	Xylenes	MTBE
Loading	9.00E+00	3.00E+01	3.00E+01	3.30E+02
Breathing	1.44E+00	4.80E+00	4.80E+00	5.28E+01
Refueling	5.87E+00	1.96E+01	1.96E+01	2.15E+02
Spillage	4.80E+01	3.84E+02	1.15E+02	5.28E+02
Totals	6.43E+01	4.38E+02	1.70E+02	1.13E+03

Notes: lb/year = pounds per year; Annual throughput assumes 20,000,000 gallons of fuel per year.

Health risks were evaluated in terms of cancer and non-cancer risks, where the non-cancer risks are further divided into chronic (long-term and 8-hour) and acute (short-term) risks. There are 3 slightly different configuration scenarios being considered for the project, which only affect secondary vehicle entrance points. The 3 scenarios include the following variations;

- Option 1A – has a second entrance/exit driveway along Brace Road near the northeast corner of the project site;
- Option 1B – does not have a second entrance/exit driveway along Brace Road but does have an entrance/exit connection from the southern portion of project site to Granite Drive; and
- Option 1C – same as Option 1A and includes the entrance/exit connection to Granite Drive.

As a result of the three Project Driveway Access Options of the proposed project, health risks were evaluated for each variation. The results are presented below, with additional details provided in Appendix B2.

Health Risk Results – Option 1A

Table 3.3-9 presents the locations and cancer risks for the off-site maximum exposed individual resident (MEIR) and the maximum exposed individual worker (MEIW) for the proposed project Option 1A scenario. At the MEIR, cancer risk is calculated on a 30-year basis for an adult, and on a 9-year basis for a child, to account for variable residence times. Cancer risk for the MEIW is calculated on a 25-year exposure basis assuming most workers will be present during the same hours as fueling station operation.

Table 3.3-9. Summary of Cancer Risks

Phase	Cancer Risk (per Million)		
	30-Yr Resident (MEIR)[1]	9-Yr (Child)	25-Yr (Worker) (MEIW)[2]
Construction	4.22	4.22	0.12
Operations	2.80	2.05	4.05
Total Cancer Risk	6.98	6.27	4.17
Significance Threshold	10.0	10.0	10.0
Exceed Threshold?	No	No	No

Notes: units are in micrograms per cubic meter.
[1] Maximum exposed individual resident (MEIR) Receptor Location: 655924.60 E, 4297230.73 N
[2] Maximum exposed individual worker (MEIW) Receptor Location: 655864.60 E, 4296930.73 N

Table 3.3-10 presents the locations and chronic non-cancer HI for the Point of Maximum Impact (PMI), the MEIR, and the MEIW.

Table 3.3-10. Summary of Chronic Non-Cancer Risks

Receptor	Location, UTM		Hazard Index
	East (m)	North (m)	
MEIW	655864.60	4296930.73	0.04
MEIR	655924.60	4297231.73	0.01

Notes: m = meter(s); MEIR = Maximum exposed individual resident; MEIW = Maximum exposed individual worker; UTM = Universal Transverse Mercator

Table 3.3-11 presents the locations and 8-hour chronic HIs for the PMI, the MEIR, and the MEIW.

Table 3.3-11. Summary of 8-hour Chronic Non-Cancer Risks

Receptor	Location, UTM		Hazard Index	Significance Threshold	Exceed Threshold?
	East (m)	North (m)			
PMI	655864.60	4296930.73	0.16	1.0	No
MEIW	655864.60	4296930.73	0.15	1.0	No
MEIR	655924.60	4297231.73	0.02	1.0	No

Notes: m = meter(s); MEIR = Maximum exposed individual resident; MEIW = Maximum exposed individual worker; PMI = Point of Maximum Impact ;UTM = Universal Transverse Mercator

Table 3.3-12 presents the locations and acute HI for the PMI, the MEIR, and the MEIW.

Table 3.3-12. Summary of 8-hour Acute Non-Cancer Risks

Receptor	Location, UTM		Hazard Index	Significance Threshold	Exceed Threshold?
	East (m)	North (m)			
PMI	655784.60	4296991	0.26	1.0	No
MEIW	655864.60	4296930.73	0.16	1.0	No
MEIR	656104.60	4296970.73	0.10	1.0	No

Notes: m = meter(s); MEIR = Maximum exposed individual resident; MEIW = Maximum exposed individual worker; PMI = Point of Maximum Impact; UTM = Universal Transverse Mercator

Health Risk Results – Option 1B

Table 3.3-13 presents the locations and cancer risks for the off-site MEIR and the MEIW for the proposed project Option 1B scenario. At the MEIR, cancer risk is calculated on a 30-year basis for an adult, and on a 9-year basis for a child, to account for variable residence times. Cancer risk for the MEIW is calculated on a 25-year exposure basis assuming most workers will be present during the same hours as fueling station operation.

Table 3.3-13. Summary of Cancer Risks

Phase	Cancer Risk (per Million)		
	30-Yr Resident (MEIR)[1]	9-Yr (Child)	25-Yr (Worker) (MEIW)[2]
Construction	3.96	3.96	0.10
Operations	1.67	1.21	3.47
Total Cancer Risk	5.63	5.17	3.57
Significance Threshold	10.0	10.0	10.0
Exceed Threshold?	No	No	No

Notes: units are in micrograms per cubic meter.

[1] Maximum exposed individual resident (MEIR) Receptor Location: 655924.60 E, 4297230.73 N

[2] Maximum exposed individual worker (MEIW) Receptor Location: 655864.60 E, 4296930.73 N

Table 3.3-14 presents the locations and chronic non-cancer HI for the PMI, the MEIR, and the MEIW.

Table 3.3-14. Summary of Chronic Non-Cancer Risks

Receptor	Location, UTM		Hazard Index
	East (m)	North (m)	
MEIW	655864.60	4296930.73	0.04
MEIR	655924.60	4297231.73	0.01

Notes: m = meter(s); MEIR = Maximum exposed individual resident; MEIW = Maximum exposed individual worker; UTM = Universal Transverse Mercator

Table 3.3-15 presents the locations and 8-hour chronic HIs for the PMI, the MEIR, and the MEIW.

Table 3.3-15. Summary of 8-hour Chronic Non-Cancer Risks

Receptor	Location, UTM		Hazard Index	Significance Threshold	Exceed Threshold?
	East (m)	North (m)			
PMI	655864.60	4296930.73	0.16	1.0	No
MEIW	655864.60	4296930.73	0.15	1.0	No
MEIR	655924.60	4297231.73	0.02	1.0	No

Notes: m = meter(s); MEIR = Maximum exposed individual resident; MEIW = Maximum exposed individual worker; PMI = Point of Maximum Impact; UTM = Universal Transverse Mercator

Table 3.3-16 presents the locations and acute HI for the PMI, the MEIR, and the MEIW.

Table 3.3-16. Summary of 8-hour Acute Non-Cancer Risks

Receptor	Location, UTM		Hazard Index	Significance Threshold	Exceed Threshold?
	East (m)	North (m)			
PMI	655784.60	4296990.73	0.25	1.0	No
MEIW	655864.60	4296930.73	0.16	1.0	No
MEIR	656104.60	4296970.73	0.09	1.0	No

Notes: m = meter(s); MEIR = Maximum exposed individual resident; MEIW = Maximum exposed individual worker; PMI = Point of Maximum Impact; UTM = Universal Transverse Mercator

Health Risk Results – Option 1C

Table 3.3-17 presents the locations and cancer risks for the off-site MEIR and the MEIW for the proposed project Option 1C scenario. At the MEIR, cancer risk is calculated on a 30-year basis for an adult, and on a 9-year basis for a child, to account for variable residence times. Cancer risk for the MEIW is calculated on a 25-year exposure basis assuming most workers will be present during the same hours as fueling station operation.

Table 3.3-17. Summary of Cancer Risks

Phase	Cancer Risk (per Million)		
	30-Yr Resident (MEIR)[1]	9-Yr (Child)	25-Yr (Worker) (MEIW)[2]
Construction	3.96	3.96	0.10
Operations	1.73	1.25	3.48
Total Cancer Risk	5.68	5.21	3.58
Significance Threshold	10.0	10.0	10.0
Exceed Threshold?	No	No	No

Notes: units are in micrograms per cubic meter.

[1] Maximum exposed individual resident (MEIR) Receptor Location: 655924.60 E, 4297230.73 N

[2] Maximum exposed individual worker (MEIW) Receptor Location: 655864.60 E, 4296930.73 N

Table 3.3-18 presents the locations and chronic non-cancer HI for the PMI, the MEIR, and the MEIW.

Table 3.3-18. Summary of Chronic Non-Cancer Risks

Receptor	Location, UTM		Hazard Index
	East (m)	North (m)	
MEIW	655864.60	4296930.73	0.04
MEIR	656104.60	4296990.73	0.01

Notes: m = meter(s); MEIR = Maximum exposed individual resident; MEIW = Maximum exposed individual worker; UTM = Universal Transverse Mercator

Table 3.3-19 presents the locations and 8-hour chronic HIs for the PMI, the MEIR, and the MEIW.

Table 3.3-19. Summary of 8-hour Chronic Non-Cancer Risks

Receptor	Location, UTM		Hazard Index	Significance Threshold	Exceed Threshold?
	East (m)	North (m)			
PMI	655864.60	4296930.73	0.16	1.0	No
MEIW	655864.60	4296930.73	0.15	1.0	No
MEIR	655924.60	4297231.73	0.02	1.0	No

Notes: m = meter(s); MEIR = Maximum exposed individual resident; MEIW = Maximum exposed individual worker; PMI = Point of Maximum Impact; UTM = Universal Transverse Mercator

Table 3.3-20 presents the locations and acute HI for the PMI, the MEIR, and the MEIW.

Table 3.3-20. Summary of 8-hour Acute Non-Cancer Risks

Receptor	Location, UTM		Hazard Index	Significance Threshold	Exceed Threshold?
	East (m)	North (m)			
PMI	655784.60	4296990.73	0.25	1.0	No
MEIW	655864.60	4296930.73	0.16	1.0	No
MEIR	656104.60	4296970.73	0.09	1.0	No

Notes: m = meter(s); MEIR = Maximum exposed individual resident; MEIW = Maximum exposed individual worker; PMI = Point of Maximum Impact; UTM = Universal Transverse Mercator

As shown in Tables 3.3-9 through 3.3-20, the proposed project, for all the proposed options, would not expose nearby receptors to levels of TACs that would result in an excess cancer or non-cancer health risks that exceed PCAPCD thresholds. Therefore, the proposed project would not expose sensitive receptors to substantial concentrations of TAC emissions and this impact would be **less than significant.**

However, because the proposed project would involve construction and operation of a fueling station, the project would be required to comply with PCAPCD Rules 213 and 214. In addition, prior to construction and operation of a fueling facility, the proposed project would require an Authority to Construct permit from PCAPCD. Although the proposed project would not exceed the PCAPCD thresholds of significance for cancer risk and HI, the proposed project is still required to comply with applicable PCAPCD Rules and Regulations and permitting requirements.

Existing Regulations

The project is required to comply with existing regulations, including permit conditions associated with an Authority to Construct Permit and Permit to Operate for the proposed fueling station.

> **Obtain an Authority to Construct (ATC) Permit from APCD prior to Receipt of a Building Permit.** Prior to receipt of a building permit, the applicant is required to obtain an ATC permit from PCAPCD.
>
> **Obtain a Permit to Operate from APCD prior to Operation of the Fueling Station.** Prior to operations, the applicant is required to obtain a Permit to Operate from PCAPCD for the operations of the fueling facility. As part of the Permit to Operate, the applicant will be required to comply with the following, as well as any other conditions as detailed per PCAPCD permit requirements:
>
> - Demonstrate compliance with PCAPCD Rules 213 and 214, as well as applicable California Health and Safety Code Sections 41950-41964, the California Code of Regulations Sections 94010-94168 and the ARB Vapor Recovery Executive Orders, to meet vapor recovery and control requirements for the fueling station.
> - Provide annual performance testing and inspection of fuel dispensing facility vapor recovery and control equipment by a certified contractor. PCAPCD must be notified 15 days prior to the testing and test results provided to PCAPCD within 30 days of the testing date.
> - Document weekly, quarterly (if the facility includes a Clean Air Separator), and yearly inspections of the vapor recovery equipment, as well as in-station diagnostics failure alarms, maintenance, and repairs. Inspection documentation may be recorded using forms provided by PCAPCD.

As detailed in Tables 3.3-9 through 3.3-12, the proposed project would not result in excess cancer risk greater than 10 per one million nor a HI greater than 1. Because TAC emissions would not result in excess cancer or non-cancer health risks that would exceed PCAPCD thresholds of significance, this impact would be **less than significant**.

Impact 3.3-5: Exposure of Sensitive Receptors to Objectionable Odors. *Short-term odorous emissions from diesel exhaust from on-site construction equipment would be temporary and intermittent and would dissipate rapidly from the source. The proposed project would include the long-term operation of food preparation and services and a fueling station; while neither is a typical land use considered likely to emit objectionable odors, sensitivity to odors varies considerably among the population and these operations could generate odorous emissions that would affect certain people. However, the project is required to comply with existing regulations that would reduce the potential for exposure to odors. This impact would be* ***less than significant****.*

Odor Emissions Related to Short-Term Construction

The predominant source of power for construction equipment is diesel engines. Some individuals may be offended by exhaust odors from diesel engines and emissions associated with asphalt paving and the application of architectural coatings; however, odors would be temporary and would disperse rapidly with distance from the source. Therefore, construction-generated odors would not result in the frequent exposure of receptors to objectionable odor emissions and this impact would be **less than significant**.

Odor Emissions Related to Long-Term Operations

Types of land uses that are likely to emit objectionable odors include wastewater treatment plants, landfills, composting facilities, petroleum refineries, and manufacturing plants. The proposed project would not include any of these types of facilities. The project site is proposed to include both a warehouse retail store and a fueling station, neither of which is typically considered to be a source of objectionable odors. However, the ability to detect odors varies considerably among the population and is inherently subjective in nature. For instance, vapors from the fueling station component of the proposed project could be considered unpleasant to some. Similarly, the proposed project would include food service preparation, meat preparation, and baking of baked goods, which are potential sources of odors that may affect certain people.

Cooking odors generated by the combustion of animal and vegetable matter result in a complex mixture of odorous gases. A small percentage of these odors may be absorbed by the grease particles, but the vast majority exists separately in the airstream. Additionally, grease trap interceptors would be installed where a significant quantity of fats, oils, and grease (FOG) enters the wastewater stream from food production. Grease traps are passive devices designed to collect the FOG for removal by pumping the tank. The grease layer builds and forms a “grease cap.” Due to a high content of FOG with limited other nutrients and bacteria, the grease cap quickly putrefies and becomes rancid. A very high level of fatty acids is produced, contributing to a lowering of the pH in the trap. A low pH environment allows odor-producing bacteria to flourish.

The food preparation and service areas would be required to comply with applicable state regulations associated with cooking equipment and controls, such as grease filtration and removal systems, exhaust hood systems, and blowers to move air into the hood systems, through air cleaning equipment, and then outdoors. Proposed food preparation and sale areas would be equipped with kitchen exhaust systems and pollution/odor control systems, which typically include smoke control, odor control, and exhaust fan sections. Such equipment would ensure that pollutants associated with smoke and exhaust from cooking surfaces would be captured and filtered, allowing only filtered air to be released into the atmosphere. Grease trap maintenance is very important for odor control. Common grease trap maintenance includes routine cleaning using high pressure washing, pumping the trap out, and using non-toxic, natural odor control products and vapor barriers. Because these systems are standard in food production and the proposed food production and service areas would be equipped with these measures, the food production and service area would not be likely to emit objectionable odors.

As described within the discussion of Impact 3.3-4, vapor recovery systems ensure that minimal vapor is released into the atmosphere. Not only does this limit potential TAC emissions, it also minimizes potential associated odorous gases from being released. Without implementation and proper maintenance of vapor recovery systems, the fueling station could expose sensitive receptors to objectionable odors.

Existing Regulations

Although construction-generated odors would not result in the frequent exposure of receptors to objectionable odor emissions, the project applicant is required to comply with PCAPCD Rule 205 (Nuisance) and Rule 218 (Architectural Coatings) (described in Section 3.3.2, “Regulatory Setting,” above).

PCAPCD Rules and Regulations. The construction contractor is required to comply with the following PCAPCD Rules to ensure reduced odor emissions during construction of the proposed project:

- Rule 205: Nuisance. The construction contractor cannot emit any quantities of air contaminants or other materials that would cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; or that would endanger the comfort, repose, health, or safety of any persons or the public; or that would cause or have natural tendency to cause injury or damage to business or property.
- Rule 218: Architectural Coatings. The construction contractor is required to use coatings that comply with the content limits for VOCs specified in the rule.

The project is also required to comply with permit conditions associated with a Permit to Operate for the proposed fueling stations, which would ensure odorous emissions are minimized. The fueling station is also required to comply with ARB Vapor Recovery Executive Orders that require proper installation and maintenance of vapory recovery systems at the fueling station. Such requirements ensure that minimal vapor and associated odors are released into the atmosphere.

Any odors generated by short-term construction operations would be temporary and disperse rapidly with distance from the source. The project is required to comply with PCAPCD Rule 205 and 218 to further reduce potential odorous emissions during construction. Long-term operations would not include any facilities typically considered to be potential sources of odorous emissions. However, operations such as the food preparation and services or the fueling station could generate odorous gases. The food preparation and services areas would include standard equipment to abate potential odors. Compliance with existing regulations related to the fueling station will reduce odors. With the application of existing regulations, the proposed project would not result in the exposure of sensitive receptors to objectionable odors. The impact is **less than significant**.

3.3.4 Significance after Mitigation

PM_{10} emissions are below the PCAPCD emissions thresholds, However, compliance with existing regulations to reduce idling of construction equipment would further reduce emissions associated with short-term daily heavy-duty equipment. Implementation of the PCAPCD dust control requirements and enhanced exhaust control practices, as required by Rule 228 and Rule 202, would also reduce emissions of criteria air pollutants from short-term construction activities, including reducing NO_X emissions further. PM_{10} emissions are below the PCAPCD emissions thresholds, and application of existing regulations would reduce PM emissions further. Impact 3.3-1 would be **less than significant**.

Project compliance with PCAPCD permit requirements, as well as PCAPCD Rules 213 and 214, applicable California Health and Safety Code Sections 41950-41964, the California Code of Regulations Sections 94010-94168 and the ARB Vapor Recovery Executive Orders would ensure adequate screening for potential exposure of sensitive receptors to substantial TAC emissions from the proposed project. In addition, installation and proper maintenance of a vapor recovery system would reduce emissions of benzene (the primary TAC of concern for human health from fuel dispensing facilities) and other TACs. Impact 3.3-4 is **less than significant**.

Compliance with PCAPCD Rule 205 and 218 will reduce potential odorous emissions during construction. ARB Vapor Recovery Executive Orders to properly install and maintain vapory recovery systems at the proposed fueling station will also reduce exposure to odors. Such requirements ensure that minimal vapor and associated odors are released into the atmosphere. Implementation of existing regulations would ensure that Impact 3.3-5 is **less than significant**.

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3.4 Biological Resources

This section evaluates the potential impacts of the proposed project on biological resources that are known or have potential to occur at the project site. The analysis describes existing environmental conditions; the methods used to assess environmental impacts; the potential impacts of implementing the proposed project; and mitigation measures proposed to reduce potentially significant impacts. This section also presents an overview of relevant federal, state, and local plans, policies, and laws. Cumulative impacts on biological resources are addressed in Chapter 4, "Cumulative Impacts."

Information in this section is based on multiple studies summarizing the findings of surveys conducted for the purpose of identifying resources on the site (Huffman Broadway Group 2017; Mann Made Resources 2016; Salix Consulting 2016). Report findings were reviewed by AECOM biologists who conducted a reconnaissance level survey along the alignment for the Granite Drive extension in October 2019. For a list of the references used to identify the region's flora and fauna, see Section 7 of the Biological Resources Report (Huffman Broadway Group 2017) (Appendices C1–C2).

3.4.1 Existing Conditions

The project site is vacant land along the I-80 corridor that is isolated from open space by developed uses including residential to the east, commercial to the south, Sierra College Boulevard to the west and a lumber yard to the north (See Figure 2-2). The property was previously the site of a citrus orchard and contained a single-family dwelling that was demolished and only a foundation remains. Currently, the site is dominated by annual grassland and valley oak woodland. Three swales on-site support a limited area of freshwater marsh. Plant communities present on the project site are discussed below.

3.4.1.1 Vegetation

Project Site

Annual Grassland

Annual grassland is the predominant habitat type on the project site, composing 10.16 acres (approximately 56 percent) of the land area (Figure 3.4-1). The site's annual grassland consists largely of nonnative grasses and forage species and appears to be disked and mowed at least annually.

Grasses on the project site include Italian ryegrass *(Festuca perennis*), ripgut grass (*Bromus diandrus*), soft chess (*B. hordeaceus*), wild oat (*Avena fatua*), hedgehog dogtail (*Cynosurus echinatus*), foxtail barley (*Hordeum jubatum*), and medusahead (*Elymus caput-medusae*).

Forbs present on-site include Italian thistle (*Carduus pycnocephalus*), California mugwort (*Artemisia douglasiana*), field hedge parsley (*Torilis arvensis*), Klamathweed (*Hypericum perforatum*), broad-leaf filaree (*Erodium botrys*), common vetch (*Vicia sativa*), cut-leaf geranium (*Geranium dissectum*), yellow starthistle (*Centaurea solstitialis*), rose clover (*Trifolium hirtum*), smooth's cat-ear (*Hypochaeris glabra*), common fiddleneck (*Amsinckia menziesii*), short-podded mustard (*Hirschfeldia incana*), and bindweed (*Convolvulus arvensis*).

Valley Oak Woodland

Valley oak woodland composes 7.96 acres (approximately 44 percent) of the project site (Figure 3.4-1). The valley oak woodland varies in density, but is mostly open, and is dominated by valley oak and interior live oak (*Quercus lobata, Q. wislizeni*). A small number of blue oaks (*Quercus douglasii*) and a few scattered foothill pines (*Pinus sabiniana*) are also present. Shrubs in the understory include thickets of coyote brush (*Baccharis pilularis*) and Himalayan blackberry (*Rubus armeniacus*). Ground cover is mostly the nonnative herbaceous plants and grasses that are noted above as occurring in annual grassland.

The arborist report for the project determined that 372 trees on the project site—two blue oaks, 86 live oaks, and 284 valley oaks—are of sufficient size to be considered "protected" trees under the Town of Loomis Tree Ordinance (Mann Made Resources 2016) (Appendix C3). The tree ordinance defines a protected tree as any native oak tree (*Quercus* spp.) that is at least 6 inches in diameter at breast height (dbh) for interior live oak, valley oak, and oracle oak, and 4 inches dbh for blue oak. Tree protection is described further under “Loomis Municipal Code” in Section 3.4.2.3, “Local Plans, Policies, Regulations, and Ordinances.”

Valley Freshwater Marsh

Valley freshwater marsh habitat occurs within three separate swales on the property project site (shown in pink in Figure 3.4-1) and totals 0.15 acre. The three separate wetland swales are described in detail in the wetland delineation for the proposed project, presented in Appendix C3 and depicted below in Figure 3.4-2 (Salix Consulting 2016).

One of the three swales flows westerly through the oak woodland into a culvert under Sierra College Boulevard. The eastern end of the swale is a small open area dominated by iris leaf rush (*Juncus xiphioides*). The swale flows through a patch of coyote brush; its lower portion includes wetland plant species such as hyssop loosestrife (*Lythrum hyssopifolia*), curly dock (*Rumex crispus*), prickly lettuce (*Lactuca serriola*), Italian ryegrass, and Mexican rush *(Juncus mexicanus*).

A short swale in the northeastern corner of the site is vegetated with Himalayan blackberry and flows under Starlight Lane. The third swale is in the southwestern corner of the project site where stormwater runoff drains onto the project site from nearby commercial development and travels about 175 feet before exiting the site through a second culvert under Sierra College Boulevard. Wetland species such as water plantain (*Alisma triviale*), speedwell (*Veronica* sp.), moth mullein (*Verbascum blattaria*), water cress (*Nasturtium officinale*), and curly dock are present.

Granite Drive Extension (Project Driveway Access Options 1B and 1C only)

Annual Grassland

Annual grassland (as described above) is also present within the off-site land. Approximately 0.9 acres of annual grassland are present within the footprint of the Granite Drive access (Figure 3.4-2).

Valley Oak Woodland

Valley oak woodland (as described above) is also present within the off-site land that would be crossed by the Granite Drive extension under Options 1B and 1C. Approximately 0.8 acres of valley oak woodland are present within the footprint of the Granite Drive access (Figure 3.4-2).

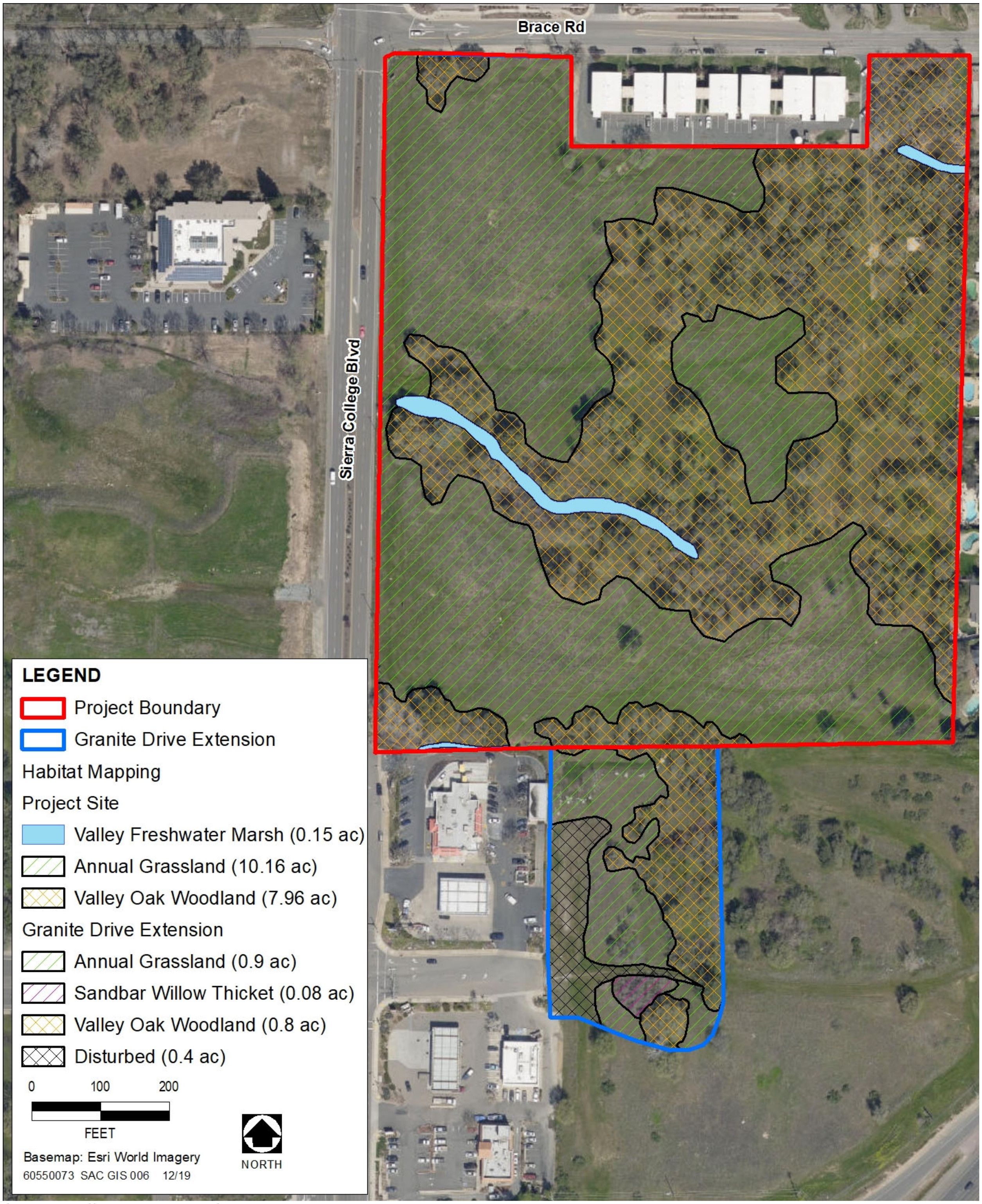
A site visit was conducted on September 24, 2019 to survey a broad area approximately 80 to 180 feet wide where it is possible that future access to the project site could be provided (depicted in Project Driveway Access Options 1B and1C) (Figure 3.4-2). This potential access area is identified for development under the City of Rocklin zoning ordinance, with the zoning district PD-C (planned development – commercial; automotive overlay zone) (see City of Rocklin Zoning Map, as revised November 2016). This survey identified 45 oaks considered “protected trees” under the City of Rocklin Tree Ordinance, 8 interior live oak and 37 valley oaks. One of the valley oaks is considered a “heritage” oak under the Ordinance. The City of Rocklin’s oak tree preservation ordinance describes a protected tree as a native oak tree with a trunk diameter at breast height (tdbh) of six inches or more. In addition, a heritage tree is defined as any oak tree with tdbh of 24 inches or more that is of good or fair quality in terms of health, vigor of growth, and conformity to generally accepted horticultural standards of shape for its species. Tree protection is described further under “Rocklin Municipal Code” in Section 3.4.2.3, “Local Plans, Policies, Regulations, and Ordinances.”

Sandbar Willow Thicket

A small sandbar willow (*Salix exigua*) thicket occurs within the potential alignment of the Granite Drive driveway (Site Plan Options 1B and 1C). This community is shown in Figure 3.4-2 and totals 0.08 acre. Species present on-site consisted of sandbar willow and Himalayan blackberry. The sandbar willow thicket is located just to the north of a berm area in the southern corner of the southern access road area.

Disturbed

Areas of recent tilling (0.4 acres) were observed within the potential southern access road area to Granite Drive (Site Plan Options 1B and 1C) during the site visit conducted on September 24, 2019. These areas were adjacent to the Chevron and McDonald’s parking lots and in an area extending from Granite Drive through what appeared to be a dirt roadway that is regularly maintained (Figure 3.4-1).



Source: Huffman Broadway Group 2017

Figure 3.4-1. Habitat Type

3.4.1.2 Wildlife

Project Site

The wetland habitats and disturbed annual grassland and oak woodland habitats on-site support a variety of wildlife species. The site's native trees and shrubs and native and nonnative herbaceous plants and grasses provide a mix of habitats suitable for nesting by both passerine and non-passerine avian species.

Wildlife common at the site includes resident and wintering bird species that are adapted to the mix of wetland and upland habitats. Species observed at the site include red-shouldered hawk (*Buteo lineatus*), Anna's hummingbird (*Calypte anna*), mourning dove (*Zenaida macroura*), acorn woodpecker (*Melanerpes formicivorus*), western bluebird (*Sialia mexicana*), oak titmouse (*Baeolophus inornatus*), Bewick's wren (*Thryomanes bewickii*), California towhee (*Melozone crissalis*), and house finch (*Haemorhous mexicanus*). Species observed that are expected only during the winter include red-breasted sapsucker (*Sphyrapicus ruber*), hermit thrush (*Catharus guttatus*), ruby-crowned kinglet (*Regulus calendula*), yellow-rumped warbler (*Setophaga coronate*), and golden-crowned sparrow (*Zonotrichia atricapilla*).

Additional neotropical migrants that could be expected to nest at the site during the spring and summer months include Pacific-slope flycatcher (*Empidonax difficilis*), western wood-pewee (*Contopus sordidulus*), western kingbird (*Tyrannus verticalis*), ash-throated flycatcher (*Myiarchus cinerascens*), black-headed grosbeak (*Pheucticus melanocephalus*), and Bullock's oriole (*Icterus bullockii*).

Any of the resident species or breeding neotropical migrants could nest on the project site. Other raptors observed flying over the site included red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*B. swainsoni*), and turkey vulture (*Cathartes aura*).

Although no mammals were documented on the project site, mammals adapted to urban environments would likely be found there, including striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), deer mouse (*Peromyscus maniculatus*), and mule deer (*Odocoileus hemionus*). Amphibians and reptiles found during the field surveys include Sierran treefrog (*Pseudacris sierra*), Western fence lizard (*Sceloporus occidentalis*), and Southern alligator lizard (*Elgaria multicarinata*).

Off-Site Land (Project Driveway Access Options 1B and 1C only)

The potential southern access road area to Granite Drive contains similar habitats to the project site; therefore, similar common wildlife species are expected to occur in this area. The valley oak woodland, annual grassland, and willow scrub areas provide habitat for a variety of passerine and non-passerine avian species, as well as other common wildlife.

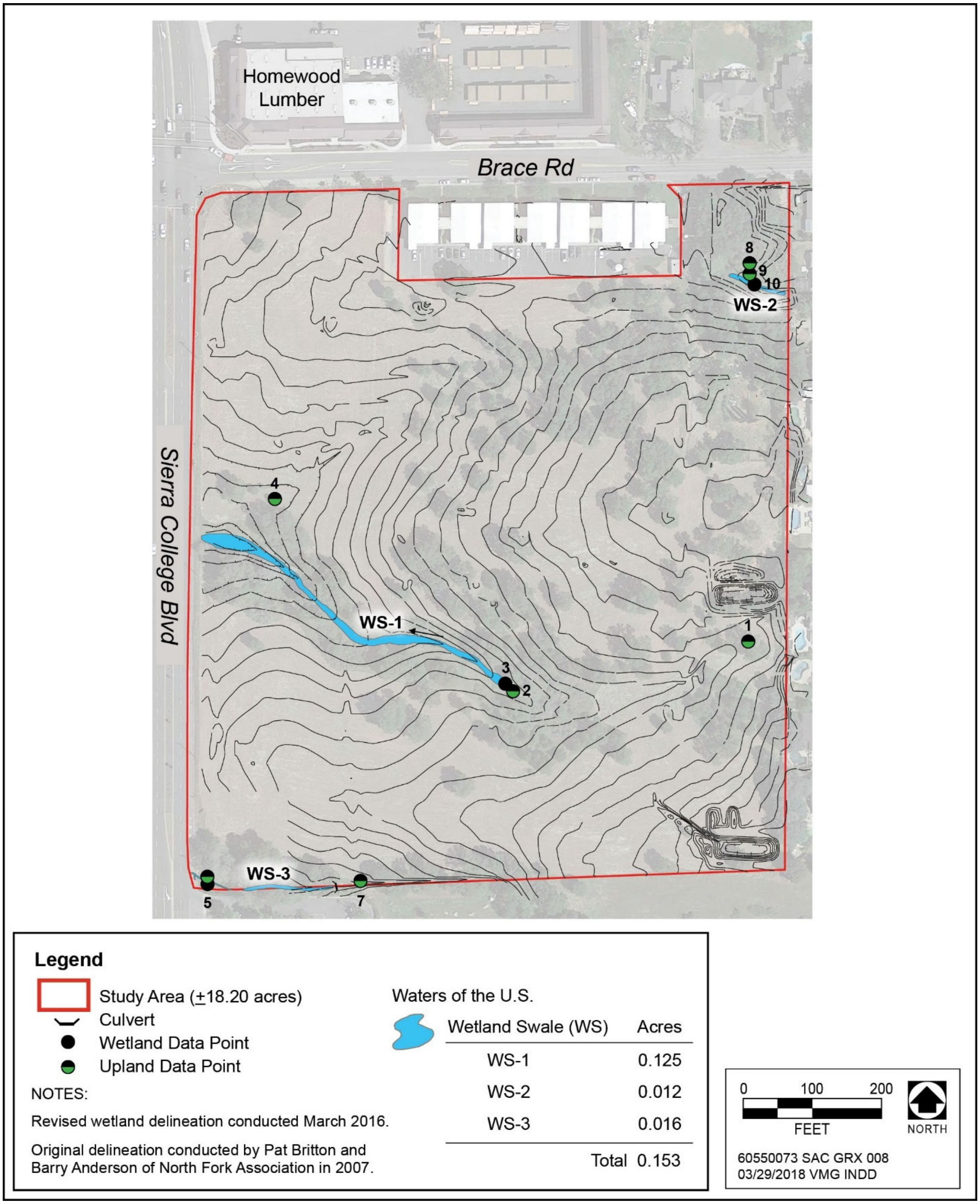
3.4.1.3 Sensitive Biological Resources

Sensitive biological resources are defined as habitats that have particularly high ecological values or functions; are of limited distribution; or otherwise are of concern to federal, state, and/or local resource agencies. Sensitive habitats include Natural Communities of Special Concern identified by the California Department of Fish and Wildlife (CDFW) (e.g., those with a high priority for inventory by the California Natural Diversity Database [CNDDB]) and those afforded specific consideration by CEQA, Section 1602 of the California Fish and Game Code, the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), or Section 404 of the Clean Water Act (CWA).

Wetlands and Other Waters of the United States

Project Site

As described in the wetland delineation for the project (Salix Consulting 2016) (Appendix C2), waters of the United States were delineated by North Fork Associates in February 2008 and verified by the U.S. Army Corps of Engineers (USACE) on March 20, 2009. The verification was valid for 5 years from the date of the letter. The 2009 verification letter is included as Attachment 1 in the updated wetland delineation report (Salix Consulting 2016) (Appendix C2).



Source: Salix Consulting 2016

Figure 3.4-2. Wetlands of the United States

The updated wetland delineation was conducted in accordance with Code of Federal Regulations (CFR) definitions of jurisdictional waters; USACE's 1987 *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) and 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0*) (Arid West Regional Supplement) (USACE 1987, 2008); and supporting guidance documents.

The 1987 Manual provides technical guidance and procedures, from a national perspective, for identifying and delineating wetlands that may be subject to CWA Section 404. The 1987 Manual identifies the following key criteria for determining the presence of wetlands: (a) the presence of inundated or saturated soil conditions resulting from permanent or periodic inundation by groundwater or surface water; and (b) a prevalence of vegetation typically adapted for life in saturated soil conditions (i.e., hydrophytic vegetation). Explicit in the definition is the consideration of three environmental parameters: hydrology, soil, and vegetation. The Arid West Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. The combined use of the 1987 Manual and Arid West Regional Supplement enhances the technical accuracy, consistency, and credibility of wetland determinations (USACE 1987, 2008).

The project site is in the Dry Creek watershed. Jurisdictional resources verified by the USACE on the project site total 0.15 acre of vegetated palustrine emergent wetlands (Salix Consulting 2016) (Appendix C2). This finding was based on the collective presence of hydric soil, wetland hydrology, and wetland vegetation indicators. The identified palustrine emergent wetlands contained low-chroma soils, evidence of wetland hydrology, and vegetation adapted for life in saturated soil conditions. The 0.15 acre of vegetated wetlands on the project site consists of palustrine emergent seasonal wetlands and palustrine scrub-shrub wetlands as defined by Cowardin et al. (1979) criteria. The wetlands mapped on-site are the three swales found on the property. The 0.15 acre of jurisdictional waters of the United States serve the functions of flood flow alteration, groundwater recharge, sediment reconstruction, sediment/toxicant retention, nutrient removal/ transformation, production export, and wildlife habitat.

The locations of Wetland Swales (WS)-1, WS-2, and WS-3 are depicted on Figure 3.4-2. Physical features associated with each swale are described below.

- *WS-1 (0.12 acre)* occurs within the foothill woodland habitat. The swale begins in the middle of the project site, where it collects surface water (in the form of sheet flow) that drains westerly before exiting through a culvert underneath Sierra College Boulevard. Water continues to drain westerly on the adjacent property and drains into Sucker Ravine, which drains into Secret Ravine. Secret Ravine is a tributary of Miners Ravine, which ultimately reaches Dry Creek and then the American River.
- *WS-2 (0.01 acre)* enters the project site through a culvert along the eastern boundary in the northeast corner of the site. The swale appears to convey stormwater runoff and urban water westerly for approximately 80 feet within the project site, and then exits the study area through a culvert that passes underneath Starlight Lane.
- *WS-3 (0.02 acre)* occurs in the southwestern corner of the project site, where stormwater runoff drains into the site through an 18-inch polyvinyl chloride (i.e., PVC) culvert located on the commercial development (McDonald's/Chevron) to the south. The swale continues westward for approximately 175 feet until it merges with a narrower excavated ditch that drains water from a 12-inch concrete culvert located under the commercial development to the south. Water exits the site along the western site boundary through a 30-inch corrugated metal pipe culvert under Sierra College Boulevard.

Granite Drive Extension

A sandbar willow thicket was identified within a small segment of the potential alignment of the Granite Drive extension. Species present include sandbar willow and Himalayan blackberry. The sandbar willow thicket is located just to the north of a berm in the southern corner of the main project site. A formal wetland delineation has not been conducted for the Granite Drive extension, but multiple indicators were identified during visual observations including hydric vegetation and topography that suggest the potential for wetlands to be present.

Special-Status Species

Sensitive species are those species that are listed by the federal and state governments as endangered, threatened, or rare, or that are candidates for such listing. Endangered or threatened species are protected by the federal Endangered Species Act of 1973 (ESA), as amended; the California Native Plant Protection Act of 1977; and the

California Endangered Species Act of 1970 (CESA). CEQA provides additional protection for unlisted species that meet the “rare” or “endangered” criteria defined in Title 14, Section 15380 of the California Code of Regulations.

CDFW maintains records for the distribution and known occurrences of sensitive species and habitats in the California Natural Diversity Database. The CNDDB is organized into map areas based on 7.5-minute topographic maps produced by the U.S. Geological Survey. All known occurrences of sensitive species and important natural communities are mapped onto the quadrangle map. The database gives further detailed information regarding each occurrence, including the specific location of the individual, population, or habitat (if possible) and the presumed current state of the population or habitat. The project site is on the Rocklin 7.5-minute U.S. Geological Survey topographic quadrangle map. The relevant adjacent quadrangles within the search area are the Roseville, Lincoln, Gold Hill, Auburn, Pilot Hill, Folsom, and Citrus Heights quadrangles. A search of the CNDDB records for the occurrences of special-status animals and plants and natural communities within these quadrangles indicated that none have been documented as occurring on the project site itself, but that special-status animal species have been known to occur in the project vicinity. The absence of a special animal, plant, or natural community from the report does not necessarily mean they are absent from the area in question, but only that no occurrence data for that species or natural community have been entered into the CNDDB inventory. The occurrence of special-status plant and animal species near the project area may indicate that they also could occur on the project site, depending on the site’s habitat conditions. Therefore, occurrences of special-status species throughout the quadrangles mentioned above were noted in considering the potential presence of these species on the project site.

Tables 3.4-1 and 3.4-2 list all special-status plant species and special-status animal species, respectively, that have been reported near the project site, and describe their habitat/range and potential for occurrence on-site.

Special-Status Plants

The list of special-status plants shown in Table 3.4-1 includes all species mentioned in the CNDDB as occurring within 10 miles of the project site. Many of these species require habitats that are not found on the project site (e.g., vernal pools, chaparral, coniferous forest) or microhabitat conditions such as soils that do not occur on-site (gabbro or serpentine). A field review of the site’s habitats and conditions determined that project site habitats may be suitable to support the following special-status plant species (Munz and Keck 1973, cited in Huffman Broadway Group 2017):

- big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), a California Native Plant Society (CNPS) List 1B.2 plant sometimes but not always found in serpentine, with a flowering period from March to June;
- Brandegee’s clarkia (*Clarkia biloba* ssp. *brandegeeae*), a CNPS List 4.2 plant with a flowering period from May to July; and
- stinkbells (*Fritillaria agrestis*), a CNPS List 4.2 plant that is sometimes found in serpentine and has a flowering period from March to June.

Protocol surveys of the site for special-status plant species were conducted by botanist Terry Huffman, Ph.D., during the spring and summer of 2017 (Huffman Broadway Group 2017). The systematic surveys were conducted both early and late in the flowering period of the target species (field surveys were conducted on March 27 and June 23, 2017). Special-status plant surveys were conducted pursuant to the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (DFG 2009), which require systematic search techniques in all habitats of the site to ensure thorough coverage of potential impact areas. All vascular plant species were identified using keys and descriptions from *The Jepson Manual* (Baldwin et al. 2012). Specimens of target species were reviewed in the Jepson Herbarium before trips to the field.

None of the target species or any other special-status plant species were found on the site during the spring/summer protocol-level surveys of the project site.

Table 3.4-1. Special-Status Plants Known to Occur in the Vicinity of the Project Site

Common Name Scientific Name	Status*	Habitat/Range	Potential for Occurrence on the Project Site
Big-scale (California) balsamroot *Balsamorhiza macrolepis* var. *macrolepis*	–/–/1B.2	Chaparral, cismontane woodland, valley and foothill grassland/sometimes serpentinite; 90–1,400 meters.	Not present. No individuals of this species were found during protocol-level surveys conducted in spring/summer 2017.
Stebbins morning-glory *Calystegia stebbinsii*	FE/CE/1B.1	Found in chaparral, cismontane woodland. Occurs on red clay soils of the pine-hill formation, on gabbro or serpentine. Prefers open areas. 300–725 meters.	Not present. Suitable habitat is not present on-site.
Pine Hill ceanothus *Ceanothus roderickii*	FE/Rare/1B.2	Found in chaparral and cismontane woodland. In gabbroic soils, often in disturbed areas with other rare plants. 260–630 meters.	Not present. Suitable habitat is not present on-site.
Brandegee's clarkia *biloba* ssp. *brandegeeae*	–/–/4.2	Found in chaparral, cismontane woodland, and lower montane coniferous forest. Often in roadcuts. 75–915 meters.	Not present. No individuals of this species were found during protocol-level surveys conducted in spring/summer 2017.
Red Hill soaproot *Chlorogalum grandiflorum*	–/–/1B.2	Found in cismontane woodland, chaparral, and lower montane coniferous forest. Occurs frequently on serpentine or gabbro, but also on non-ultramafic substrates and often on disturbed sites. 240–760 meters.	Not present. Suitable habitat is not present on-site.
Hispid salty bird's-beak *Chloropyron molle* ssp. *hispidum*	–/–/1B.1	Found in damp alkaline soils in meadows, seeps, playas, and valley and foothill grassland. Especially in alkaline meadows and alkali sinks with *Distichlis*. 1–155 meters.	Not present. Suitable habitat is not present on-site.
Dwarf downingia *pusilla*	–/–/2B.2	Found in vernal pools and mesic sites within valley and foothill grassland. Found along margins of several types of vernal pools. 1–445 meters.	Not present. Suitable habitat is not present on-site.
Stinkbells *Fritillaria agrestis*	–/–/4.2	Found in cismontane woodland, chaparral, and valley and foothill grassland. Sometimes found on serpentine, mostly found in nonnative grassland or in grassy openings in clay soil. 10–1,555 meters.	Not present. No individuals of this species were found during protocol-level surveys conducted in spring/summer 2017.
El Dorado bedstraw *Galium californicum* ssp. *sierra*	FE/Rare/1B.2	Found in cismontane woodland, chaparral, and lower montane coniferous forest. Occurs in pine-oak woodland or chaparral. Restricted to gabbroic or serpentine soils. 130–585 meters.	Not present. Suitable habitat is not present on-site.
Bogg's Lake hedge hyssop *Gratiola heterosepala*	–/CE/1B.2	Inhabits vernal pools and freshwater swamps and marshes. In clay soils and usually in vernal pools, sometime on lake margins. 10–2,375 meters.	Not present. Suitable habitat is not present on-site.
Bisbee Peak rush-rose *Helianthemum suffrutescens*	–/–/3.2	Found in openings in chaparral, often on serpentine, gabbroic, or Ione formation soils. 45–840 meters.	Not present. Suitable habitat is not present on-site.
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	–/–/1B.2	Restricted to the edge of vernal pools. Vernal pools and grasslands. 30–229 meters.	Not present. Suitable habitat is not present on-site.
Red Bluff dwarf rush *Juncus leiospermus* var. *leiospermus*	–/–/1B.1	Found in vernally mesic sites, sometimes on edges of vernal pools within chaparral, valley and foothill grassland, cismontane woodland, vernal pools, meadows, and seeps. 30–1,025 meters.	Not present. Suitable habitat is not present on-site.

Table 3.4-1. Special-Status Plants Known to Occur in the Vicinity of the Project Site

Common Name Scientific Name	Status*	Habitat/Range	Potential for Occurrence on the Project Site
Legenere *limosa*	–/–/1B.1	Found in the beds of vernal pools. Many historical occurrences are extirpated. 1–880 meters.	Not present. Suitable habitat is not present on-site.
Pincushion navarretia *myersii* ssp. *myersii*	–/–/1B.1	Found in vernal pools, in clay soils within nonnative grassland. 20–330 meters.	Not present. Suitable habitat is not present on-site.
Sacramento Orcutt grass *Orcuttia viscida*	FE/CE/1B.1	Found in vernal pools. 30–100 meters.	Not present. Suitable habitat is not present on-site.
Layne's ragwort *Packera layneae*	FT/Rare/1B.2	Found in ultramafic soil, occasionally along streams in chaparral and cismontane woodland. 200–1,000 meters.	Not present. Suitable habitat is not present on-site.
Sanford's arrowhead *Sagittaria sanfordii*	–/–/1B.2	Found in marshes and swamps. In standing or slow-moving freshwater ponds, marshes and ditches. 0–650 meters.	Not present. Suitable habitat is not present on-site.
El Dorado County mule ears *Wyethia reticulata*	–/–/1B.2	Found in chaparral, cismontane woodland, and lower montane coniferous forest. Found in stony red clay and gabbroic soils, often in openings in gabbro chaparral. 185–630 meters.	Not present. Suitable habitat is not present on-site.

* Status Codes:

FE: federally listed as endangered

FT: federally listed as threatened

CE: California listed as endangered

California Rare Plant Ranks

1A: Plants presumed extirpated in California and either rare or extinct elsewhere.

1B: Plants rare, threatened, or endangered in California and elsewhere.

2A: Plants presumed extirpated in California, but more common elsewhere.

2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere.

3: Plants about which more information is needed—a review list.

4: Plants of limited distribution—a watch list.

CNPS Threat Ranks

1: Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)

2: Moderately threatened in California (20–80 percent occurrences threatened/moderate degree and immediacy of threat)

3: Not very threatened in California (<20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

Source: Huffman Broadway Group 2017

The following criteria were applied to assess the potential for species occurrence at the project site:

- *Not Present:* The species is not known to occur on or in the vicinity of the site or there is no suitable habitat for the species on site, or the species was surveyed for during the appropriate season with negative results.
- *Unlikely:* The site is located outside of the species' geographic or elevational range or no suitable habitat for the species is present on-site.
- *Potential:* The species is known to occur in the vicinity of the site (based on occurrence records within 10 miles and/or professional expertise specific to the site or species) and suitable habitat is present on-site; or the species is not known to occur in the vicinity of the site, but suitable habitat is present on-site for foraging or breeding.

Special-Status Animals

The special-status animal species evaluated in Table 3.4-2 are those noted in the CNDDB as occurring within 10 miles of the project site and those known to occur in the general vicinity (Huffman Broadway Group 2017). The key species discussed below either are known to occur in the project vicinity or have the potential to occur at the site, or require specific study to determine their presence or absence.

CDFW's CNDDB was consulted to ascertain the potential for special-status animal species to occur within the 7.5-minute quadrangle map areas in the vicinity of the project site. The CNDDB indicates that seven special-status species deserve note as having occurred within the 10-mile radius of the site:

- Vernal pool fairy shrimp (*Branchinecta lynchi*)
- California linderiella (*Linderiella occidentalis*)
- Steelhead–Central Valley Distinct Population Segment (*Oncorhynchus mykiss irideus*)
- Western spadefoot toad (*Spea hammondii*)
- Burrowing owl (*Athene cunicularia*)
- Swainson's hawk (*Buteo swainsoni*)
- Tricolored blackbird (*Agelaius tricolor*)

These species are discussed below. Other species found to occur within the general CNDDB search area, or determined to be potentially present based on the knowledge of the investigators, are evaluated in Table 3.4-2.

Granite Drive Extension (Project Driveway Access Options 1B and 1C)

A reconnaissance-level survey conducted along the alignment of the Granite Drive extension found similar habitat types to that on the project site. No occurrences of special-status animals, plants and natural communities were identified on the site.

3.4.2 Regulatory Setting

3.4.2.1 Federal Plans, Policies, Regulations, and Laws

Federal Endangered Species Act

The primary focus of the ESA (as amended) is for all federal agencies to seek to conserve threatened and endangered species through their actions. The ESA contains four key sections:

- Section 4 (Title 16, Section 1533 of the United States Code [USC] [16 USC 1533]) outlines the procedure for listing endangered plants and wildlife.
- Section 7 (16 USC 1536) imposes limits on the actions of federal agencies that might affect listed species.
- Section 9 (16 USC 1538) prohibits the unauthorized "taking" of a listed species by anyone, including private individuals and state and local agencies.
- Section 10 (16 USC 1539) provides a process allowing for the legal take of threatened and endangered species by nonfederal parties.

Table 3.4-2. Special-Status Animal Species Reported in the Vicinity of the Project Area

Common Name Scientific Name	Status*	Habitat/Range	Potential for Occurrence on the Project Site
Invertebrates			
Vernal pool fairy shrimp *Branchinecta lynchi*	FT/–	Inhabits vernal pools; occurs throughout the Delta and Central Valley.	Not present. Suitable habitat is not present on-site; seasonal swales on the site are characterized by flowing water systems with depths unsuitable for vernal pool invertebrates.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE/–	Inhabits vernal pools; known from scattered locations in the Delta and Central Valley.	Not present. Suitable habitat is not present on-site. Seasonal swales on the site are characterized by flowing water systems with depths unsuitable for vernal pool invertebrates.
California linderiella *Linderiella occidentalis*	–/–	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions.	Not present. Suitable habitat is not present on-site.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/–	Inhabits blue elderberry bushes (host plant); restricted to the Central Valley and adjacent foothills.	Not present. No elderberries were observed on the site during site surveys; therefore, no potential habitat for this species exists on-site.
Fish			
Steelhead–Central Valley Distinct Population Segment *Oncorhynchus mykiss irideus*	FT/–	Population occurs in the Sacramento and San Joaquin Rivers and their tributaries. In the project area, found in Dry Creek and its tributaries, in Secret Ravine and Miners Ravine.	Not present on-site. Suitable habitat is not present on-site, as there are no large river systems or suitable spawning streams. Suitable spawning habitat is located about 4 miles southwest of the site in Secret Ravine and Miners Ravine.
Amphibians			
Western spadefoot toad *Spea hammondii*	–/CSC	Breeds in vernal pools/seasonal stock ponds in the Central Valley and southern coast.	Potential. The site is in the range of the species; habitat is marginally suitable.
California red-legged frog *Rana draytonii*	FT/CSC	Inhabits freshwater creeks, marshes, and ponds up to elevations of 5,000 feet along the west slope of the Sierra Nevada from Shasta County to Tulare County.	Not present. The only CNDDB records for this species in Placer County are approximately 28 miles northeast of the project area between Michigan Bluff and Brushy Creek, east of Foresthill. Most historical populations on the west slope of the Sierra Nevada foothills are presumed extirpated. The project site is within the range of the species; however, the fragmented nature of potentially suitable habitat near the project area and the lack of recent or historical occurrence data within 10 miles support the conclusion that this species is not present. In addition, the wetlands on-site are seasonal and do not provide the perennial waters typically required for California red-legged frog.
Reptiles			
Western pond turtle *Emys marmorata*	–/CSC	Inhabits freshwater ponds and sluggish streams; occurs from Washington State to Baja California, mostly west of the Sierra Nevada crest.	Not present. Suitable habitat is not present on-site.

Table 3.4-2. Special-Status Animal Species Reported in the Vicinity of the Project Area

Common Name Scientific Name	Status*	Habitat/Range	Potential for Occurrence on the Project Site
Birds			
Prairie falcon *Falco mexicanus*	BCC/WL	Associated primarily with perennial grasslands, savannas, rangeland, some agricultural fields, and desert scrub. Permanent resident and migrant along the inner Coast Ranges.	Unlikely. Appropriate nest sites are not present. This species may forage on the site in winter, although no individuals were observed in February 2017.
Peregrine falcon *Falco peregrinus anatum*	Delisted, BCC/ Delisted, FP	Inhabits open wetlands near cliffs; also occurs in some cities, where it nests on buildings and bridges.	Unlikely. Appropriate nest sites and foraging habitat are not present.
Merlin *Falco columbarius*	–/WL	Breeds in Canada; winters in a variety of California habitats, including grasslands, savannas, and wetlands.	Unlikely. Site is outside of breeding range; may sporadically utilize the site as a winter foraging habitat.
Sharp-shinned hawk *Accipiter striatus*	–/WL	Breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers but is not restricted to riparian habitats. Nonbreeding winter resident in California. North-facing slopes with plucking perches are critical requirements. All habitats except alpine, open prairie, and bare desert are used in winter.	Unlikely. Species may occasionally forage on or near the site in winter.
Cooper's hawk *Accipiter cooperii*	–/WL	Nests primarily in deciduous riparian forests; forages in open woodlands.	Potential. Marginal nesting habitat is present on-site. Species likely forages on or near the site, especially in winter.
Osprey *Pandion haliaetus*	–/WL	Breeds in Northern California from the Cascade Ranges south to Lake Tahoe, and along the coast south to Marin County. Associated strictly with large, fish-bearing waters, primarily in ponderosa pine through mixed conifer habitats.	Not present. Suitable nesting and foraging habitats are not present on-site.
Ferruginous hawk *Buteo regalis*	BCC/ CSC	Inhabits open country. Winters in small numbers along the California coast and in inland valleys.	Potential. The site provides marginal wintering foraging habitat, although no individuals were observed in February 2017 field studies.
Swainson's hawk *Buteo swainsoni*	BCC/CT	Nests in trees and riparian stands; summer resident in the Central Valley. Suitable foraging areas include grasslands, pastures, alfalfa and other hay crops, and certain grain and row croplands.	Unlikely. Distribution in Placer County is sparse and patchy, with all records for this species concentrated in the western edge of the county, west of Lincoln. CNDDB records indicate that this species nests within 7 miles of the site. Habitat details for this record are typical for the species, indicating a large nest tree approximately 55 feet tall in a riparian area immediately adjacent to an open field. The lack of suitable foraging habitat (large open grasslands, pasture, or row crops) in the project vicinity makes nesting on-site unlikely. The site may provide marginally suitable foraging habitat for this species, but it does not contain the elements typical of high-quality foraging habitat found farther to the west. One individual was observed flying over the site on April 22, 2017.

Table 3.4-2. Special-Status Animal Species Reported in the Vicinity of the Project Area

Common Name Scientific Name	Status*	Habitat/Range	Potential for Occurrence on the Project Site
Northern harrier *Circus cyaneus*	–/CSC	Forages and nests in grasslands, marshes, and agricultural fields; occurs throughout California, concentrated in the Central Valley and coastal valleys.	Nesting unlikely. Suitable nesting habitat is not present on-site.
White-tailed kite *Elanus leucurus*	–/FP	Nests in dense oaks, willows, and other trees; occurs in the Central Valley and adjacent low foothills.	Potential. No CNDDB nesting records in vicinity. Nests are unlikely on the study site because of a lack of suitable dense oak woodland.
Bald eagle *Haliaeetus leucocephalus*	Delisted, BCC/ CE, FP	In winter, may be found throughout most of California at lakes, reservoirs, rivers, and some rangelands and coastal wetlands. California's breeding habitats are located mainly in mountains and foothill forests near permanent water sources.	Not present. Suitable nesting and foraging habitats are not present on-site.
Golden eagle *Aquila chrysaetos*	BCC/WL, FP	Typically frequents rolling foothills, mountain areas, sage-juniper flats, and desert.	Unlikely. The site may receive sporadic use by the species in winter.
California black rail *Laterallus jamaicensis coturniculus*	–/CT, FP	Mainly inhabits salt marshes bordering larger bays; also occurs sporadically in the northern Sierra Nevada foothills in scattered freshwater marshes with shallow (<3 centimeters) perennial freshwater and brackish marshes.	Not present. Suitable freshwater marsh habitat with appropriate water depths is not present on-site.
Short-eared owl *Asio flammeus*	–/CSC	Forages and nests in perennial marsh and grassland habitat; occurs in the Central Valley, coast, and east Sierra Nevada regions.	Unlikely. Suitable nesting habitat is not present on-site.
Western burrowing owl *Athene cunicularia hypugea*	BCC/ CSC	Nests in mammal burrows and rock cavities in grassland and scrub; occurs throughout much of mid and lower California.	Unlikely. Although the CNDDB documents nesting records in the project area, suitable habitat is not present on-site because of the tall heights of upland grasses and general lack of California ground squirrels and ground squirrel burrows. No individuals were observed during surveys in February and late April 2017.
Purple martin *Progne subis*	–/CSC	Uses a variety of wooded, low-elevation habitats throughout California. Uses hardwood and hardwood-conifer habitats as well as riparian habitats. Now a rare and local breeder on the coast and in interior mountain ranges.	Unlikely. Suitable nesting habitat is not present on-site.
Loggerhead shrike *Lanius ludovicianus*	BCC/ CSC	Habitat includes open areas such as desert, grasslands, and savannas. Nests in thickly foliaged trees or tall shrubs. Forages in open habitat that contains trees, fence posts, utility poles, and other perches.	Potential. Although not recorded in the project vicinity in the CNDDB, trees and shrubs provide suitable nesting habitat. Not observed during surveys conducted in February and April 2017.

Table 3.4-2. Special-Status Animal Species Reported in the Vicinity of the Project Area

Common Name Scientific Name	Status*	Habitat/Range	Potential for Occurrence on the Project Site
Grasshopper sparrow *Ammodramus savannarum*	–/CSC	Found in dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches.	Nesting unlikely. Suitable nesting habitat is not present on-site.
Yellow warbler *Setophaha petechia*	BCC/ CSC	Breeds in deciduous riparian woodlands; widespread during fall migration.	Nesting unlikely. May occur on-site during fall migration, but suitable nesting habitat is not present on-site.
Tricolored blackbird (nesting colony) *Agelaius tricolor*	BCC/CE, CSC	Forages in agricultural lands and grasslands; nests in marshes, riparian scrub, and other areas that support cattails or dense thickets of shrubs or herbs. Requires open water and protected nesting substrate, such as flooded, spiny, or thorny vegetation.	Nesting unlikely. Appropriate nesting habitat is not present on-site.
Mammals			
Pallid bat *Antrozous pallidus*	–/CSC	Roosts primarily in oak woodland and ponderosa pine habitats; forages in open areas.	Not present. Suitable habitat is not present on-site.
Townsend's big-eared bat *Corynorhinus townsendii*	–/CCT, CSC	Found in desert scrub and coniferous forests. Roosts in caves or abandoned mines and is occasionally found to roost in buildings.	Not present. Suitable habitat is not present on-site.
American badger *Taxidea taxus*	–/CSC	Drier open stages of shrub, forest, and herbaceous habitats; needs sufficient food, friable soils, and open, uncultivated ground.	Unlikely. Suitable habitat is not present on-site, and the site is fragmented by major roadways and development.

Notes: CNDDB = California Natural Diversity Database; Delta = Sacramento–San Joaquin Delta

* Status Codes:

BCC	U.S. Fish and Wildlife Service Bird Species of Conservation Concern
CE	California listed as endangered
CSC	California Department of Fish and Wildlife Species of Special Concern
CT	California listed as threatened
FE	federally listed as endangered
FP	California Fully Protected
FPE	federally proposed for listing as endangered
FPT	federally proposed for listing as threatened
FT	federally listed as threatened
WL	California Department of Fish and Wildlife Watch List Species

Source: Huffman Broadway Group 2017

The U.S. Fish and Wildlife Service (USFWS) enforces the ESA. ESA Section 9, as amended, prohibits the unauthorized take of any fish or wildlife species listed under the ESA as endangered. Under federal regulation, take of fish or wildlife species listed as threatened is prohibited to the extent specifically declared by regulation. “Take,” as defined by the ESA, means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Recent court cases have found that “harm” includes not only the direct taking of a species itself, but the destruction or modification of the species’ habitat, resulting in actual injury of the species. As such, “harm” is further defined to mean “an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 CFR 17.3).

Clean Water Act (33 USC 1251 et seq.)

Section 404 Permit Program

Section 404 of the federal CWA requires project applicants to obtain a permit from USACE before engaging in any activity that would involve any discharge of dredged or fill material into waters of the United States, including wetlands. Fill material is material placed in a water of the United States that replaces any portion of the water with dry land, that or changes the bottom elevation of any portion of the water of the United States. Waters of the United States are navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; tributaries to any of these waters; and wetlands adjacent to these waters. Wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[b]).

Potentially jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the delineation criteria may be jurisdictional under CWA Section 404, pending review by USACE and the U.S. Environmental Protection Agency (EPA).

As part of the review of a project, USACE must ensure compliance with applicable federal laws, including EPA’s Section 404(b)(1) Guidelines. USACE regulations require avoidance and minimization of impacts on waters of the United States to the maximum extent practicable, and compensation for unavoidable impacts (33 CFR 320.4[r]).

In 2008, USACE and EPA issued regulations governing compensatory mitigation for activities authorized by permits issued by USACE (33 CFR 332). The rule establishes a preference for using mitigation banks. Mitigation banks provide established wetland habitats that have already met success criteria, thereby reducing some of the risks and uncertainties associated with compensatory mitigation, which involve creating new wetlands that cannot yet demonstrate functionality at the time of project implementation. The rule also establishes a preference for providing compensatory mitigation in the affected watershed. Ideally, compensatory mitigation would take place at a mitigation bank in the same watershed as the waters to be replaced. If mitigation banks are not available in the affected watershed, then compensatory mitigation involving creation or restoration in the affected watershed may be preferred over using a mitigation bank outside the affected watershed.

Section 401 Water Quality Certification

Under CWA Section 401, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state’s water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine regional water quality control boards (RWQCBs).

National Pollutant Discharge Elimination System

In 1972, the CWA was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments established a framework for regulating municipal, industrial, and construction-related stormwater discharges under the NPDES Program. On November 16, 1990, EPA published final regulations establishing stormwater permit application requirements for specified categories of industries. The regulations provide that stormwater discharges from construction projects encompassing 1 acre or more of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES permit. The State Water Resources Control Board has developed a general construction stormwater permit to implement this requirement.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703 et seq.), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA states that it is unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA can be found in 50 CFR 10.13. The list includes nearly all birds native to the United States.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act, enacted in 1940 and amended multiple times since then, prohibits the taking of bald and golden eagles without a permit from the Secretary of the Interior. Like the ESA, the Bald and Golden Eagle Protection Act defines “take” to include “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb” (16 USC 668–668c). For the purpose of this law, a disturbance that would injure an eagle, decrease productivity, or cause next abandonment, including a habitat alteration that could have any of these results, is considered take and can result in civil or criminal penalties.

3.4.2.2 State Plans, Policies, Regulations, and Laws

California Endangered Species Act

The California Endangered Species Act (California Fish and Game Code Section 2050 et seq.) directs state agencies not to approve projects that would jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of a species. Furthermore, the CESA states that CDFW, together with the project proponent and any state lead agency, develop reasonable and prudent alternatives consistent with conserving the species, while at the same time maintaining the project purpose to the greatest extent possible. Under the CESA, project-related impacts of the authorized take must be minimized and fully mitigated, and adequate funding to implement those mitigation measures and monitor compliance with and the effectiveness of the measures must be ensured. Standard CESA issuance requirements can include land acquisition, permanent protection and management, and/or funding in perpetuity of compensatory lands.

A take of a species is defined under the CESA as an activity that would directly or indirectly kill an individual of a species. Unlike the federal ESA definition, the CESA definition of take does not include “harm” or “harass.” As a result, the threshold for a take under the CESA may be higher than under the ESA because habitat modification is not necessarily considered take under the CESA. The take of state-listed species incidental to otherwise lawful activities requires a permit, pursuant to CESA Section 2081(b). The state has the authority to issue an incidental take permit under California Fish and Game Code Section 2081, or to coordinate with USFWS during the Section 10(a) process to make the federal permit consistent with the CESA.

Like federal law, California law affords listed plants considerably less protection than it does fish and wildlife. The California Native Plant Protection Act (California Fish and Game Code, Section 19000 et seq.) allows landowners to take listed plant species from (among other places) a canal, lateral ditch, building site, or road, or other right-of-way, provided that the landowner first notifies CDFW and gives the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed.

Lake and Streambed Alteration Agreement

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under Section 1602 of the California Fish and Game Code. Section 1602 makes it unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFW, or to use any material from the streambeds, without first notifying CDFW of such activity and obtaining a final agreement authorizing such activity.

"Stream" is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. CDFW's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A CDFW lake or streambed alteration agreement must be obtained for any project that would result in an impact on a river, stream, or lake. CDFW includes in its definition of "any river, stream or lake" those aquatic features that are episodic (i.e., they are dry for periods of time) as well as those that are perennial and flow year round. This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. This definition may also apply to work undertaken within the flood plain of a body of water.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act (California Water Code, Section 13000 et seq.) requires that each of the state's nine RWQCBs prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands by establishing water quality objectives. The RWQCBs' jurisdiction includes federally protected waters and areas that meet the definition of "waters of the state." Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCBs have the discretion to take jurisdiction over areas not federally regulated under Section 401, provided they meet the definition of waters of the state. The RWQCBs typically require mitigation to achieve no net loss of wetland functions and values of waters of the state.

Fully Protected Species

Four sections of the California Fish and Game Code (Sections 3511, 4700, 5050, and 5515) list 37 fully protected species. These statutes prohibit take or possession at any time of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species. CDFW has informed nonfederal agencies and private parties that they must avoid take of any fully protected species when they carry out projects.

Protection of Bird Nests and Raptors

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal and failure of nesting attempts, resulting in loss of eggs and/or young. These violations can be caused by disturbance of nesting pairs by nearby human activity.

Natural Community Conservation Planning Act

The Natural Communities Conservation Planning Act program, which began in 1991 under the California Natural Community Conservation Planning Act, is broader in its orientation and objectives than the ESA and CESA. Those laws are designed to identify and protect individual species that are already listed as threatened or endangered and their habitats. By contrast, the primary objective of the Natural Communities Conservation Planning Act program is to conserve natural communities at the ecosystem scale while accommodating compatible land use.

Placer County has been involved in efforts to prepare and finalize the *Placer County Conservation Plan*, a habitat conservation plan and natural communities conservation plan that may eventually be applicable to projects in the Loomis area. A final version of this habitat conservation plan/natural communities conservation plan has not been approved as of the date of this DEIR.

Oak Woodlands Conservation

Section 21083.4 of the Public Resources Code, which went into effect in January 2005, requires California counties acting as lead agencies under CEQA to determine whether a project "may result in a conversion of oak woodlands that will have a significant effect on the environment." If individual or cumulative impacts on oak woodlands are identified, the law requires that the impacts be mitigated. Acceptable mitigation measures include but are not limited to using conservation easements to conserve other oak woodlands, planting replacement trees that must be maintained for 7 years, and contributing to the Oak Woodland Conservation Fund established under Section 1363(a) of the California Fish and Game Code.

3.4.2.3 Local Plans, Policies, Regulations, and Ordinances

Placer County Conservation Plan (Project Site and Off-Site Land)

The draft *Placer County Conservation Plan* (Placer County 2005) was completed in February 2005 as a means for the County to pursue a natural community conservation plan and a habitat conservation plan for eastern Placer County. A Draft EIR was released for public review in 2019 and the County is presently responding to comments received during the public review. The PCCP aims to ensure the continued conservation of threatened and endangered species in Placer County and to resolve potential conflicts between otherwise lawful urban development activities and the conservation of the species on nonfederal land in Placer County. The PCCP encompasses 221,250 acres of western Placer County bordered on the west by Sutter County, on the north by Yuba and Nevada Counties, on the east by El Dorado County, and on the south by Sacramento County. The entire project area is included within the PCCP boundaries.

The PCCP establishes a comprehensive, countywide plan for the conservation of all natural communities, endangered species, and other less sensitive species of native wildlife, fish, and plants in western Placer County and is an important part of the Placer Legacy Open Space and Agricultural Conservation Program (see Section 1.4.1). The PCCP is under consideration by USFWS, NMFS, and CDFW, and the permit term is proposed to extend to the year 2050. Once approved, the PCCP would provide the County with a scientific and legal basis for a series of regulatory permits under Section 10 of ESA and authorization issued from CDFW under Section 2081 of the California Fish and Game Code, in compliance with CESA that will make the environmental review of future public and private projects more consistent, more predictable, and more efficient. Although the Town of Loomis is not a participant in the PCCP, it may choose to implement PCCP measures described in the draft PCCP.

Town of Loomis General Plan Conservation Element

The Town of Loomis General Plan contains policies governing conservation of resources within its jurisdiction. The applicable Natural Resources and Open Space policies are summarized below (Town of Loomis 2001).

- **Policy 2: Biotic resources evaluation.** Prior to approval of discretionary development permits involving parcels near significant ecological resource areas, the Town shall require, as part of the environmental review process, a biotic resources evaluation by a qualified biologist. The biologist shall follow accepted protocols for surveys (if needed) and subsequent procedures that may be necessary to complete the evaluation.…
- **Policy 5: Native tree protection.** Individual heritage trees and significant stands of heritage trees shall be preserved. Healthy heritage trees shall be removed or significantly trimmed only when necessary because of safety concerns, conflicts with utility lines and other infrastructure, the need for thinning to maintain a healthy stand of trees, or where there is no feasible alternative to removal. Proposed development shall be designed, constructed, and maintained to preserve individual heritage trees and significant stands of heritage trees, and provide for the protection of root zones and the continuing health of the trees. When trees are removed, they shall be replaced in sufficient numbers to maintain the volume of the Town’s overall tree canopy over a 20-year period. Tree removal within stream corridors is also subject to the above policy on stream corridor protection.
- **Policy 6: Stream corridor protection.** The streams of Loomis are among the most significant and valuable of the Town’s natural resources. Development adjacent to streams shall be designed, constructed, and maintained to avoid adverse impacts on riparian vegetation, stream bank stability, and stream water quality to the maximum extent feasible. These policies shall apply to all watercourses shown as blue lines on the most recent United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps applicable to the Town. See also the policies for wetland protection below. …
- **Policy 8: Wetlands.** The following policies apply to properties with wetland areas. Additional applicable policies may be found under “stream corridor protection,” above.
    a. The environmental review of development on sites with wetlands shall include a wetlands delineation, and the formulation of appropriate mitigation measures. The Town shall support the “no net loss” policy for wetland areas regulated by the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game [CDFW]. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.

b. The Town shall require new development to mitigate wetland loss in both regulated and non-regulated wetlands to achieve “no net loss” through any combination of the following, in descending order of desirability:

    (1) Avoidance of riparian habitat;

    (2) Where avoidance is not feasible, minimization of impacts on the resource;

    (3) Compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas, that are encouraged to be located within the Town; or

    (4) Replacement of a degraded or destroyed wetland at a ratio of from 1:1 to 4:1, based on the biotic value of the wetland, as determined by the required environmental analysis. The review authority may reduce the replacement ratio as an incentive, where replacement wetlands are proposed to be located within or in close proximity to the Town.

    The Town shall cooperate with regulating agencies to ensure that concerns are adequately addressed. …

d. The Town will require the preservation of native riparian and wetland areas as open space to the maximum extent feasible, using fee title or conservation easement acquisition, land conservancy participation, and/or other measures as appropriate.

Town of Loomis Municipal Code

Title 12, Chapter 12.24, Development Impact Fees

To offset the impact of future development and maintain current levels of service and corresponding infrastructure, the Town of Loomis has adopted a series of fees imposed for certain types of development, as allowed under Government Code Sections 66000 et seq. Fees that promote acquisition and maintenance of natural open space and town parks include:

H. Passive Park/Open Space Fee. A passive park/open space fee is imposed on residential, commercial and industrial development, to defray the cost of acquiring passive parkland and open space, as new development occurs.

Title 13, Chapter 13.54, Tree Conservation

The Town of Loomis Tree Ordinance, presented in Chapters 13.54.010 through 13.54.080 of the Loomis Municipal Code, states that the tree canopy of both native and introduced species contributes significantly to the rural character of the Town and offers residents environmental, social, financial (property values), and aesthetic benefits. The goal of the tree ordinance is to promote a healthy tree canopy needed for community enjoyment and vibrant, functioning ecosystems. The ordinance protects any native oak tree with a trunk that is a minimum of 6 inches in diameter as measured at breast height (dbh) for interior live oak, valley oak, and oracle oak and 4 inches dbh for blue oak; any oak tree with multiple trunks that have an aggregate dbh of at least 10 inches; or any heritage tree. (The tree ordinance defines “diameter at breast height” as “the diameter of a tree trunk as measured at fifty-four inches [four feet six inches] above the ground at the base of the tree” [Loomis Municipal Code, 13.54.030].) “Heritage tree” means any tree identified by Town Council resolution. It is unlawful to remove or perform any activity that will interfere with the condition of a protected tree without a tree permit issued by the Town manager. The removal of any protected tree that cannot be feasibly protected and left in place may require replacement as a condition of permit issuance. The Tree Ordinance does not require mitigation for protected trees that are determined to be dead, dying, hazardous, or in poor condition where major corrective care is needed.

Chapter 13.56, “Waterway and Riparian Habitat Protection”

Chapter 13.56 of the Loomis Municipal Code establishes standards to protect the natural, scenic, and recreational values of waterway and riparian resources within the town. The ordinance is applicable to “proposed development, other than public works or infrastructure, on any site adjacent to or crossed by a watercourse that is shown as a blue line on the most recent United States Geological Survey (USGS) 7.5-minute topographic quadrangle map” (Town of Loomis 2017). The types of measures to be incorporated into the design of a development project include:

A. **Waterway Setback Requirement.** Proposed structures shall be set back a distance of 2.5 times the height of the stream bank plus thirty feet, or thirty feet outward from the stream bank, whichever distance is greater, as measured from the toe of the stream bank outward. …

B. **Use of Required Setback.** Paths or trails may be located within a creekside setback; however, no structure, road, parking access, parking spaces, paved areas, or swimming pool shall be constructed within a creek or creekside setback area.

C. **Alteration of Natural Features.** No grading or filling, planting of exotic/non-native or non-riparian plant species, or removal of native vegetation shall occur within a creek or creekside setback area, except where authorized for flood control purposes by the proper permits issued by the California State Department of Fish and Game [CDFW], all other applicable state and federal agencies having authority over the creek.

D. **Design of Drainage Improvements.** Where drainage improvements are required, they shall be placed in the least visible locations and naturalized through the use of river rock, earthtone concrete, and landscaping with native plant materials.

E. **Use of Permeable Surfaces.** The proposed development should incorporate permeable surfaces (for example, wood decks, sand-joined bricks, and stone walkways) where feasible, to minimize off-site flows and facilitate the absorption of water into the ground.

F. **Creek Bank Stabilization.** Development or land use changes that increase impervious surfaces or sedimentation may result in channel erosion. This may require measures to stabilize creek banks.

   1. Creek rehabilitation is the preferred method of stabilization, with the objective of maintaining the natural character of the creek and riparian area. Rehabilitation may include enlarging the channel at points of obstruction, clearing obstructions at points of constriction, limiting uses in areas of excessive erosion, and restoring riparian vegetation.
   2. Concrete channels and other mechanical stabilization measures shall not be allowed unless no other alternative exists.
   3. If bank stabilization requires other than rehabilitation or vegetative methods, hand-placed stone or rock rip-rap are the preferred methods.

G. **Physical and Visual Access.**

   1. Public access and visibility to creeks should be provided through the use of single-loaded frontage roads adjacent to creeks, but outside of the creek setback. Structures or lots that back-up to creeks or creek frontage roads are discouraged.
   2. The provision of multipurpose creekside trails and public open space is encouraged. Open space areas should include planting for riparian enhancement with native shrubs and trees, paths and trails, lighting, benches, play and exercise equipment, and trash receptacles outside of the riparian habitat area, where appropriate.
   3. Where streets are not used, frequent access to creekside trails and public open space should be provided at least every three hundred feet, and may occur at the end of cul-de-sacs.

City of Rocklin Municipal Code

Chapter 17.77, Oak Tree Preservation

The goal of this chapter is to address the decline of oak woodlands due to urbanization through a considered attempt to balance against the social benefits of private property ownership and development. The following language regarding oak tree preservation is contained in this section of the City ordinance:

17.77.020 - Definitions

"Heritage tree" means any oak tree with TDBH of twenty-four inches or more and which is of good or fair quality in terms of health, vigor of growth and conformity to generally accepted horticultural standards of shape for its species.

"Oak tree" or "tree" means an oak tree with a TDBH of six inches or more and of a species identified in the oak tree preservation guidelines by resolution of the city council as native to the Rocklin area.

"Removed," with reference to an oak tree, means the physical removal of the tree from the ground or the willful injury, trimming, disfiguring or other harmful action which leads directly to physical removal or creates such a condition that makes disease likely or results in a significant risk of injury to persons or property.

"TDBH" means trunk diameter of an oak tree at breast height, which is a point located four and one-half feet above the root crown. TDBH of multi-trunk trees shall be the TDBH of the largest trunk only.

17.77.050 - Undeveloped property—Tree preservation plan permit.
Preservation and removal of healthy oak trees from undeveloped property shall be addressed in the development application review process, and shall be governed by the guidelines adopted under Section 17.77.100. Removal of oak trees from undeveloped property shall require mitigation.

No healthy oak tree shall be removed from such property until the review process is completed and a tree preservation plan permit has been issued.

A bond or other security instrument in an amount not less than ten thousand dollars shall be required as a condition of issuance of the permit to protect those trees identified for preservation during the construction period. The form and amount of the security instrument shall be specified by the permit issuing body and approved by the city attorney. No grading or other on-site work shall be permitted until the security is posted.

Notwithstanding any other provision of this section, a property owner may apply for an oak tree removal permit to remove a dead, dying or diseased oak tree from an undeveloped property where no tree preservation plan permit is pending.

17.77.070 - Mitigation—General.
On-site mitigation through native oak tree replacement is the preferred mitigation method.

The location and condition under which replacement trees are planted must be carefully selected to allow for practicable and feasible future development to minimize the likelihood that future tree removal is not required, and to maximize the likelihood that the replacement trees will survive and thrive.

The ideal age and size of a replacement tree shall be as specified in the guidelines.

Transplanted trees, whether from on-site or off-site, may be accepted as replacement trees, but shall be given a discounted value, as specified in the guidelines, based on anticipated survival rates, as compared with nursery stock. The discounted value specified in the guidelines shall be reviewed from time to time.

Any replacement tree, including a transplanted tree, which dies within five years of being planted must be replaced on a one to one basis.

Where mitigation formulas use percentages, results will always be rounded up to the next whole number percentage.

17.77.080 - Mitigation—Undeveloped property.
On property zoned B-P; C-1, 2, 3, 4; C-H; M-1, 2 or an equivalent PD zone, no fee payment, tree replacement, or land dedication will be required as mitigation for oak tree removal.

For all zones other than those identified in subsection A, above, the following mitigation requirements shall apply:

Where not more than twenty percent of the TDBH of all the surveyed oak trees, and not more than twenty percent of the total number of surveyed oak trees on the property are to be removed, each tree shall be replaced on a two-to-one tree replacement ratio (two trees planted on-site for each tree removed).

Where more than twenty percent of the TDBH of all the surveyed oak trees or more than twenty percent of the total number of surveyed oak trees on the property are to be removed, each inch of TDBH removed in excess of twenty percent of the TDBH of all the surveyed oak trees shall be replaced with an equal number of inches of TDBH of replacement trees, but in no event shall the number of replacement trees be less than twice the number of trees removed (two to one).

The species, size and planting location of the replacement trees shall be in accordance with the guidelines.

Where on-site replacement is not feasible, mitigation shall be by off-site replacement, land dedication or payment of a fee in an amount set by resolution of the city council into the Rocklin oak tree preservation fund. Where partial mitigation is by on-site or off-site replacement, or land dedication, the fee shall be appropriately prorated.

17.77.090 - Rocklin oak tree preservation fund.
There is within the city treasury a separate fund to be known as the Rocklin oak tree preservation fund.

There shall be deposited in the fund all fees paid in connection with the mitigation of trees removed under this chapter or otherwise, plus any moneys received from bond forfeitures and enforcement actions to the extent allowed by law.

3.4.3 Impact Analysis

3.4.3.1 Methodology

Multiple resource studies were conducted to identify the type and nature of resources on the project site. Actions conducted during these assessments involved:

- literature review;
- focused wildlife surveys;
- focused botanical surveys;
- evaluation of potentially occurring special-status species and other sensitive biological resources; and
- a delineation of jurisdictional waters of the United States, including wetlands.

In addition, a field reconnaissance survey was conducted along the potential Granite Drive alignment to identify the potential for the site to contain suitable habitat for sensitive species.

3.4.3.2 Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, the proposed project would result in a significant impact related to biological resources if it would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

3.4.3.3 Topics Not Addressed Further

Impacts on special-status plant species would not occur as a result of site development because protocol-level botanical surveys conducted on the project site during spring 2017 found no special-status plant species on-site. Impacts on special-status plants are not evaluated further in this document.

Impacts on habitat for vernal pool crustaceans would not occur as a result of site development. The seasonal wetland swales within the drainages on the project site do not provide suitable habitat for listed species of vernal pool crustaceans because the swales are flowing systems that lack the inundation characteristics that would support vernal pool fairy shrimp or vernal pool tadpole shrimp. Impacts on listed vernal pool invertebrates are not evaluated further in this document.

Impacts on wildlife movement are not considered further in this document because the project site and adjacent off-site land is a fragmented parcel isolated from natural open space by the presence of Interstate 80, Sierra College Boulevard, railroad tracks, and existing developed commercial and residential uses. Evaluation of potential impacts on migratory birds is considered under Impact 3.4-5, below.

Potential conflicts with adopted habitat conservation plans, natural community conservation plans, and similar approved plans are not evaluated further in this document because no such adopted plans apply to the project site and the Town is not a participant in the PCCP. No such adopted plans apply to the off-site land which is located in the City of Rocklin and the City of Rocklin is also not a participant in the PCCP.

3.4.3.4 Environmental Impacts and Mitigation Measures

Project Site (Project Driveway Access Option 1A)

Impacts of the proposed project on special-status wildlife species, sensitive, and non-sensitive natural communities would occur because vegetation removal and disturbance would result in the conversion of on-site habitat, including annual grassland, valley oak woodland, and valley freshwater marsh. Tables 3.4-3a compares the acreage of each vegetation community on the project site and the acreage that would be affected by site development under the proposed project. The proposed project would affect all habitat types on the project site. Potentially significant impacts on special-status species and natural resource communities are discussed below.

Table 3.4-3a. Acreage of Existing and Affected Habitat Types on the Project Site

Habitat Type	Existing Project Site Acreage	Acreage Affected by the Proposed Project
Annual Grassland	10.16	10.16
Valley Freshwater Marsh	0.15	0.15
Valley Oak Woodland	7.96	7.96
Total	**18.27***	**18.27***

Source: Huffman Broadway Group 2017

* Includes 0.5 acres of right of way dedication

Off-Site Land (Project Driveway Access Options 1B and 1C only)

Impacts of the proposed project on special-status wildlife species, potentially sensitive, and non-sensitive natural communities would occur because vegetation removal and disturbance would result in the conversion of on-site habitat, including annual grassland, valley oak woodland, and sandbar willow thicket. Tables 3.4-3b compares the acreage of each vegetation community on the off-site land and the acreage that would be affected by site development under the proposed project (Options 1B and 1C). The proposed project would affect all habitat types on the project site. Potentially significant impacts on special-status species and natural resource communities are discussed below.

Table 3.4-3b. Additional Acreage of Existing and Affected Habitat Types for Site Access Options 1B and 1C

Habitat Type	Existing Project Site Acreage	Acreage Affected by the Proposed Project
Annual Grassland	0.9	0.9
Sandbar Willow Thicket	0.08	0.08
Valley Oak Woodland	0.8	0.8
Total	**1.78**	**1.78**

Source: AECOM 2019

Impact 3.4-1: Permanent Fill of Wetlands and Waters of the United States and Impacts on Waters of the State. *Implementing the proposed project would result in permanent fill of waters of the United States, including wetlands subject to USACE jurisdiction under the CWA. The proposed project would also result in adverse impacts on waters of the state, including swales and seasonal wetlands. Compliance with conditions of required regulatory permits would reduce this impact to **less than significant**. However, because neither the Town nor the applicant can guarantee implementation of relevant permit conditions, the Town has conservatively determined that the impact to the area within the city of Rocklin is **significant and unavoidable**.*

Project Site (Project Driveway Access Option 1A)

Table 3.4-3a shows that project would result in removal (fill) of approximately 0.15 acre of jurisdictional waters of the United States consisting of freshwater seasonal wetlands, resulting in the loss of functions currently provided by those wetlands: flood flow alteration, groundwater recharge, sediment reconstruction, sediment/toxicant retention, nutrient removal/transformation, production export, and wildlife habitat.

In addition to direct impacts to wetlands, downstream waters that eventually flow to Dry Creek and ultimately the American River could be indirectly affected by the creation of impervious surfaces and increased generation of runoff from the project site. Potential indirect effects on downstream waters include a reduction of water quality caused by urban runoff, erosion, and siltation, and increased flow volumes and altered hydrology, which could adversely affect fish and other aquatic resources in downstream waters. Direct and indirect impacts on wetlands and waters of the United States would represent a significant adverse impact.

Natural Resources and Open Space Policy 8 in the Town of Loomis General Plan states that new development must not result in a net loss of wetlands. Avoidance of direct impacts is the preferred method for compliance with this policy, but alternative means are also available when avoidance is not feasible. In the case of the proposed project, avoidance of direct impacts while also meeting Loomis Municipal Code requirements that include development standards for building setbacks, dock layout, number of parking spaces, driveways, and emergency access. However, the project applicant must seek and comply with conditions placed on a Section 404 permit from USACE (see Section 2.6, “Permits and Approvals”) and Section 401 water quality certification from the Central Valley RWQCB. During this process, the applicant would consult with CDFW to determine whether the project will require notification for a lake and streambed alteration agreement.

The applicant must implement all measures required as conditions of approval by USACE and the Central Valley RWQCB for impacts on the 0.15 acre of seasonal wetlands on the project site. In addition, the applicant must comply with all conditions described in the CDFW lake and streambed alteration agreement. If required as part of the USACE and Central Valley RWQCB permit processes, the applicant would prepare and implement a wetland restoration plan to address impacts on wetlands to ensure a no net loss to the wetland functions.

USACE jurisdictional areas must be replaced at a minimum 1:1 ratio through wetland creation to ensure that no net loss of acreage, functions, or values occurs in these areas. Methods to achieve this standard may consist of establishing aquatic resources in upland habitats where they did not exist previously; reestablishing (restoring) natural historic functions to a former aquatic resource; enhancing an existing aquatic resource to heighten, intensify, or improve aquatic resource functions; or a combination of these measures. The compensatory mitigation may be accomplished through the purchase of credits from a USACE-approved mitigation bank; payment into a USACE-approved in-lieu fee fund; or permittee-responsible establishment, reestablishment, or enhancement on- or off-site, depending on the availability of mitigation credits. Mitigation habitat is typically monitored for a minimum of 5 years from the completion of mitigation, or until the success criteria identified in the approved mitigation plan have been met, whichever is longer.

Water quality certification pursuant to CWA Section 401, or waste discharge requirements (for waters of the state), are required before the notice of determination and a Section 404 permit are issued. Before construction begins in any areas containing aquatic features, the project applicant would obtain water quality certification for the project. Any measures required as part of the issuance of water quality certification and/or waste discharge requirements must be implemented. The project applicant must obtain a General Construction Stormwater Permit from the Central Valley RWQCB, prepare a storm water pollution prevention plan, and implement best management practices (BMPs) to reduce water quality effects during construction. See Section 5.3.5, “Hydrology and Water Quality,” of Chapter 5, “Other CEQA Requirements.” The relatively small size of the impacted wetland (0.15 acres), history of disturbance at the site, and connectivity to adjacent wetland areas to the south and east indicate that a 1:1 ratio is appropriate.

Implementing conditions of the regulatory permits would reduce the proposed project’s direct and indirect impacts related to loss of wetlands and waters of the United States to **less than significant.**

Granite Drive Extension (Project Driveway Access Options 1B and 1C)

The southern access road to Granite Drive may require fill of jurisdictional wetlands and waters depending on the alignment selected. During field reconnaissance a small area of sandbar willow thicket was identified within the alignment of the Granite Drive extension. If Site Plan Option 1B or 1C are approved for construction in the future, a formal jurisdictional delineation would be required as part of the regulatory permitting process in order to identify and delineate potential resources present within the off-site land area. If wetlands and/or jurisdictional waters are present, the applicant must submit applications for a Section 404 permit from USACE (see Section 2.6, “Permits and Approvals”) and Section 401 water quality certification from the Central Valley RWQCB and consult with CDFW to determine whether the project will require notification for a lake and streambed alteration agreement. The applicant must implement any wetland mitigation measures required by USACE, CDFW, and the Central Valley RWQCB for impacts to any identified jurisdictional wetlands and/or waters.

Conditions would be placed on a Section 404 permit to ensure that the no net loss would take place. Because the exact configuration of the road alignment is unknown at the present time, it is assumed to be jurisdictional and this impact is **significant**. Prior to the issuance of grading permits the City of Rocklin would require copies of the permit conditions to satisfy impact has been reduced to ensure no net loss of functional values are maintained. Application of permit conditions would compensate for the loss of wetlands as allowed by Policy 8(b) and would reduce this impact to less than significant. However, because neither the Town nor the applicant can guarantee implementation of relevant permit conditions, the Town has conservatively determined that the impact to the area within the city of Rocklin is **significant and unavoidable**.

Impact 3.4-2: Loss of Protected Oak Trees within the Town of Loomis (Project Site; Option 1A). *Project construction would result in the removal of 158 oak trees determined to be of protected size, based on criteria described in the Town of Loomis Tree Ordinance To compensate for the loss of protected oak trees on the project site, the project applicant would implement the landscape plan which includes 37 valley oaks, and 63 Interior live oaks in 24-inch boxes, and prepare an oak woodland tree replacement plan as described in the Town of Loomis Tree Ordinance. Therefore, this impact would be* ***less than significant****.*

The arborist report prepared for the project (Mann Made Resources 2016) (Appendix C2) determined that the proposed project would result in the removal of 158 trees of adequate health to require mitigation by the Town of Loomis Tree Ordinance. Remedial grading including over excavation and compaction of soils to create the building pad will result in changes to surface elevations by raising portions of site as high as 10 feet above existing grade and reducing surface elevations in other areas by as much as five feet. Extensive site grading would require removal of most or all trees due to the pattern and distribution of oak trees across the property. Tree preservation in place is proposed for a few trees along the perimeter of the site near the apartment complex (one valley oak tree) and residences to the east (three valley oak trees). These trees would be retained within the landscaped areas around the site perimeter. The Tree Ordinance defines protected tree as “any native oak tree with a trunk that is a minimum of 6 inches in diameter as measure at breast height (DBH) for Interior Live Oak, Valley Oak, and Oracle Oak and 4 inches DBH for Blue Oak.; any oak tree with multiple trunks that have an aggregate DBH of at least 10 inches, or any

Heritage Tree." Of the 372 protected trees on the site, four would be retained and a total of two blue oak, seven live oak, and 149 valley oak comprise the total 158 protected trees of adequate health to require mitigation. The balance of trees affected by the project are dead, dying, or in poor condition and are not subject to the mitigation requirements outlined in the ordinance as determined by the expert arborist. The arborist report recommended a total mitigation planting requirement of 280 #15 container trees. This mitigation figure was derived using Table 5-3 of the Town of Loomis Ordinance 252, which describes the appropriate mitigation ratio for protected trees (see Table 3.4-4). Four valley oaks will be preserved on site.

Table 3.4-4. Protected Oak Tree Mitigation Totals

Protected tree species	Diameter	Number present at site	#15 trees required for mitigation*	Total trees required for mitigation
Blue oak (*Quercus douglasii*)	11	1	3	3
	22	1	3	3
Total Blue oak	-	2	-	6
Interior live oak (*Quercus wislizenii*)	7	1	1	1
	9	1	1	1
	10	3	2	6
	12	1	2	2
	18	1	2	2
Total live oak	-	7	-	12
Valley oak (*Quercus lobata*)	6	8	1	8
	7	14	1	14
	8	15	1	15
	9	10	1	10
	10	13	2	26
	11	9	2	18
	12	18	2	36
	13	10	2	20
	14	14	2	28
	15	6	2	12
	16	7	2	14
	17	2	2	4
	18	4	2	8
	19	1	2	2
	20	6	2	12
	21	1	2	2
	22	3	2	6
	23	1	2	2
	24	1	2	2
	27	1	3	3
	28	2	3	6
	34	1	4	4
	35	1	5	5
	36	1	5	5
Total valley oak	-	149	-	262
Total #15 mitigation trees				280

*The mitigation ratios presented here are taken from Table 5-3 of the Town of Loomis Ordinance 252

Some of these trees are proposed to be planted on the project site as part of the project landscape design and to create shade for the parking lot (Mann Made Resources 2016) (Appendix C2). The landscape plan indicates 63 Interior live oaks and 37 valley oaks in 24-inch boxes would be planted within the parking lot and around the perimeter of the site; however, these 100 trees do not fully mitigate protected tree loss.

Natural Resources and Open Space Policy 5 in the *Town of Loomis General Plan* calls for the protection of oak trees covered under the tree protection ordinance. In the case of the project site, the coverage pattern for oak woodlands makes complete avoidance of impacts on oak trees infeasible because they are dispersed widely across the property. Additionally, development standards outlined in the Loomis Municipal Code constrain the site plan by requiring minimum setbacks, establishing standards for the number and size of parking spaces, and including requirements for access that result in a design that requires removal of protected trees. To compensate for the loss of protected oak trees on the project site, the project applicant would implement the landscape plan as a part of the proposed project design, which includes 37 valley oaks, and 63 Interior live oaks in 24-inch boxes, and prepare an oak woodland tree replacement plan as described in the Town of Loomis Tree Ordinance to account for the balance of trees not mitigated through onsite replanting.

The oak woodland tree replacement plan includes:

- planting of 217 #15 container valley oak trees and 6 #15 container blue oak trees of appropriate oak species (Table 3.4-4) offsite to attain tree replacement ratios prescribed by the Town of Loomis;
- preparation of a planting plan describing species composition and spacing, and an exhibit indicating the specific location of proposed tree plantings; and
- schedules and methodologies for maintenance, monitoring, and annual reporting to ensure that the replacement trees survive for at least 5 years after the initial planting.

If offsite planting is not feasible, the applicant is required to pay $147,470 in in-lieu fees, which accounts for onsite replanting as provided in the landscaping plan, in accordance with the Town's tree mitigation program. The funds would be used to either plant trees within the available areas identified in the Town's Draft Tree Mitigation Master Plan Planting Assessment or purchase tree preservation easement areas as identified in the Tree Mitigation Master Plan.

The impact is considered **less than significant**.

Impact 3.4-3: Loss of Protected Oak Trees within the City of Rocklin (Off-Site Land; Options 1B and 1C). *If access is provided in the future to Granite Drive, this could result in the removal of 45 oak trees determined to be of protected size (including 1 heritage tree), based on criteria described in the City of Rocklin Tree Ordinance. Removal of protected trees without planting replacement tree is inconsistent with the City of Rocklin tree ordinance. With implementation of the Tree Preservation Plan Permit, this impact would be less than significant. However, because neither the Town nor the applicant can guarantee implementation of relevant permit conditions, the Town has conservatively determined that the impact to the area within the city of Rocklin is **significant**.*

A survey conducted on September 24, 2019 of a broad area where additional access could be provided in the future via Granite Drive identified 45 trees protected by the City of Rocklin Tree Ordinance. If access is provided in the future via Granite Drive, grading may require the removal of trees along the alignment. The tree ordinance defines a protected tree as a native oak tree with a tdbh of six inches or more and a heritage tree as any oak tree with a tdbh of twenty-four inches that is of good or fair quality in terms of health, vigor of growth, and conformity to generally accepted horticultural standards of shape for its species. Of 45 protected trees along a potential future access road alignment, it is assumed for purposes of this analysis that all trees would be removed within an approximately 80 to180 foot wide corridor that follows the general alignment of the access road connecting the southern boundary of the project site to Granite Drive depicted in the conceptual drawing for Project Driveway Access Options 1B and 1C.

Removal of the trees would require the applicant to obtain a Tree Preservation Plan Permit through the City of Rocklin (Off-Site Land; Options 1B and 1C). If construction of access via Granite Drive would result in the loss of protected oak trees, this will require approval of a tree preservation plan and issuance of a permit as described in the City of Rocklin Tree Ordinance. The tree preservation plan permit would include the following:

- Planting of replacement trees at a 2:1 ratio within a total TDBH of at least 80% of the total TDBH to be removed of an appropriate species on the project site to attain tree replacement ratios prescribed by the City of Rocklin Tree Ordinance.
- Transplanted trees may require more than a 2: 1 ratio.
- Any replacement tree, including a transplanted tree, that dies within five years of being planted must be replaced on a 1:1 basis.
- Where on-site replacement is not feasible, mitigation shall be by off-site replacement, land dedication, or payment of a fee in an amount set by resolution of the city council into the Rocklin oak tree preservation fund. Where partial mitigation is by on-site or off-site replacement, or land dedication, the fee shall be appropriately prorated.

Implementing conditions of the Tree Preservation Plan Permit would reduce the potential impact on protected oak trees to a less-than-significant level by replacing trees that would be removed by the project, as required by the City of Rocklin Tree Ordinance policies**.** However, because neither the Town nor the applicant can guarantee implementation of relevant permit conditions, the Town has conservatively determined that the impact to the area within the city of Rocklin is **significant and unavoidable**.

Impact 3.4-4: Loss of Valley Oak Woodland Habitat. *The valley oak woodlands on the project site provide valuable resources for a diversity of wildlife species. The conversion of the site's oak woodlands to a built landscape would permanently reduce the quality of existing wildlife habitat. This impact would be* ***significant****.*

Project Site (Option 1A)

Table 3.4-3a shows that the proposed project would affect approximately 7.96 acres of valley oak woodland habitat. The site's oak woodlands provide valuable wildlife habitat, although their value to wildlife is diminished somewhat by the fragmented nature of the site, which is surrounded by roadways and residential development. Despite the proximity of roads and development, the 7.96 acres of oak woodland on the project site provide wildlife with cover and foraging and breeding habitats that would be eliminated by the project. The loss of the project site's oak woodland habitat would result in a significant impact on the resident and migratory wildlife species that depend on resources provided by this habitat. Valley oak woodlands are protected by state law, including Public Resources Code Section 21083.4, and by Town of Loomis policies, and they are considered a sensitive habitat type by CDFW. Because the project would result in the permanent loss of 7.96 acres of valley oak woodlands that provide valuable habitat to wildlife, this impact would be **potentially significant**.

Mitigation Measure Bio-1: Prepare and Implement an Oak Woodland Open Space Mitigation Plan.

Before issuance of a grading permit, the project applicant shall prepare an oak woodland mitigation plan for review and approval by the Town of Loomis that describes the methods by which a minimum of 7.96 acres of valley oak woodland within the Dry Creek watershed shall be conserved and protected as natural open space. The mitigation lands shall provide wildlife habitat values equal to or better than those at the project site, as determined by a qualified biologist in consultation with CDFW. The oak woodland mitigation plan can be implemented by securing a conservation easement to protect, enhance, and manage a minimum of 7.96 acres of valley oak woodland. Fees for implementing the conservation easement shall be calculated based on the Passive Park/Open Space Fee and current market value for preservation of similar oak woodland acreage within the Dry Creek watershed. The fees shall include endowment funds sufficient to manage the land in perpetuity to maintain the wildlife values of the oak woodland habitat.

The oak woodland mitigation land shall be transferred, through either a conservation easement or fee title, to a third-party, nonprofit conservation organization (known as the Conservation Operator), with the Town named as a third-party beneficiary. The Conservation Operator shall be a qualified conservation easement land manager that manages land as its primary function. Additionally, the Conservation Operator shall be a tax-exempt, nonprofit conservation organization that meets the criteria of Civil Code Section 815.3(a) and shall be selected or approved by the Town, after coordination with CDFW. The Town, after coordinating with CDFW and the Conservation Operator, shall approve the content and form of the conservation easement. The Town and the Conservation Operator shall each have the power to enforce the terms of the conservation easement. The Conservation Operator shall monitor the easement in perpetuity to ensure compliance with the terms of the easement.

Before grading permits for the project site are issued, the project applicant shall provide evidence to the Town of Loomis that the conservation easement has been recorded, or shall provide financial assurances to guarantee that adequate funding is available to implement the oak woodland open space mitigation plan described above.

Significance after Mitigation

Implementing Mitigation Measure Bio-1 would reduce impacts of the proposed project on valley oak woodlands to **less than significant** because it would replace the oak trees lost to development consistent with the Town tree ordinance and create valley oak woodland habitat in the Dry Creek watershed that provides the same functions and wildlife values as that currently available at the project site**.**

Off-Site Land (Options 1B and 1C)

Potential development of the southern access route to Granite Drive would impact approximately 0.8 acre of valley oak woodland. The alignment's oak woodlands provide valuable wildlife habitat, although their value to wildlife is diminished somewhat by the fragmented nature of the site, which is surrounded by roadways and commercial development. The loss of the project site's oak woodland habitat would result in a significant impact on the resident and migratory wildlife species that depend on resources provided by this habitat. Valley oak woodlands are protected by state law, including Public Resources Code Section 21083.4, and by City of Rocklin's policies, and they are considered a sensitive habitat type by CDFW. If the Granite Drive access road considered under Options 1B and 1C were implemented the development footprint would result in the permanent loss of valley oak woodlands that provide valuable habitat to wildlife. Removal of the trees would require the applicant to obtain a Tree Preservation Plan Permit through the City of Rocklin (Off-Site Land; Options 1B and 1C) which would require replanting protected trees. Compliance with conditions placed on the permit as described in the City of Rocklin Tree Ordinance would reduce the impact. However, this impact is deemed to be **significant and unavoidable** for purposes of environmental review because the Granite Drive alignment falls outside of the Town of Loomis (lead agency) jurisdiction and the Town cannot ensure compliance with permit conditions.

Impact 3.4-5: Loss of Annual Grassland. *The proposed project would convert annual grassland to developed use, but the conversion would be reduced because it is a component of oak woodland habitat, which would be protected. This impact would be **less than significant**.*

Project Site (Option 1A)

The proposed project would convert 10.1 acres of annual grassland to developed use. Grassland is not considered sensitive, but it serves as foraging habitat for wildlife common to the project site. The conversion of grassland to developed use is less than significant. It is noted that grassland is a component of oak woodland habitat, and implementation of Mitigation Measure Bio-1 (above) would by necessity include an annual grassland component. Impacts on annual grassland would be **less than significant**.

Off-Site (Options 1B and 1C)

The potential southern access road to Granite Drive would convert 11 acres of (10.1 acres on the project site and 0.9 acre off site) annual grassland to developed use. Although used for foraging, grassland is not a sensitive plant community and conversion to developed use would result in a **less-than-significant impact**. Additionally, Mitigation Measure Bio-1 (above) would by necessity include an annual grassland component that would offset this loss.

Impact 3.4-6: Loss and Disturbance of Habitat for Nesting Migratory Birds. *Conversion of the project site's oak woodlands and annual grassland to an urban land use would result in loss of nesting and foraging habitat and disturbance of potential nesting habitat for bird species protected under the MBTA. Construction activities could also disturb active nests on or near the construction area, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs. This impact would be **significant**.*

Project Site (Option 1A)

Vegetation removal and ground disturbance during project construction have the potential to destroy the active nests of common birds protected under the MBTA or California Fish and Game Code. Project construction could also indirectly disturb breeding birds, causing nest abandonment by the adults and mortality of chicks and eggs. Loss of the nests of common bird species (those not meeting the definition of special-status as provided above) such as mourning dove, acorn woodpecker, and western bluebird would not be a significant impact under CEQA because it would not result in a substantial effect on their local or regional populations; however, destruction of bird nests is a violation of the MBTA and Section 3503 of the California Fish and Game Code, and mitigation to avoid the loss of active nests of these species is required for compliance with these regulations. This impact would be **potentially significant**.

Mitigation Measure Bio-2: Avoid Direct Loss of Nesting Birds.

The project applicant shall implement the following measures to mitigate the loss of foraging and nesting habitat and avoid the direct loss or disturbance of nesting birds during construction:

- The project applicant shall implement Mitigation Measure Bio-1, "Prepare and Implement an Oak Woodland Mitigation Plan," to mitigate the loss of foraging and nesting habitat used by nesting migratory birds.
- Vegetation removal, grading, and other ground-disturbing activities shall be carried out during the nonbreeding season for protected bird species in this region (generally September 1–January 31). If no feasible option is available to conduct ground disturbing construction activities during the non-breeding season, the project applicant shall conduct a preconstruction nesting bird survey. The preconstruction survey shall be conducted by a qualified biologist on the project site and 250 feet beyond the project boundaries. The survey shall be conducted within 14 days before project activity begins.
- If an active nest of any bird species protected by the MBTA or California Fish and Game Code is found, the qualified biologist shall establish a buffer around the nest. No construction activity shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active. The size of the buffer shall be determined in consultation with CDFW. Buffer size is anticipated to range from 50 to 250 feet, depending on the species of bird, the nature of the project activity, the extent of existing disturbance in the area, and other relevant circumstances, as determined by a qualified biologist in consultation with CDFW.
- Monitoring of all protected nests by a qualified biologist during construction activities shall be required if the activity has the potential to adversely affect the nests. If construction activities cause any nesting birds to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer shall be increased until the agitated behavior ceases. The exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined by a qualified biologist. No construction activities shall occur in the buffer area until a qualified biologist has determined that the chicks have fledged or that the nest is no longer active.

Significance after Mitigation

Implementing Mitigation Measure Bio-1 would reduce the impacts of project-related habitat loss on migratory birds that use valley oak woodlands to **less than significant** by replacing the nesting and foraging resources on the project site with comparable oak woodland habitat. Implementing Mitigation Measure Bio-2 would reduce the potential impacts of project construction activities on nesting migratory birds to **less than significant** by avoiding direct impacts on bird nests, and by minimizing disturbances during nesting that could result in nest abandonment and loss of eggs or young.

Off-Site Land (Options 1B and 1C)

If the potential southern access road becomes part of the project, vegetation removal and ground disturbance during project construction have the potential to destroy the active nests of common birds protected under the MBTA or California Fish and Game Code. Project construction could also indirectly disturb breeding birds, causing nest abandonment by the adults and mortality of chicks and eggs. Loss of the nests of common bird species (those not meeting the definition of special-status as provided above) such as mourning dove, acorn woodpecker, and western bluebird would not be a significant impact under CEQA because it would not result in a substantial effect on their local or regional populations; however, destruction of bird nests is a violation of the MBTA and Section 3503 of the California Fish and Game Code, and mitigation to avoid the loss of active nests of these species is required for compliance with these regulations. This impact would be **potentially significant**. Compliance with conditions placed on the permit as described in the City of Rocklin Tree Ordinance and implementation of Mitigation Measure Bio-2 (above) would reduce the impacts of project-related habitat loss and project construction on migratory birds. However, this impact is deemed to be **significant and unavoidable** for purposes of environmental review because the Granite Drive alignment falls outside of the Town of Loomis (lead agency) jurisdiction and the Town cannot ensure the mitigation would be implemented by the City of Rocklin and/or Caltrans (see Section 3.7, "Transportation and Traffic," for further discussion).

Impact 3.4-7: Loss and Disturbance of Habitat for Nesting Raptors, including Special-Status Raptors.
Conversion of the project site's oak woodlands and annual grassland to an urban land use would result in the loss of nesting and foraging habitat and disturbance of potential nesting habitat for bird species protected under the MBTA. Project construction could disturb active raptor nests on or near the project site, including species such as Swainson's hawk, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs. This impact would be ***potentially significant****.*

Project Site (Option 1A)

Construction of the proposed project would result in the loss of valley oak woodland and annual grassland, which provides suitable nesting and foraging habitat for several species of raptors. In addition, individual raptors could be lost as a result of construction activities. Vegetation removal, grading, and other construction activities associated with land use conversion could result in mortality of individuals and nest abandonment. If trees would be removed during the raptor breeding season (March–August), mortality of eggs and chicks of tree nesting raptors could result if an active nest were present. In addition, future development activities could disturb active nests near construction areas, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs.

All raptors and their active nests, including common species, are protected under Section 3503.5 of the California Fish and Game Code. Direct impacts on Swainson's hawks nesting on or near the project site are unlikely because of the sparse record for this species in the project vicinity, and because the project site provides only marginal nesting and foraging habitat for Swainson's hawk. However, the potential for this species to nest on or near the project site cannot be ruled out without surveys. The impact of construction-related nest abandonment or other disturbance resulting in the loss of eggs or young of special-status or common raptor species would be **potentially significant**.

Mitigation Measure Bio-3: Avoid Direct and Indirect Loss of Special-Status and Other Nesting Raptors.

The project applicant shall implement the following measures to mitigate the loss of raptor habitat and to avoid direct impacts on nesting raptors:

- The project applicant shall implement Mitigation Measure Bio-1, "Prepare and Implement an Oak Woodland Open Space Mitigation Plan," to mitigate the loss of foraging and nesting habitat used by nesting raptors.
- Tree and vegetation removal shall be completed during the nonbreeding season for raptors in this region (generally September 1–January 31). If during pre-construction nesting bird surveys no active nests are discovered, exemptions may be approved following consultation with USFWS and CDFW.
- To avoid, minimize, and mitigate potential impacts on Swainson's hawk and other raptors nesting on or adjacent to the project site, the project applicant shall retain a qualified biologist to conduct preconstruction surveys and identify active nests on and within 500 feet of the project site for construction activities conducted during the breeding season (March 1–August 31). Surveys for nesting Swainson's hawks shall be conducted on the project site and within 0.25 mile of the project boundaries. The surveys shall be conducted before the Town approves grading and/or vegetation removal and no less than 14 days and no more than 30 days before the beginning of construction. If no nests are found, no further mitigation will be required.
- Impacts on nesting raptors shall be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. The appropriate no-disturbance buffer for other raptor nests shall be determined by a qualified biologist based on site-specific conditions, the species of nesting bird, the nature of the project activity, the visibility of the disturbance from the nest site, and other relevant circumstances. If a nesting Swainson's hawk is detected on or within 0.25 mile of the project site, CDFW shall be consulted to establish an appropriate nondisturbance buffer. No project construction shall commence within the buffer area until a qualified biologist has determined that the young have fledged or that the nest is no longer active.

Significance after Mitigation

Implementing Mitigation Measure Bio-1 would reduce the impacts of project-related habitat loss on nesting raptors to **less than significant** by replacing the nesting and foraging resources on the project site with comparable oak woodland habitat. Implementing Mitigation Measure Bio-3 would reduce the potential impacts of project construction activities on nesting raptors, including Swainson's hawks, to **less than significant** by avoiding direct impacts on raptor nests, and by minimizing disturbances during nesting that could result in nest abandonment and loss of eggs or young.

Off-Site Land (Options 1B and 1C)

If the potential southern access route to Granite Drive becomes part of the project, construction of the proposed project would result in the loss of valley oak woodland and annual grassland, which provides suitable nesting and foraging habitat for several species of raptors. In addition, individual raptors could be lost as a result of construction activities. Vegetation removal, grading, and other construction activities associated with land use conversion could result in mortality of individuals and nest abandonment. If trees would be removed during the raptor breeding season (March–August), mortality of eggs and chicks of tree nesting raptors could result if an active nest were present. In addition, future development activities could disturb active nests near construction areas, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs. The impact of construction-related nest abandonment or other disturbance resulting in the loss of eggs or young of special-status or common raptor species would be **potentially significant**. Compliance with conditions placed on the permit as described in the City of Rocklin Tree Ordinance and implementing Mitigation Measures Bio-2 and Bio-3 (above) would reduce the impacts of project-related habitat loss and project construction activities on nesting raptors. However, this impact is deemed to be **significant and unavoidable** for purposes of environmental review because the Granite Drive alignment falls outside of the Town of Loomis (lead agency) jurisdiction and the town cannot ensure the mitigation would be implemented by the City of Rocklin and/or Caltrans (see Section 3.7, "Transportation and Traffic," for further discussion).

Impact 3.4-8: Indirect Adverse Effects on Steelhead (Central Valley Distinct Population Segment). *Central Valley steelhead are found in Dry Creek and its tributaries Secret Ravine and Miners Ravine, located approximately 4 miles downstream of the project site. No direct impacts on this species are anticipated; however, the potential exists for indirect water quality effects from the construction site to adversely affect steelhead downstream. This impact would be* ***significant****.*

Project Site (Option 1A)

The proposed project would not result in any direct impacts on steelhead habitat because no spawning or rearing habitat or occupied tributary streams are found on the project site. However, the creation of impervious surfaces and increased runoff from the project site could indirectly affect downstream waters that eventually flow to Dry Creek and ultimately the American River. Potential indirect effects on downstream waters include a reduction in water quality caused by urban runoff, erosion, and siltation, and increased flow volumes or otherwise altered hydrology, which could adversely affect fish and other aquatic resources in downstream waters. Uncontrolled erosion from the developed site could generate sedimentation downstream, which could adversely affect spawning areas. Further, untreated stormwater runoff from on-site impervious surfaces could introduce contaminants that could cause potentially significant impacts on water quality in these tributaries, which currently support the life cycle of steelhead. Implementing BMPs and other water quality protection measures as outlined in the Stormwater Pollution Prevention Plan would reduce potential indirect impacts on downstream populations of steelhead to **less than significant**

Off-Site Land (Options 1B and 1C)

The potential southern access route to Granite Drive would could indirectly affect downstream waters that eventually flow to Dry Creek and ultimately the American River through the creation of impervious surfaces that reduce water quality and increase flow volumes. Implementing BMPs and other water quality protection measures as outlined in the Stormwater Pollution Prevention Plan would reduce potential indirect impacts on downstream populations of steelhead. However, this impact is conservatively deemed to be **significant and unavoidable** for purposes of environmental review because the Granite Drive alignment falls outside of the Town of Loomis (lead agency) jurisdiction and the Town cannot ensure compliance with relevant stormwater requirements.

Impact 3.4-9: Potential Mortality and Loss of Habitat for Western Spadefoot Toad. *Project construction could eliminate habitat for western spadefoot toad and could kill or injure individuals of the species present on the project site. This impact would be* ***significant****.*

Project Site (Option 1A)

The project site is within the range of western spadefoot toad, and wetland WS-1 (see Figure 3.4-3) provides marginally suitable habitat to support the species. No western spadefoot toad adults or larvae were observed during April 2017 field studies, but those field studies consisted of a habitat evaluation rather than focused surveys for aquatic species. Direct impacts on western spadefoot toads and loss of habitat for this special-status amphibian species would be **potentially significant**.

Mitigation Measure Bio-4: Conduct Western Spadefoot Toad Surveys and Implement Avoidance, Minimization, and Mitigation Measures.

The project applicant shall conduct focused surveys for western spadefoot toad using methods described in Fellers and Freel (1995) to determine whether this species occurs at the project site. These surveys should occur during the peak of breeding season (February to March) a maximum of 30 days prior to the start of construction. Surveys will be repeated if one year elapses between surveys and project related vegetation removal or ground disturbance has not occurred. If this species is determined to be absent, no mitigation is required. If the surveys detect the presence of western spadefoot toad at the project site, the wetland mitigation plan required by the 404 permitting process, or the oak woodland habitat mitigation plan described in Mitigation Measure Bio-1, shall accommodate acquisition of habitat or a conservation easement for habitat that would support western spadefoot toad. The mitigation lands for western spadefoot toad shall provide habitat values equal to or greater than those provided at the project site, as determined by a qualified biologist in consultation with CDFW.

In addition, the following measures shall be implemented during construction:

- For work conducted during the migration and breeding season for western spadefoot toad (November 1–May 31), a qualified biologist shall survey the active work areas (including access roads) in the mornings following measurable precipitation events (0.25 inch in a 24-hour period). Construction may commence once the biologist has confirmed that no spadefoot toads are in the work area.
- A 50-foot no-disturbance buffer shall be established around burrows that provide suitable upland habitat for western spadefoot toad. Burrows considered suitable for spadefoot shall be identified by a qualified biologist in consultation with CDFW. The biologist shall delineate and mark the no-disturbance buffer. No activity within the buffer shall occur until the qualified biologist verifies that the burrow is not actively used by the species. One-way doors, observation of emergence, or other methods to ensure the species has vacated the burrow must be used prior to collapsing the burrow. The buffer may be removed once the burrow has been cleared and collapsed.
- If western spadefoot toad is found within the construction footprint, it shall be allowed to move out of harm's way of its own volition or a qualified biologist shall relocate the organism to the nearest burrow outside the construction impact area.
- Before beginning work each day, a qualified biologist shall inspect areas underneath equipment and stored pipes larger than 1.2 inches (3 centimeters) in diameter for western spadefoot toad. If any are found, they shall be allowed to move out of the construction area under their own accord.
- Trenches and holes shall be covered and inspected daily for stranded animals. Trenches and holes deeper than 1 foot shall contain escape ramps (maximum slope of 2:1) to allow trapped animals to escape uncovered holes or trenches. Holes and trenches shall be inspected before filling.

Significance after Mitigation

Implementing Mitigation Measures Bio-4 would reduce the project-related loss of western spadefoot toad habitat and potential direct impacts of project construction on western spadefoot toads to **less than significant** because habitat would be replaced with suitable mitigation lands and direct impacts would be avoided.

Off-Site Land (Options 1B and 1C)

The potential southern access road to Granite Drive is within the range of western spadefoot toad, and upland areas may provide suitable habitat to support the species. Direct impacts on western spadefoot toads and loss of habitat for this special-status amphibian species would be **potentially significant**. Implementing conditions of regulatory permits including a 404 and 401 permit process (within the potential southern access road impact area) and Bio-4 would reduce the project-related loss of western spadefoot toad habitat and potential direct impacts of project construction on western spadefoot toads. However, because neither the Town nor the applicant can guarantee implementation of relevant permit conditions or mitigation measures, the Town has conservatively determined that the impact to the area within the city of Rocklin is **significant and unavoidable**.

3.4.4 Significance after Mitigation

Implementation of Mitigation Measures Bio-1 through Bio-4 would reduce project-related impacts to a less-than-significant level for Option 1A. In the event Option 1B or 1C is selected, the Town would apply all feasible mitigation, but **significant unavoidable** impacts would remain for resources located along the Granite Drive alignment.

3.5 Greenhouse Gases

This section presents a summary of the existing science related to greenhouse gases (GHGs); overviews of state and local GHG emissions inventories, and of the existing regulatory context for GHGs; a summary of the methods used to estimate GHG emissions attributable to the proposed project; and an analysis of potential impacts of the proposed project related to GHG emissions.

The proposed project would not contribute significantly to climate change by itself. However, cumulative emissions from many projects and plans would all contribute to global GHG concentrations and the climate system. This section considers the proposed project's cumulative contribution to the significant cumulative impact of climate change.

3.5.1 Environmental Setting

3.5.1.1 Overview of Greenhouse Gases

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space through the atmosphere. However, infrared radiation is selectively absorbed by GHGs in the atmosphere. As a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth. Anthropogenic (human-caused) emissions of these GHGs lead to atmospheric levels that exceed natural ambient concentrations and have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change.

The Intergovernmental Panel on Climate Change concluded that variations in natural phenomena, such as solar radiation and volcanoes, produced most of the earth's warming from preindustrial times to 1950. Some variations in natural phenomena also had a small cooling effect. Since 1950, increasing GHG concentrations resulting from human activity, such as fossil fuel burning and deforestation, have been responsible for most of the observed temperature increase (IPCC 2013).

Global surface temperature has increased by approximately 1.53 degrees Fahrenheit over the last 140 years (IPCC 2013); however, the rate of increase in global average surface temperature has not been consistent. During the last three decades, temperatures have warmed at a much faster rate per decade (IPCC 2013).

During the same period when increased global warming has occurred, many other changes have occurred in other natural systems. Sea levels have risen; precipitation patterns throughout the world have shifted, with some areas becoming wetter and others drier; snowlines have increased in elevation, resulting in changes to the snowpack, runoff, and water storage; and numerous other conditions have been observed. Although it is difficult to prove a definitive cause-and-effect relationship between global warming and other observed changes to natural systems, there is a high level of confidence in the scientific community that these changes are a direct result of increased global temperatures caused by the increased presence of GHGs in the atmosphere (IPCC 2013).

Principal Greenhouse Gases and Sources

GHGs are present in the atmosphere naturally, are released by natural and anthropogenic sources, and are formed from secondary reactions taking place in the atmosphere. Natural sources of GHGs include the respiration of humans, animals, and plants; decomposition of organic matter; volcanic activity; and evaporation from the oceans. Anthropogenic sources include the combustion of fossil fuels by stationary and mobile sources, waste treatment, and agricultural processes. The following are the principal GHG pollutants that contribute to climate change and their primary emission sources:

- **Carbon Dioxide:** Natural sources of carbon dioxide (CO_2) include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; and evaporation from oceans. Anthropogenic sources include burning of coal, oil, natural gas, and wood.
- **Methane:** Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal solid waste landfills.

- **Nitrous Oxide:** Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of nitrous oxide are agricultural soil management, sewage treatment, mobile and stationary combustion of fossil fuel, and production of adipic and nitric acid. Nitrous oxide is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests.
- **Fluorinated Gases:** These gases, listed below, are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as having high global warming potential (GWP).
  - *Chlorofluorocarbons* are used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants.
  - *Perfluorinated chemicals* are emitted as byproducts of industrial processes and are used in manufacturing.
  - *Sulfur hexafluoride* is a strong GHG used primarily as an insulator in electrical transmission and distribution systems.
  - *Hydrochlorofluorocarbons* have been introduced as temporary replacements for chlorofluorocarbons and are also GHGs.
  - *Hydrofluorocarbons* were introduced as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. Hydrofluorocarbons are emitted as byproducts of industrial processes and are used in manufacturing.

GHGs are not monitored at local air pollution monitoring stations and do not result in direct impacts on human health. Rather, GHGs generated locally contribute to global concentrations of GHGs, which result in changes to the climate and environment.

The California Air Resources Board (ARB) prepares an annual, statewide GHG emissions inventory. GHGs are typically analyzed by sector or type of activity. As shown in Figure 3.5-1, California produced 424.1 million metric tons (MT) CO_2 equivalent (CO_2e) in 2017. Combustion of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for 41 percent of total GHG emissions. Transportation was followed by industry, which accounted for 24 percent, and then by the electric power category (both in-state and out-of-state sources), which accounted for 15 percent of total GHG emissions (ARB 2019).

As described below, California has implemented several programs and regulatory measures to reduce GHG emissions. Figure 3.5-2 demonstrates California's progress in achieving statewide GHG emissions reduction targets. Since 2007, California's GHG emissions have been declining; GHG emissions have continued to decline even as population and gross domestic product have increased. Per-capita GHG emissions in 2017 were 23 percent lower than the peak per-capita GHG emissions recorded in 2000. Similarly, GHG emissions per million dollars of gross domestic product have decreased by 33 percent since the peak in 2001 (ARB 201a, ARB 2017b).

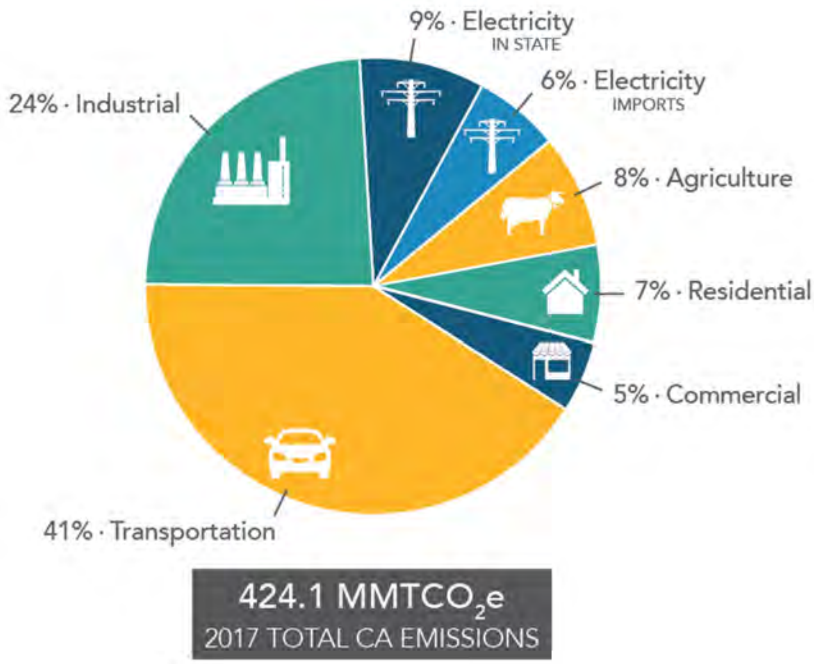
In 2012, the Sierra Business Council published a community-wide GHG emissions inventory in collaboration with the Town of Loomis. The inventory (Town of Loomis 2012) estimated emissions using the baseline year of 2005 using the International Local Government GHG Emissions Analysis Protocol.[1] The inventory, summarized in Table 3.5-1, identified GHG emissions from multiple sectors: residential, commercial, industrial, vehicle transportation, and waste and wastewater. According to this estimate, in 2005 the Town of Loomis produced approximately 56,000 MT CO_2e, for a per capita rate of approximately 8.8 MT CO_2e per resident. As with the state as a whole, vehicle transportation was the largest source of GHG emissions, contributing more than 61 percent of the total.

Global Warming Potential

GWP is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time the gas remains in the atmosphere (its "atmospheric lifetime"). The GWP of each gas is measured relative to CO_2; therefore, CO_2 has a GWP of 1. The other main GHGs that have been attributed to human activity include methane, which has a GWP of 28, and nitrous oxide, which has a GWP of 265 (IPCC 2013). For example, 1 ton of methane has the same contribution to the greenhouse effect as approximately 28 tons of CO_2. GHGs with lower emissions rates than CO_2 may still contribute to climate change, because they are more effective than CO_2 at absorbing outgoing infrared radiation (i.e., they have a high GWP). The concept of CO_2 equivalence (CO_2e) is used to

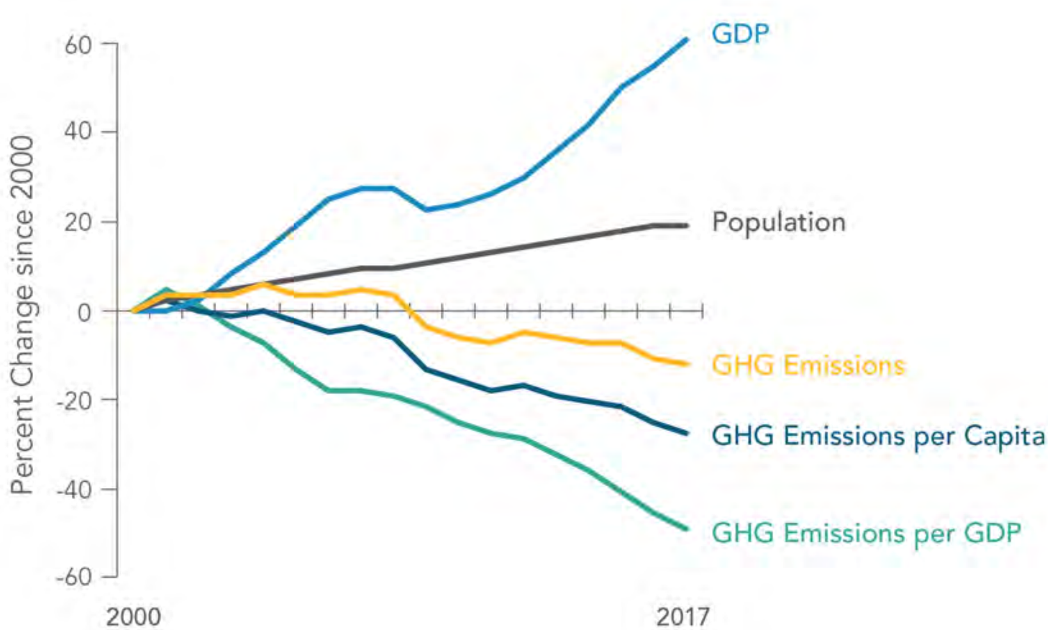
[1] A 2005 baseline year was likely used because this year was once considered an important comparison year for future emissions forecasts and reductions.

account for the different GWP potentials of GHGs to absorb infrared radiation. GHG emissions are typically measured in terms of pounds or tons of CO_2e, and are often expressed in MT CO_2e.



Source: ARB 2019

Figure 3.5-1. 2015 California Greenhouse Gas Emissions Inventory by Sector



Source: ARB 2019

Figure 3.5-2. Trends in California Greenhouse Gas Emissions (Years 2000 to 2015)

Table 3.5-1. Town of Loomis 2005 Greenhouse Gas Emissions Inventory (Community-wide)

Sector	Emissions (MT CO_2e)	Percent of Inventory
Residential	11,619	20.7
Commercial and Industrial	8,488	15.2
Vehicle transportation	34,238	61.1
Waste and wastewater	1,696	3.0
Total*	**56,041**	**100.0**

Notes: CO_2e = carbon dioxide equivalent; MT = metric tons

* Total may not be the exact sum of emissions due to rounding.

Source: Town of Loomis 2012

Climate change is a global issue because GHGs can have global effects, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern (see Section 3.3, "Air Quality"). Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years), or long enough to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule depends on multiple variables, more CO_2 is currently emitted into the atmosphere than is stored or "sequestered."

3.5.2 Regulatory Setting

Although federal, state, regional, and local GHG-related plans, policies, and regulations do not all directly apply to the proposed project, the information below is helpful for understanding the cumulative context for GHG emissions impacts and strategies to reduce GHG emissions.

3.5.2.1 Federal Plans, Policies, Regulations, and Laws

The U.S. Environmental Protection Agency (EPA) is responsible for implementing the federal Clean Air Act (CAA). On April 2, 2007, the U.S. Supreme Court held that EPA must consider regulation of GHG emissions from motor vehicles. In *Massachusetts v. Environmental Protection Agency et al.,* 12 states and cities (including California) along with several environmental organizations sued to require EPA to regulate GHGs as pollutants under the CAA (127 S. Ct. 1438 [2007]). The Supreme Court ruled that GHGs fit within the CAA's definition of a pollutant and that EPA has the authority to regulate GHGs.

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

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- *Endangerment Finding:* The current and projected concentrations of the six key GHGs—CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorinated chemicals, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- *Cause or Contribute Finding:* The combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to GHG pollution, which threatens public health and welfare.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year 2008 Consolidated Appropriations Act (House of Representatives Bill 2764; Public Law 110-161), which required EPA to develop "…mandatory reporting of GHGs above appropriate thresholds in all sectors of the economy…." The Reporting Rule applies to most entities that emit 25,000 MT CO_2e or more per year. Since 2010, facility owners have been required to submit an annual GHG emissions report with detailed calculations of the facility's GHG emissions. The Reporting Rule also mandates compliance with recordkeeping and administrative requirements to enable EPA to verify annual GHG emissions reports.

Council on Environmental Quality Guidance

On December 18, 2014, the Council on Environmental Quality (CEQ) released revised draft guidance that superseded the draft GHG and climate change guidance released by CEQ in February 2010. The revised draft guidance applied to all proposed federal agency actions, including land and resource management actions. This guidance explained that agencies should consider both the potential effects of a proposed action on climate change, as indicated by its estimated GHG emissions, and the implications of climate change for the environmental effects of a proposed action (CEQ 2014). The guidance encouraged agencies to draw from their experience and expertise to determine the appropriate level (broad, programmatic, or project- or site-specific) and type (quantitative or qualitative) of analysis required to comply with the National Environmental Policy Act. The guidance recommended that agencies consider emissions of 25,000 MT CO_2e per year as a reference point below which a quantitative analysis of GHG emissions is not recommended unless it is easily accomplished based on available tools and data (CEQ 2014).

On August 1, 2016, an updated version of the CEQ guidelines was published. This document did not establish a numeric threshold for GHG emissions. Agencies were directed to consider the potential effects of a proposed action and alternatives on climate change as indicated by assessing GHG emissions (e.g., to include carbon sequestration where applicable) (CEQ 2016). However, this guidance was withdrawn on April 5, 2017 (CEQ 2017). The withdrawn guidance was not a regulation and the withdrawal does not change any law, regulation, or other legally binding requirement.

U.S. Environmental Protection Agency and National Highway Traffic Safety Administration Standards

EPA and the National Highway Traffic Safety Administration (NHTSA) implemented national GHG emission and fuel economy standards for model year 2012–2016 light-duty cars and trucks. The second phase of the standards includes GHG and fuel economy standards for model years 2017–2025. The 2017–2025 standards are anticipated to save approximately 4 billion barrels of oil and 2 billion MT of GHG emissions. In 2025, if all standards are met through fuel efficiency improvements, the average industry fleetwide fuel efficiency for light-duty cars and trucks would be approximately 54.5 miles per gallon (EPA 2012).

In addition to standards for light-duty cars and trucks, EPA and NHTSA have implemented Phase 1 of the Medium- and Heavy-Duty Vehicle GHG Emissions and Fuel Efficiency Standards, which apply to model years 2014–2018. It is anticipated that medium- and heavy-duty vehicles built to these standards from 2014–2018 will reduce CO_2 emissions by approximately 270 million MT over their lifetimes (EPA 2012). Phase 2 of these standards apply to model years 2021–2027 and would reduce GHG emissions by 1 billion MT over the lifetimes of those vehicles (EPA 2015).

Renewable Fuel Standard Program

Created by the Energy Policy Act of 2005, which amended the CAA, the Renewable Fuel Standard program established requirements for volumes of renewable fuel used to replace petroleum-based fuels. The four renewable fuels accepted as part of the Renewable Fuel Standard program are biomass-based diesel, cellulosic biofuel, advanced biofuel, and total renewable fuel. The 2007 Energy Independence and Security Act expanded the program and its requirements to include long-term goals of using 36 billion gallons of renewable fuels and extending annual renewable-fuel volume requirements to year 2022. The four renewable fuels have specific renewable fuel-blending requirements for obligated parties such as refiners and importers of gasoline or diesel fuel. EPA implements the program in consultation with U.S. Departments of Agriculture and Energy. Gasoline and diesel refiners and importers (Obligated Parties) are required to demonstrate compliance with the Renewable Fuel Standard program.

3.5.2.2 State Plans, Policies, Regulations, and Laws

The legal framework for GHG emission reductions has come about through executive orders, legislation, and regulations. The major components of California's climate change initiatives are outlined below.

Assembly Bill 1493

Assembly Bill (AB) 1493 required that ARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by ARB to be vehicles whose primary use is noncommercial personal transportation in the state." These stricter emissions standards were designed to apply to automobiles and light trucks beginning with model year 2009. In June 2009, the EPA Administrator granted a CAA waiver of preemption to the State of California, allowing the state to implement its own GHG emissions standards for motor vehicles beginning with model year 2009. California agencies worked with federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger car model years 2017–2025.

Executive Order S-3-05

Executive Order S-3-05, issued in recognition of California's vulnerability to the effects of climate change, set forth the following target dates by which statewide GHG emissions would be progressively reduced: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32

In 2006, California enacted AB 32, the California Global Warming Solutions Act (California Health and Safety Code Section 38500 et seq.). AB 32 further details and puts into law the midterm GHG reduction target established in Executive Order S-3-05: reduce GHG emissions to 1990 levels by 2020. AB 32 also identifies ARB as the state agency responsible for designing and implementing emissions limits, regulations, and other measures to meet the target.

In December 2008, ARB adopted the Climate Change Scoping Plan (Scoping Plan), which includes California's main strategies for achieving the GHG reductions required by AB 32 (ARB 2008). The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of California's GHG inventory. ARB acknowledges that land use planning decisions will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors.

ARB is required to update the Scoping Plan at least once every 5 years to evaluate progress and develop future inventories that may guide this process. ARB approved the *First Update to the Climate Change Scoping Plan: Building on the Framework* (2014 Scoping Plan Update) in June 2014 (ARB 2014). The 2014 Scoping Plan Update includes a status of the 2008 Scoping Plan measures and other federal, state, and local efforts to reduce GHG emissions in California, and potential actions to further reduce GHG emissions by 2020. The 2014 Scoping Plan Update determined that the state is on schedule to achieve the 2020 target (i.e., 1990 levels by 2020). However, an accelerated reduction in GHG emissions is required to achieve the Executive Order S-3-05 emissions reduction target of 80 percent below 1990 levels by 2050.

The statewide measures adopted under the direction of AB 32, and as outlined in the Scoping Plan, would reduce GHG emissions associated with existing and new development. In November 2017, ARB released *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target* (2017 Scoping Plan Update) (ARB 2017c). The 2030 target of a 40 percent reduction in GHG emissions below 1990 statewide GHG emissions (consistent with Executive Order B-30-15, which is outlined below) guides the 2017 Scoping Plan Update (ARB 2017c). The 2017 Scoping Plan Update establishes a plan of action, consisting of a variety of strategies to be implemented rather than a single solution, for California to reduce statewide emissions by 40 percent by 2030 compared to 1990 levels (ARB 2017c).

Executive Order B-30-15

In April 2015, Governor Edmund G. Brown Jr. issued an executive order establishing a statewide GHG reduction goal of 40 percent below 1990 levels by 2030. The emission reduction target acts as an interim goal between the AB 32 goal (i.e., achieve 1990 emission levels by 2020) and the goal in Governor Brown's Executive Order S-3-05 of reducing statewide emissions 80 percent below 1990 levels by 2050. In addition, the executive order aligns California's 2030 GHG reduction goal with the European Union's reduction target (i.e., 40 percent below 1990 levels by 2030) that was adopted in October 2014.

Senate Bill 32

Approval of Senate Bill (SB) 32 in September 2016 extended the provisions of AB 32 from 2020 to 2030 with a new target of 40 percent below 1990 levels by 2030. The companion bill, AB 197, added two nonvoting members to ARB; created the Joint Legislative Committee on Climate Change Policies, consisting of at least three senators and three Assembly members; required additional annual reporting of emissions; and required that Scoping Plan updates include alternative compliance mechanisms for each statewide reduction measure, along with market-based compliance mechanisms and potential incentives.

Executive Order S-1-07

Executive Order S-1-07 acknowledges that the transportation sector is the main source of GHG emissions in California. The order established a goal of reducing the carbon intensity of fuels for mobile, stationary, and portable emissions sources sold in California by a minimum of 10 percent by 2020. It also directed ARB to determine whether this Low Carbon Fuel Standard could be adopted as a discrete, early-action measure after meeting the mandates in AB 32. ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

Senate Bill 97

SB 97, signed by the Governor in August 2007, acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the Governor's Office of Planning and Research to prepare, develop, and transmit to the California Natural Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The California Natural Resources Agency adopted those guidelines on December 30, 2009, and the guidelines became effective March 18, 2010.

Senate Bill 375

SB 375, signed by the Governor in September 2008, aligned regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 required metropolitan planning organizations (MPOs) to adopt a sustainable communities strategy (SCS) that will prescribe land use allocation in that MPO's regional transportation plan. ARB adopted regional GHG targets for passenger vehicles and light trucks for 2020 and 2035 for the 18 MPOs in California. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate "alternative planning strategy" to meet the targets.

California Air Resources Board Advanced Clean Cars Program/Zero Emission Vehicle Program

AB 1493 (Chapter 200, Statutes of 2002), also known as the Pavley regulations, required ARB to adopt regulations by January 1, 2005, that would result in the achievement of the "maximum feasible" reduction in GHG emissions from vehicles used in the state primarily for noncommercial, personal transportation.

In January 2012, ARB approved a new emissions-control program for model years 2017–2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards called Advanced Clean Cars (California Code of Regulations [CCR] Title 13, Sections 1962.1 and 1962.2 [13 CCR Sections 1962.1 and 1962.2]). The Advanced Clean Cars requirements include new GHG standards for model year 2017–2025 vehicles. ARB anticipates that the new standards will reduce motor vehicle GHG emissions by 34 percent in 2025. A midterm review of the program, released in 2017, includes ARB's technical analysis of adopted GHG and particulate matter emission standards for low-emission vehicles and regulatory requirements for zero-emission vehicles, as well as recommended next steps for each of the adopted requirements (ARB 2017d).

The Advanced Clean Cars program also includes the Low-Emission Vehicle III amendments to the low-emission vehicle regulations (13 CCR Section 1900 et seq.), the Zero-Emission Vehicle program, and the Clean Fuels Outlet regulation. The Zero-Emission Vehicle program is designed to achieve California's goals for long-term emission reductions by requiring manufacturers to offer for sale specific numbers of the very cleanest cars available. These zero-emission vehicles, which include battery electric, fuel cell, and plug-in hybrid electric vehicles, have now entered the marketplace. They are expected to be fully commercial by 2020. The Clean Fuels Outlet regulation is intended to ensure that fuels such as electricity and hydrogen are available to meet the needs of the new advanced technology vehicles as they come to market.

Executive Order B-16-12

Executive Order B-16-12 orders state entities under the direction of the Governor including ARB, the California Energy Commission, and the California Public Utilities Commission to support the rapid commercialization of zero-emission vehicles. The order directs these entities to achieve various benchmarks related to zero-emission vehicles, including:

- infrastructure to support up to 1 million zero-emission vehicles by 2020,
- widespread use of zero-emission vehicles for public transportation and freight transport by 2020,
- more than 1.5 million zero-emission vehicles on California roads by 2025,
- annual displacement of at least 1.5 billion gallons of petroleum fuels by 2025, and
- a reduction of GHG emissions from the transportation sector equaling 80 percent below 1990 levels by 2050.

Executive Order S-01-07 (Low Carbon Fuel Standard)

Executive Order S-01-07 (17 CCR Section 95480 et seq.) requires the state to achieve a 10 percent or greater reduction by 2020 in the average fuel carbon intensity for transportation fuels in California regulated by ARB. ARB identified the Low Carbon Fuel Standard as a discrete early-action item under AB 32, and issued the final resolution (No. 09-31) adopting the standard on April 23, 2009. ARB readopted the Low Carbon Fuel Standard in 2015.

Senate Bills 1078 and 107, Executive Orders S-14-08 and S-21-09, and Senate Bill 350

SB 1078 (Chapter 516, Statutes of 2002) required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

Executive Order S-14-08 expanded the state's Renewable Portfolio Standard to 33 percent renewable power by 2020. Executive Order S-21-09 directs ARB under its AB 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020.

The 33 percent-by-2020 goal and requirements were codified in April 2011 with SB X1-2. This new Renewable Portfolio Standard applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. Consequently, PG&E, which would be the electricity provider for the proposed project, must meet the 33 percent goal by 2020. SB 350 (2015) increased the renewable-source requirement to 50 percent by 2030, which was further increased under SB 100 in 2018 to 60 percent by 2030 and requiring all the State's electricity to come from carbon-free resources by 2045.

These requirements reduce the carbon content of electricity generation, and would reduce GHG emissions associated with both existing and new development, including new development on the project site.

The California Public Utilities Commission reported that California's three largest investor-owned utilities—PG&E, Southern California Edison, and San Diego Gas and Electric Company—collectively provided 36 percent of their 2017 retail electricity sales using renewable sources and are continuing progress toward meeting the future RPS requirements (CPUC 2019).

California Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code, which establishes mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. Part of the intent of the CalGreen code is to provide cost-effective strategies to help meet California's GHG reduction mandates.[2] These standards include a set of minimum requirements and more rigorous voluntary measures for new construction projects to achieve specific green building performance levels. This code went into effect as part of local jurisdictions' building codes on January 1, 2011. The 2013 update to the California Green Building Standards Code became effective in January 2014. Another update to the energy efficiency standards became effective January 1, 2017. The CALGreen code was most recently updated in 2018 and 2019, with new measures taking effect on January 1, 2020. Updates to the code improve energy efficiency of newly constructed buildings and of additions and alterations to existing buildings compared to previous versions of the code.

3.5.2.3 Regional and Local Plans, Policies, Regulations, and Ordinances

Sacramento Area Council of Governments

SACOG is designated by the U.S. government and the State of California as the MPO for the area and is responsible for developing a regional transportation plan (i.e., MTP) in coordination with Sacramento, Yolo, Yuba, Sutter, El Dorado, and Placer counties and the 22 cities within those counties (excluding the Tahoe Basin). This plan incorporates countywide transportation planning covering a 20-year planning horizon, which must be updated every 4 years. As a requirement of SB 375, MPOs need to develop a sustainable communities strategy as part of the MTP to identify strategies and policies to reduce GHG emissions from passenger vehicles to meet state targets established by ARB.

SACOG's MTP/SCS for 2035 was adopted on April 19, 2012. SACOG's MTP/SCS calls for meeting and exceeding ARB's GHG reduction goals for passenger vehicles and light-duty trucks of 7 percent by 2020 and 16 percent by 2035, where 2005 is the baseline year for comparison (SACOG 2012). SACOG's 2016 MTP/SCS was adopted on February 18, 2016 (SACOG 2016). The 2016 MTP/SCS demonstrates how the region can accommodate expected

[2] For more detail, please see the California Building Standards Commission website: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen.

regional population growth and the increased demand for transportation in the region, while also showing that the region could achieve a reduction in per-capita passenger VMT.

SACOG has created a framework for describing the MTP/SCS that is made up of community types. Local land use plans (e.g., adopted and proposed general plans, specific plans, master plans, corridor plans) were divided into one of five community types based on the location of the plans. The project site is in the community type identified by the MTP/SCS as a "Developing Community" (SACOG 2016:27):

> Developing Communities are typically, though not always, situated on vacant land at the edge of existing urban or suburban development; they are the next increment of urban expansion. Developing Communities are identified in local plans as special plan areas, specific plans, or master plans and may be residential-only, employment-only, or a mix of residential and employment uses. Transportation options in Developing Communities often depend, to a great extent, on the timing of development. Bus service, for example, may be infrequent or unavailable today, but may be available every 30 minutes or less once a community builds out. Walking and bicycling environments vary widely though many Developing Communities are designed with dedicated pedestrian and bicycle trails.

The MTP/SCS includes 31 policies and multiple strategies to address the principles of smart land use; environmental quality and sustainability; financial stewardship; economic vitality; access and mobility; and equity and choice. Highlights of MTP/SCS policies include:

- Implement the Rural-Urban Connection Strategy (RUCS) which ensures good rural-urban connections and promotes the economic viability of rural lands while also protecting open space resources to expand and support the implementation of the Blueprint growth strategy and the MTP/SCS.
- Support and invest in strategies to reduce vehicle emissions that can be shown as cost effective to help achieve and maintain clean air and better public health.
- Use the best information available to implement strategies and projects that lead to reduced GHG emissions.
- Consider strategies to green the system, such as quieter pavements, cleaner vehicles, and lower energy equipment where cost effective, and consider regional funding contributions to help cover the incremental cost.
- SACOG encourages locally determined developments consistent with Blueprint principles and local circulation plans to be designed with walking, bicycling, and transit use as primary transportation consideration.

Placer County Air Pollution Control District

Placer County Air Pollution Control District (PCAPCD) regulates local air quality and air pollutant emissions sources in Placer County. In its *CEQA Air Quality Handbook*, PCAPCD includes a chapter that outlines guidance for analyzing construction emissions, including GHG emissions, and a GHG-specific chapter that discusses the recommended approach to evaluating operational GHG emissions. PCAPCD also includes a list of analysis expectations and methodologies for CEQA analyses.

On October 13, 2016, the PCAPCD Board of Directors adopted the Review of Land Use Projects under CEQA Policy, which established thresholds of significance for GHG emissions. In developing the thresholds, the district took into account health-based air quality standards and the strategies to attain air quality standards, historical CEQA project review data in Placer County, statewide regulations to achieve GHG emission reduction targets, and the geographic and land use features of Placer County. PCAPCD's GHG thresholds of significance are discussed further in Section 3.5.3.2, "Thresholds of Significance," below.

3.5.3 Impact Analysis

3.5.3.1 Methodology

GHG emissions have the potential to adversely affect the environment because such emissions contribute cumulatively to global climate change. It is unlikely that a single project will contribute significantly to climate change, but cumulative emissions from many projects could affect global GHG concentrations and the climate system. Therefore, impacts are analyzed within the context of the potential contribution to the cumulatively significant impact of climate change.

To address the criteria for GHG impact analysis listed in Appendix G of the State CEQA Guidelines, a quantitative analysis of project-related GHG emissions was conducted:

- *Construction:* GHG emissions were estimated for off-road construction equipment, material delivery trucks, haul trucks, and construction worker vehicles. Construction emissions were modeled using California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (CAPCOA 2016), as described in more detail in Section 3.3, "Air Quality." Please see Appendix B of this EIR for modeling details, assumptions, inputs, and outputs.
- *Operation:* The proposed project's operational GHG emissions were estimated using methods similar to those described in Section 3.3, "Air Quality." CalEEMod, EMFAC2017, and OFFROAD 2017 were used to estimate direct GHG emissions associated with mobile, area, and energy sources, similar to air pollutant emissions. CalEEMod also estimates indirect GHG emissions associated with solid waste disposal and water consumption. Please see Appendix B1 of this EIR for modeling details, assumptions, inputs, and outputs.
- In order to provide a more comprehensive assessment of cumulative GHG emissions related effects, the proposed project's construction related emissions were amortized over the estimated 20-year lifetime of the project and added to the operational emissions. The annual operational emissions, along with the amortized construction emissions were compared with the applicable significance threshold to determine cumulative significance.

3.5.3.2 Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, the proposed project would result in a significant impact related to GHG emissions if it would:

- generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Whether or not implementation of the proposed project would generate GHG emissions that would have a significant impact on the environment depends on whether the rate of GHG emissions associated with the project would provide its share of AB 32, Executive Order B-30-15, SB 32, and Executive Order S-3-05 emissions reductions.

Pursuant to CEQA (14 CCR § 15064.7), public agencies such as local air quality districts are encouraged to develop and publish thresholds of significance, which are defined as an identifiable quantitative, qualitative or performance level established to measure an environmental effect. Accordingly, quantitative thresholds established in the Review of Land Use Projects under CEQA Policy were adopted by PCAPCD Board of Directors on October 13, 2016. These thresholds were developed with the intent of ensuring that new development would not interfere with state efforts to reduce GHG emissions; this was the first time that quantitative GHG thresholds had been adopted by PCAPCD. As described in PCAPCD's Threshold Justification Report, PCAPCD staff developed the new GHG thresholds to support the state's GHG reduction goals, specifically AB 32, SB 32, and Executive Order S-3-05, but with consideration of conditions unique to Placer County (PCAPCD 2016).

PCAPCD's recommended GHG emissions significance thresholds are as follows: a "bright line" threshold of 10,000 MT CO_2e per year for the construction and operational phases of development projects, or for stationary sources (PCAPCD 2017); and a "*de minimis*" threshold of 1,100 MT CO_2e per year for the operational phases of projects. According to PCAPCD's guidance, one of the efficiency thresholds should be used for projects where the operational phase would exceed this *de minimis* level. The efficiency thresholds reflect different expectations for urban and rural development in Placer County and for residential and nonresidential developments:

- *Residential projects:* Urban threshold, 4.5 MT CO_2e per year per capita; rural threshold, 5.5 MT CO_2e per year per capita
- *Nonresidential projects:* Urban threshold, 26.5 MT CO_2e per year per thousand square feet of building space; rural threshold, 27.3 MT CO_2e per year per thousand square feet of building space

According to PCAPCD, local lead agencies would identify whether each project is in an urban or a rural setting (PCAPCD 2016:19). As identified in the MTP/SCS, Loomis is considered a small, rural community; therefore, the rural efficiency matrix threshold of 27.3 MT CO_2e per year per thousand square feet of building space is considered as a part of this analysis.

In order to evaluate whether the proposed project would generate GHG emissions that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, the proposed project's GHG construction emissions are compared to the PCAPCD "bright line" threshold and operational plus amortized construction emissions are compared to PCAPCD efficiency threshold identified in Table 3.5-2.

3.5.3.3 Environmental Impacts and Mitigation Measures

Impact 3.5-1: Generation of Greenhouse Gas Emissions. *Construction and operational activities associated with the proposed project would generate GHG emissions in exceedance of the PCAPCD-recommended thresholds of significance. Construction and operation of the proposed project is considered to result in* ***cumulatively considerable contribution*** *to the* ***significant cumulative*** *impact of climate change.*

Implementing the proposed project under any of the Project Driveway Access Options would generate short-term construction-related and long-term operational GHG emissions. Construction-related GHG emissions would cease after construction of the proposed project. Operational emissions are considered long term and are assumed to occur for the lifetime of the project.

During construction of the proposed project, exhaust GHG emissions would be generated from a variety of sources such as heavy-duty construction and clearing equipment, haul trucks, material delivery trucks, and construction worker vehicles. Like air pollutant emissions, daily GHG emissions would vary by type of construction activities planned for each day. For example, daily GHG emissions generated during construction equipment-intensive phases would be higher than daily emissions generated during less equipment-intensive phases. Total construction-related GHG emissions are anticipated to be generated over a 6-month period, and the maximum annual emissions are considered for purposes of the impact analysis.

Operational GHG emissions are distinguished by direct and indirect GHG emissions. Direct GHG emissions are generated at the location of consumption or use; for example, mobile-source emissions are direct emissions because GHG emissions are generated as a vehicle begins to move. Conversely, indirect emissions occur at a different time or location from the point of consumption or use. For example, electricity-related GHG emissions are indirect emissions because, as consumers use electricity at their workplace, the fuel combustion and emissions associated with creating that electricity likely occurred off-site or at a different time. Other indirect GHG emissions include emissions from solid waste disposal and water consumption.

As part of project development, siting and design considerations that address the intent to minimize GHG emissions were taken into consideration and implemented as part of the proposed project.

Regarding project siting and as described in Section 3.1.2, "Regional Planning," of this EIR, the Loomis General Plan aims to maintain the Town's rural character by directing future commercial uses along Sierra College Boulevard near I-80 and intensification of use through redevelopment in the downtown area (Town of Loomis 2001). These planning strategies were reflected in the growth forecasts of the MTP/SCS, which designates the project site as in a Center and Corridor Community; meaning siting and operation of the proposed project at this location supports the intent of the MTP/SCS strategy to achieve a reduction in GHG emissions by implementing a compact urban development pattern. The plans and programs outlined in the MTP/SCS were evaluated by SACOG using travel demand modeling to determine the performance of the transportation system and future land use patterns. SACOG found that the MTP/SCS, including its land use and transportation components, would achieve statewide GHG emission targets under SB 375, a finding that was confirmed by ARB.

Table 3.5-2 lists the proposed project's maximum annual construction-related GHG emissions and annual operational emissions by source. As shown in Table 3.5-2, the proposed project's construction-related emissions would not exceed the PCAPCD bright-line threshold of significance of 10,000 MT CO_2e per year. However, long-term (annual) operational GHG emissions would exceed PCAPCD's de minimis threshold of significance of 1,100 MT CO_2e per year outlined in the PCAPCD's CEQA Air Quality Handbook. Exceedance of the de minimis threshold requires the project to undergo a secondary level of review that considers forecast emissions relative to the project footprint. Using the PCAPCD methodology, the proposed project's operational GHG emissions of 6,159 MT CO_2e per year were calculated relative to project size and expressed in terms of calculated MT CO_2e per year per 1,000 square feet. For this calculation, the project square footage used was that of the proposed warehouse, up to approximately 155,000 square feet. Compared to PCAPCD's efficiency matrix–defined threshold of 27.3 MT CO_2e per year per

1,000 square feet, the proposed project's annual operational emissions are estimated to be 40 MT CO_2e per year per 1,000 square feet, which exceeds the PCAPCD-recommended threshold.

Table 3.5-2. Modeled Greenhouse Gas Emissions for Construction and Operations: All Project Driveway Access Options

Emissions Source	GHG Emissions (MT CO_2e/year)
Construction GHG Emissions	
Annual Construction Emissions	385
Operational GHG Emissions	
Area	0.018
Energy	678
Mobile[1]	5,095
Waste	343
Water	42
Total[2] Annual Operational Emissions	**6,159**
Total[3] Annual Operational + Amortized Construction Emissions	**6,178**
Total[3] Annual Project Emissions per 1,000 Square Feet[3]	**40**
PCAPCD GHG Efficiency Threshold	***27.3***
Exceed threshold?	**Yes**

Notes:

CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons; PCAPCD = Placer County Air Pollution Control District

[1] Mobile emission calculations include those calculated in CalEEMod based upon new VMT projected in the Transportation Impact Analysis for customer and worker trips, plus those calculated using EMFAC2017 and OFFROAD2017 Emissions Inventory for fuel and warehouse delivery truck trips, Transport Refrigeration Units, and on-site idling of trucks and vehicles in queue at the fueling center.

[2] Totals may not add due to rounding.

[3] Annual emissions per 1,000 square feet calculated based upon approximate warehouse size of 155,000 square feet.

Source: Modeled by AECOM in 2019. See Appendix B for modeling details, assumptions, inputs, and outputs. The trip rates and lengths in CalEEMod were adjusted so that the total net travel demand (vehicle miles traveled, or "VMT") matches the project-specific estimates and delivery and queuing-related emissions were estimated outside of CalEEMod.

Several sources are responsible for annual operational project emission estimates, the two primary sources of which are mobile and energy.

Nearly 80 percent of the estimated emissions are attributable to mobile source operations. Sources of mobile air pollutant emissions would be generated by customer and employee trips, idling of customer vehicles in queue at the fueling center, truck trips and truck on-site idling for warehouse goods and fuel delivery, and the use of TRUs on up to 4 of the daily warehouse goods delivery trucks.

GHG emissions associated with operational energy requirements contributes to approximately 10 percent of total annual GHG emissions. As detailed in Chapter 2, "Project Description," the proposed project includes several energy conserving features for the building itself, including constructing the building to be solar-ready, as well as parking area and site landscaping. These features would reduce indirect GHG emissions associated with off-site energy production to support operations of the project site. However, to avoid an overestimate of energy savings, the project design features outlined in the project description are not accounted for in the energy-related emissions shown in Table 3.5-2 for the purposes of impact determination.

In conclusion, the project design incorporates active and passive features to reduce GHG emissions. The proposed warehouse building would include passive lighting; computer-controlled monitoring equipment and high-efficiency heating, ventilation, and air conditioning (HVAC) equipment; and the applicant proposes use of building materials that promote energy efficiencies in exceedance of state and federal code requirements. In addition, development of the proposed project along Sierra College Boulevard, which is the commercial core for the Town of Loomis, would be consistent with the land use patterns and growth predictions that form the basis for policies outlined in the MTP/SCS designed to attain statewide GHG reduction goals. Notwithstanding the project siting and design features and consistency with the regional MTP/SCS, the proposed project would generate a level of GHG emissions that would exceed PCAPCD efficiency thresholds. The contribution of GHG emissions associated with the proposed project to climate change would be **cumulatively considerable.**

Mitigation Measure GHG-1: Implement Operational Strategies to Encourage Fuel-Efficient Transportation to and from the Proposed Warehouse and Fueling Center.

- Prior to Design Review approval, the Site Plan shall show that the project applicant has provided 63 (approximately eight percent of total parking spaces) preferential parking spaces for clean air vehicles, including low-emitting, fuel-efficient, and carpool/van pool vehicles. Such stalls shall be clearly demarcated with signage as approved by the Design Site Review Committee.
- The project shall implement an employee Transportation Demand Management (TDM) program to reduce single-occupancy vehicle trips that would otherwise be made by site employees. The TDM program will identify measures that encourage employees to use alternatives to driving alone when traveling to and from work. Key elements of the TDM program are expected to include:
    - encouraging ride sharing in the form of employee carpools and vanpools
    - an on-site employee transportation coordinator (ETC) who can assist and be responsible for promoting, facilitating, and coordinating carpools and vanpools for employees with similar shift patterns
    - an employee orientation program addressing commuting options
    - potential incentives encouraging employee participation in a rideshare program
    - encouraging bicycling and walking as viable commute options, including provision of bicycle racks and employee lockers for storage of change clothing and personal items to provide more convenience to bicycle and walking commuters
    - an employee kitchen and café/deli services on site that are available to employees, reducing the need for employees to travel off site for meals and/or break periods
- Install 67 (approximately eight percent of total parking spaces) electric vehicle charging stations within the project site, with signage adequately identifying such areas; these spaces could be included with the preferential parking spaces, as well.
- Diesel trucks shall be prohibited from idling more than five minutes. Prior to the issuance of a Building Permit, the applicant shall show on the submitted building elevations that all truck loading and unloading docks shall be equipped with one 110/208 volt power outlet for every two dock doors. Diesel trucks intending to idle for more than the allotted time shall be required to connect to the 110/208 volt power to run any auxiliary equipment. A minimum 2'x3' sign which indicates "Diesel Engine Idling limited to a maximum of five minutes" shall be included with the submittal of building plans.

Significance after Mitigation

Implementation of Mitigation Measure GHG-1 would reduce GHG emissions associated with operational transportation activities that would occur as a result of the proposed project. The provision of clean air vehicle preferential parking could help to encourage participation in the employee carpool/vanpool program, although it is not possible to quantify the benefit of this type of measure. An employee carpool/vanpool program could help to reduce operational GHG emissions of the proposed project if employees participate and low or zero emission vehicles are used in the carpool and vanpools. Employee-related trips account for approximately 22 percent of the total VMT and mobile source emissions account for approximately 83 percent of the project's estimated operational GHG emissions. Therefore, if an employee rideshare program is able to reduce employee-related VMT by 25 percent, the project's total emissions could be reduced by approximately 5 percent, which is not sufficient to get below the PCAPCD significance threshold.

Installation of electric vehicle chargers helps to provide charging to vehicles that have no direct GHG emissions, although there would still be indirect emissions associated with production of the electricity required to charge vehicles on-site. The model used to estimate GHG emissions associated with passenger vehicle trips to and from the site includes assumptions on what portion of the vehicle fleet would be electric vehicles relative to other fuel types. Assuming the store is open approximately 1,640 hours per year and that all 67 chargers are charging during all open hours, the mileage driven by charged electric vehicles would reduce annual GHG emissions by approximately 390

MT CO_2e.[3] However, electric vehicles are already assumed to be a part of the fleet whose emissions are included in the estimates included in this section, and even if this net change was applied to the emissions estimate, this would not be sufficient to get the emissions rate below PCAPCD's threshold.

Reducing idling and providing electrification loading areas will reduce potential GHG emissions during idling and eliminate the need for idling for trucks with refrigeration units. While this measure will reduce potential GHG emissions by reducing idling, the vast majority of GHG emissions are associated with vehicular emissions from moving vehicles.

In addition, increased fuel efficiency standards and vehicle emissions standards anticipated to be enforced at a State level in future years would reduce GHG emissions per VMT, and therefore reduce GHG emissions associated with proposed project's mobile operations. However, fuel and vehicle emissions standards are not within the Town's control and even with implementation of available mobile GHG reduction strategies identified in Mitigation Measure GHG-1, GHG emissions associated with the proposed project would still exceed the PCAPCD-recommended threshold of significance and this impact would be **cumulatively considerable and unavoidable.**

Impact 3.5-2: Conflict with an Applicable Plan, Policy, Or Regulation Adopted for the Purpose of Reducing the Emissions of GHGs. *Construction and operational activities associated with the proposed project would generate GHG emissions in exceedance of the PCAPCD-recommended thresholds of significance, which were developed to allow lead agencies in the county to assess consistency with the State legislative framework for GHG emissions and SB 32, in particular. The project's impact is* ***significant.***

As noted previously, whether or not implementation of the proposed project would generate GHG emissions that would have a significant impact on the environment depends on whether the rate of GHG emissions associated with the project would provide its share of AB 32, Executive Order B-30-15, SB 32, and Executive Order S-3-05 emissions reductions. PCAPCD thresholds used in evaluating the proposed project were developed with the intent of ensuring that new development would not interfere with state efforts to reduce GHG emissions. The GHG thresholds were developed to support the state's GHG reduction goals, specifically AB 32, SB 32, and Executive Order S-3-05, but with consideration of conditions unique to Placer County (PCAPCD 2016).

The primary plan concerning reduction of GHG emissions from mobile sources that is applicable to this area is the SACOG MTP/SCS. SACOG is designated by the U.S. government and the State of California as the Metropolitan Transportation Planning Organization responsible for developing a regional transportation plan (i.e., MTP) in coordination with Sacramento, Yolo, Yuba, Sutter, El Dorado, and Placer counties and the 22 cities within those counties (excluding the Tahoe Basin). The 2016 MTP/SCS demonstrates how the region can accommodate expected population growth in the region through implementing a land use strategy prioritizing compact development patterns that focus on vacant infill parcels, such as the project site, and redevelopment of existing uses to improve mobility and achieve a reduction in per-capita passenger VMT. The forecasts contained in the MTP/SCS are based on local land use plans that identify the type and location of future growth within the region, between jurisdictions and among housing place types (i.e., infill and greenfield development).

The project site is in the community type identified by the MTP/SCS as a "Developing Community" (SACOG 2016:27):

> Developing Communities are typically, though not always, situated on vacant land at the edge of existing urban or suburban development; they are the next increment of urban expansion. Developing Communities are identified in local plans as special plan areas, specific plans, or master plans and may be residential-only, employment-only, or a mix of residential and employment uses. Transportation options in Developing Communities often depend, to a great extent, on the timing of development. Bus service, for example, may be infrequent or unavailable today, but may be available every 30 minutes or less once a community builds out. Walking and bicycling environments vary widely though many Developing Communities are designed with dedicated pedestrian and bicycle trails.

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[3] This assumes an average mileage per hour of charge of 15 and an average fuel economy of an electric vehicle of 0.25 kWh/mile based on California Air Resources Board, Electric Vehicle (EV) Charging Infrastructure: Multifamily Building Standards, Appendix H: Greenhouse Gas Reduction Estimates, Table H1. This assumes an electricity emissions factor of 294 pounds per MWh. Finally, these calculations use emissions factors from EMFAC 2017 for the LDA vehicle class, aggregated speeds, RUNEX emissions, for Placer County, using ARB protocols for global warming potential for CH_4 and N_2O.

Developing Communities are planned for the next phase of development, and are typically adjacent to Existing Communities (another SACOG SCS community type). Under the MTP/SCS, by 2036, Developing Communities are assumed to be fully or partially developed, and SACOG anticipates that the share of employment in Developing Communities, such as the project site will increase from three percent in 2012 to 12 percent in 2036.

The MTP/SCS includes 31 policies and multiple strategies to address the principles of smart land use; environmental quality and sustainability; financial stewardship; economic vitality; access and mobility; and equity and choice. Many of the policies are only indirectly related to the project. For example, Policy 1 is related to providing information, tools, and incentives to SACOG's member jurisdictions to help implement Blueprint principles and Policy 2 is about providing education on the relationship between smart growth, transportation, and resource conservation.

Policy 3 establishes that "SACOG encourages local jurisdictions in developing community activity centers well-suited for high-quality transit service and complete streets." Placer County Transit operates three routes in the vicinity of the project site. The Auburn to Light Rail bus route operates on one-hour headways during the morning and afternoon commute periods and stops at the Sierra College Transfer Center. The Lincoln/Sierra College bus route operates on one-hour headways between Sierra College and the city of Lincoln. The Taylor Road Shuttle operates on two-hour headways during the morning and afternoon commute periods and travels between Auburn and the Sierra College Transfer Center. The Taylor Road Shuttle provides the nearest service to the project site along Sierra College Boulevard. The Town of Loomis Bicycle Transportation Plan identifies existing and planned bicycle facilities. The existing bicycle system consists of a series of Class II facilities (on-street striped bike lanes) on major arterials. Class II lanes exist on Taylor Road between Sierra College Boulevard and the northern town limits. A network of sidewalks, crosswalks, pedestrian signals, and curb ramps is provided in the vicinity of the project site; however, there are sidewalk gaps in the vicinity of the project site. Partial sidewalks are provided on Sierra College Boulevard, King Road, Taylor Road, and Horseshoe Bar Road. Crosswalks are provided at all signalized intersections and at several other unsignalized locations. The proposed project would provide new pedestrian facilities (sidewalks) along the site frontages on Sierra College Boulevard and Brace Road. The frontage improvements would provide connectivity with existing facilities along both roadways and with new pedestrian facilities that would be provided on the project site. Pedestrian crosswalks would be provided at proposed new signalized Costco site access intersection on Sierra College Boulevard. The project would reconstruct the Type II bicycle facility on Sierra College Boulevard northbound along the site frontage. In addition, the project would provide on-site bicycle parking for both members and employees.

Policy 6 establishes that "SACOG encourages local governments to direct greenfield developments to areas immediately adjacent to the existing urban edge through data-supported information, incentives and pursuit of regulatory reform for cities and counties." The project site is surrounded by existing development to the north, east, and southwest, and undeveloped property planned for development is west and southeast of the project site.

The project does not conflict with any applicable policy, plan, or regulation in a way that would result in any adverse physical environmental effect beyond that already disclosed in Impact 3.5-1. Since the project would result in emissions above the threshold adopted by PCAPCD, which was intended support the State legislative framework, the project's impact is considered **significant**. As discussed previously, implementation of Mitigation Measure GHG-1 would reduce GHG emissions associated with operational transportation activities that would occur as a result of the proposed project. In addition, increased fuel efficiency standards and vehicle emissions standards anticipated to be enforced at a State level in future years would reduce GHG emissions per VMT, and therefore reduce GHG emissions associated with proposed project's mobile operations. However, fuel and vehicle emissions standards are not within the Town's control and even with implementation of available mobile GHG reduction strategies identified in Mitigation Measure GHG-1, GHG emissions associated with the proposed project would still exceed the PCAPCD-recommended threshold of significance. There is no additional feasible mitigation. The impact is **significant and unavoidable**.

3.5.4 Significance after Mitigation

Modeled GHG emission estimates for construction and operational activities would exceed PCAPCD-recommended efficiency threshold. Implementation of Mitigation Measure GHG-1 would reduce GHG emissions associated with operational transportation activities that would occur as a result of the proposed project. In addition, increased fuel efficiency standards and vehicle emissions standards anticipated to be enforced at a State level in future years would reduce GHG emissions per VMT, and therefore reduce GHG emissions associated with proposed project's mobile operations. However, anticipated GHG reductions would not reduce emissions to a rate below the PCAPCD-recommended efficiency thresholds. Therefore, Impact 3.5-1 would be **cumulatively considerable and unavoidable**.

Since the project would result in emissions above the threshold adopted by PCAPCD, which was intended support the State legislative framework, the project's impact is considered **significant**. Even with mitigation and GHG reductions associated with existing regulatory requirements, GHG emissions associated with the proposed project would still exceed the PCAPCD-recommended threshold of significance. There is no additional feasible mitigation. Impact 3.5-2 is **significant and unavoidable**.

3.6 Noise

This section addresses noise and vibration. The analysis describes existing environmental conditions, methods used for the assessment, and the impacts of implementing the proposed project. Mitigation measures are proposed to address potentially significant impacts. This section also provides a brief overview of relevant policies and regulations pertaining to noise and vibration. Cumulative noise impacts are addressed in Chapter 4, “Cumulative Impacts.” See Appendix D of this document for the results of noise monitoring and modeling conducted in support of this analysis.

3.6.1 Noise Fundamentals

Noise is undesirable or unwanted sound. The perception of noise is subjective and can vary substantially from person to person. Noise can be generated by mobile (transportation) noise sources, such as automobiles, trucks, and airplanes, and by stationary (nontransportation) noise sources, such as construction activity, machinery, and commercial and industrial operations.

The decibel (dB) scale is a conventional unit for measuring the amplitude of sound that accounts for large variations in sound pressure amplitudes and reflects the way that people perceive changes in sound amplitude. The addition of sound levels in dB is calculated using a logarithmic (energy) basis.[1] There is a strong correlation between the way humans perceive sound and A-weighted decibels (dBA). All sound levels reported in this section are in terms of A-weighted decibels unless specifically stated otherwise. Table 3.6-1 shows typical A-weighted sound levels of common noise sources.

Several different terms are used to describe noise levels. The noise descriptors most often used to describe environmental noise are listed and defined below.

- **L_{max} (maximum noise level):** The maximum instantaneous noise level during a specific period of time.
- **L_{eq} (equivalent noise level):** The average noise level. The L_{eq} represents an average of the sound energy occurring over a specified time period. The 1-hour, A-weighted equivalent sound level (L_{eq}[h]) is the energy average of A-weighted sound levels occurring during a 1-hour period. The L_{eq} shows very good correlation with community response to noise.
- **L_{dn} (day-night average noise level):** The 24-hour L_{eq} with a 10-dB “penalty” for noise events that occur during the noise-sensitive hours between 10 p.m. and 7 a.m. In other words, 10 dB is “added” to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The L_{dn} accounts for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.
- **CNEL (community noise equivalent level):** The CNEL is similar to the L_{dn} described above, but with an additional 5-dB “penalty” added to noise events that occur during the noise-sensitive hours between 7 p.m. and 10 p.m., which are typically reserved for relaxation, conversation, reading, and other activities that could be disrupted by noise. When the same 24-hour noise data are used, the reported CNEL is typically approximately 0.5 dB higher than the L_{dn}.

[1] A decibel is logarithmic; it does not follow normal algebraic methods and cannot be directly added. For example, a 65-dB source of sound, such as a truck, when joined by another 65-dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). A sound level increase of 10 dB corresponds to 10 times the acoustical energy, and an increase of 20 dB equates to a 100-fold increase in acoustical energy.

Table 3.6-1. Sources of Common Environmental Noises

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	**— 70 —**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**— 60 —**	
		Large business office
Quiet urban daytime	**— 50 —**	Dishwasher next room
Quiet urban nighttime	**— 40 —**	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	**— 0 —**	Lowest threshold of human hearing

Source: Caltrans 2013a

3.6.1.1 Human Response to Noise

Excessive and chronic exposure to elevated noise levels can result in auditory and nonauditory effects on humans. Auditory effects of noise on people are related to temporary or permanent hearing loss caused by loud noises; nonauditory effects are behavioral and physiological. The nonauditory behavioral effects of noise on humans are primarily the subjective effects of annoyance, nuisance, and dissatisfaction, which can interfere with activities such as communications, sleep, and learning. Researchers have attempted to discover correlations between exposure to elevated noise levels and physiological health problems, such as hypertension and cardiovascular disease. The research infers that noise-related health issues are primarily the result of behavioral stressors, rather than a direct noise-induced response. The extent to which noise contributes to nonauditory health effects remains a subject of considerable research (Basner et al. 2014).

The degree to which noise causes annoyance and interference is highly subjective and may be influenced by several nonacoustic environmental and physical factors. The number and effect of these factors vary depending on the individual characteristics of the noise environment, such as sensitivity, level of activity, location, time of day, and length of exposure. One key to predicting human response to a new noise environment is the individual level of adaptation to the existing noise environment. The greater the noise-level change that can be attributed to a new noise source, relative to the environment to which an individual has become accustomed, the less tolerable the new noise source will be to the individual.

A 1-dBA increase in the noise level is imperceptible to humans, a 3-dBA increase is barely perceptible, a 6-dBA increase is clearly noticeable, and a 10-dBA increase is subjectively perceived as approximately twice as loud (Egan 1988). These subjective reactions were identified based on test subjects' reactions to changes in the levels of steady-state pure tones or broadband noise, and to changes in noise levels from a given source. This research is most applicable to noise levels in the range of 50–70 dBA, which is the usual range of voice and interior noise levels.

The rate at which noise attenuates (lessens) with distance from the source varies by the type of noise source:

- **Stationary point sources:** Noise from these sources (e.g., mechanical equipment at commercial or industrial sites or multiple pieces of construction equipment) attenuates at approximately 6 dB per doubling of distance from the source. At greater distances, environmental (i.e., atmospheric) conditions can increase attenuation, as can either vegetation or a manufactured noise barrier at any distance between a source and receiver.
- **Moving point sources:** Noise from these sources (typically traffic along a roadway or train operations along a rail corridor) attenuates at approximately 4.5 dB per doubling of distance from the source, with the same atmospheric and barrier effects as noted for stationary point sources.
- **Line sources:** Noise from these sources (e.g., high-volume roadways) typically attenuates at approximately 3 dB per doubling of distance from the source.

Studies have been conducted regarding the effects of single-event noise on sleep disturbance, with the sound exposure level (SEL) metric being a common metric used for such assessments. SEL represents the entire sound energy of a given single-event normalized into a one-second period, regardless of event duration. Due to the wide variation in test subjects' reactions to noises of various levels (some test subjects were awakened by indoor SEL values of 50 dB, whereas others slept through indoor SEL values exceeding 80 dB), no definitive consensus has been reached with respect to a universal criterion to apply to environmental noise assessments. One percent of individuals would be awakened by a SEL of 50 dBA, 1.5 percent would be awakened by a SEL of 60 dBA, 1.8 percent of individuals would be awakened by a SEL of 65 dBA, and 2.8 percent of individuals would be awakened by a SEL of 75 (Finegold and Bartholomew 2001).

3.6.1.2 Vibration Fundamentals

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides) and human activity (explosions; traffic; and operation of machinery, trains, or construction equipment). Vibration sources may be continuous (e.g., operating factory machinery) or transient (e.g., explosions).

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. RMS is a measurement of the effective energy content in a vibration signal, expressed mathematically as the average of the squared amplitude of the signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (FTA 2018; Caltrans 2013b). PPV and RMS vibration velocity are normally described in inches per second (in/sec).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response to vibration. The response of the human body to vibration relates well to average vibration amplitude. Therefore, vibration impacts on humans are evaluated in terms of RMS vibration velocity, and like airborne sound impacts on humans, vibration velocity can be expressed in decibel notation, as vibration decibels (VdB).[2]

The effects of groundborne vibration include movement of building floors, rattling of windows, shaking of items that sit on shelves or hang on walls, and rumbling sounds. In extreme cases, vibration can damage buildings, although this is not a factor for most projects. Human annoyance from groundborne vibration often occurs when vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance can be well below the damage threshold for normal buildings. Table 3.6-2 shows the general thresholds for structural responses to vibration levels.

[2] Vibration levels described in VdB are referenced to 1 microinch per second.

Table 3.6-2. Structural Responses to Vibration Levels

Structure and Condition	Peak Vibration Threshold (in/sec PPV)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Notes: in/sec = inches per second; PPV = peak particle velocity
Source: Caltrans 2013b

3.6.2 Existing Conditions

3.6.2.1 Sensitive Land Uses

Noise-sensitive land uses are those uses where quiet is essential to the purpose of the land use. Such land uses include residences and buildings where people normally sleep (hospitals, hotels), and uses such as schools, libraries, theaters, and houses of worship, where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Noise-sensitive land uses near the project site include residences along Hunter Drive (single-family residences with adjacent backyards to the east) and Brace Road (multifamily residences to the north). These sensitive uses are located approximately 50 feet from the project site.

3.6.2.2 Existing Noise Sources

The existing noise environment near the project site is influenced primarily by vehicular traffic using roadways adjacent to the project site: Sierra College Boulevard, Brace Road, and Hunter Drive as well as I-80. Other noise sources in the project vicinity include the commercial and retail uses north of Brace Road and west of Sierra College Boulevard. The Union Pacific Railroad line is oriented northeast to southwest and parallel to Taylor Road approximately 1,000 feet northwest of the project site is also an existing source of noise.

3.6.2.3 Ambient Noise-Level Surveys

Ambient noise levels were measured November 7–8, 2017, to document the existing (baseline) noise environment and identify noise sources. Table 3.6-3 summarizes the measurements of ambient noise levels at each survey location. Five receptor locations were selected for short-term measurements (15–20 minutes) and two locations for long-term measurements (24 hours) (Figure 3.6-1).

The long-term measurements were conducted at two locations, LT-01 and LT-02, on November 7–8, 2017:

- LT-01 is located south of the multifamily development that is just north of the project site. This location provides an overall assessment of the existing noise environment, which is dominated by roadway traffic noise attributable to Brace Road and Sierra College Boulevard. The noise level at LT-01 was 57.8 dBA L_{dn}. This noise level is within the range considered normally acceptable for outdoor activity areas exposed to continuous noise sources such as traffic as described below in Section 3.6.3, “Regulatory Setting.”
- LT-02 is in the southeastern portion of the project site. This location provides an overall assessment of existing noise environment dominated by roadway traffic noise attributable to Sierra College Boulevard and I-80. The noise level at LT-02 was 61.6 dBA L_{dn}. This noise level is within the range considered normally acceptable for outdoor activity areas exposed to continuous noise sources as described below in Section 3.6.3, “Regulatory Setting.”

Short-term (15-minute) monitoring was conducted on November 8, 2017, at five locations, ST-01 through ST-05. Average daytime hourly noise levels documented during these short-term measurements ranged from 57 dBA L_{eq} (ST-04) to 66 dBA L_{eq} (ST-02), with maximum noise levels between 63 and 83 dBA L_{max}. Dominant noise sources included local traffic and natural sources (e.g., wind, birds).[3] Noise levels obtained from short-term measurements indicate that adopted noise standards for short duration events (15–30 minutes) in the adjacent residential areas are periodically exceeded during daytime hours.

Table 3.6-3. Summary of Ambient Noise-Level Survey Results—November 3–8, 2017

Site	Noise Sources	Location	Date(s)	Start Time	L_{dn}/ CNEL	Average Measured Hourly Noise Levels, dB: Daytime (7 a.m.–7 p.m.)		Nighttime (10 p.m.–7 a.m.)	
						L_{eq}	L_{max}	L_{eq}	L_{max}
LT-01	Traffic, parking activities	Northern portion of the project site	November 7–8, 2017	3:00 p.m.	57.8	54.1	67.7	50.7	62.7
LT-02	Traffic, birds, and wind	Southeastern portion of the project site	November 7–8, 2017	4:00 p.m.	61.6	56.5	65.0	54.9	65.9
ST-01	Traffic	Northwestern portion of the project site	November 8, 2017	2:11 p.m.	–	63.9	82.2	–	–
ST-02	Traffic, neighborhood activities, birds, and wind	Western portion of the project site	November 8, 2017	2:32 p.m.	–	65.8	75.7	–	–
ST-03	Traffic, neighborhood activities, birds, and wind	Eastern portion of the project site	November 8, 2017	3:06 p.m.	–	58.3	63.6	–	–
ST-04	Traffic	4111 Hunters Drive, just east of the project site	November 8, 2017	3:31 p.m.	–	57.1	63.7	–	–
ST-05	Traffic	Southwestern portion of the project site	November 8, 2017	3:59 p.m.	–	57.1	67.9	–	–

Notes:

– = nonapplicable periods for short-term measurements (see note below for explanation); CNEL = community noise equivalent level; dB = decibels; L_{dn} = day-night average noise level; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level during a specific period of time; LT = long term; ST = short term

Long-term (LT) measurements are taken to measure noise levels continuously over a relatively long period of time (usually 24 hours or more) to determine the day, evening, and night (CNEL/L_{dn}) levels for the project site and the affected vicinity. Short-term (ST) measurements are spot checks in the study area used to calibrate the roadway noise model. Short-term measurements are taken for about 10–20 minutes (depending on traffic volumes) with concurrent traffic counts (for calibration) and during the daytime, when ambient traffic noise is highest.

Source: Data compiled by AECOM in 2017

[3] Short-term, 15-minute and continuous, 24-hour long-term measurements of ambient noise levels were taken in accordance with applicable American National Standards Institute (ANSI) standards (ANSI 2002) using Larson Davis Laboratories (LDL) Model 820 and Model 824 precision integrating sound-level meters. The sound-level meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure measurement accuracy. The equipment used meets all pertinent ANSI specifications for Class 1 sound-level meters (ANSI S1.4-1983[R2006]).

Source: Data compiled by AECOM in 2017–2018

Figure 3.6-1. Ambient Noise Measurement Sites

3.6.2.4 Existing Roadway Traffic

In addition to the ambient noise measurements, existing traffic noise on roadways in the vicinity of the project site was estimated, based on existing traffic volumes (see the transportation impact assessment for this project in Appendix E of this EIR). Table 3.6-4 summarizes the modeled traffic noise levels 100 feet from the centerline of the roadways near the project site[4] and shows the modeled noise levels and estimated distances to the 70 dBA L_{dn}, 65 dBA L_{dn}, and 60 dBA L_{dn} traffic noise contours. As shown, the locations of the 70 dBA L_{dn} and 60 dBA L_{dn} contours range from less than 7 feet to 125 feet and from 71 feet to 1,514 feet, respectively, from the centerline of the modeled surface roadways in the project area.[5]

Table 3.6-4. Traffic Noise Contours—Existing Conditions

Roadway	Roadway Segment	dBA, L_{dn} at 100 feet		Distance to Contours, feet					
				Weekday			Weekend		
		Weekday	Weekend	70 dBA L_{dn}	65 dBA L_{dn}	60 dBA L_{dn}	70 dBA L_{dn}	65 dBA L_{dn}	60 dBA L_{dn}
I-80	From Horseshoe Bar Road to Sierra College Boulevard	80	81	1,054	3,334	10,544	1,170	3,698	11,695
I-80	From Sierra College Boulevard to Rocklin Road	80	81	1,003	3,171	10,026	1,155	3,653	11,551
Sierra College Boulevard	From King Road to Taylor Road	69	67	87	276	874	53	167	528
Sierra College Boulevard	From Taylor Road to Brace Road	70	68	90	284	897	63	198	625
Sierra College Boulevard	From Brace Road to Granite Drive	68	67	70	220	697	51	160	506
Sierra College Boulevard	From Granite Drive to I-80 ramps	69	68	85	267	845	60	191	604
Sierra College Boulevard	From I-80 ramps to Rocklin Road	72	70	151	479	1,514	94	299	945
Granite Drive	From Rocklin Road to Sierra College Boulevard	64	64	28	88	277	25	79	249
Taylor Road	From Horseshoe Bar Road to Sierra College Boulevard	66	65	39	125	395	30	95	301
Taylor Road	From Sierra College Boulevard to Delmar Avenue	67	66	49	157	495	36	114	360
Pacific Street	From Delmar Avenue to Rocklin Road	68	66	60	190	600	40	126	399
Brace Road	From Barton Road to Sierra College Boulevard	59	59	8	27	85	7	23	71
Rocklin Road	From Sierra College Boulevard to I-80 ramps	69	67	84	266	841	51	160	507
Rocklin Road	From I-80 ramps to Granite Drive	69	67	82	258	816	52	166	525
Rocklin Road	From Granite Drive to Pacific Street	67	65	53	167	527	32	101	320

Notes: dBA = A-weighted decibels; I-80 = Interstate 80; L_{dn} = day-night average noise level

Source: Modeling conducted by AECOM in 2018

4 100 feet is a representative distance from the roadway centerline to noise-sensitive uses, such as residences.

5 The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) combined with the California Vehicle Noise Reference Energy Mean Emission Levels was used to predict existing traffic noise levels in the project area. The FHWA model is the traffic noise prediction model currently preferred by FHWA, the California Department of Transportation (Caltrans), and county and city governments for assessing traffic noise.

3.6.2.5 Existing Vibration

The existing vibration environment, like the noise environment, is dominated by transportation-related vibration. Heavy truck traffic can generate groundborne vibration, which varies considerably depending on vehicle type, weight, and pavement conditions. However, groundborne vibration levels generated from vehicular traffic are not typically perceptible outside of the road right-of-way (FTA 2018). The primary source of existing groundborne vibration in the vicinity of the project site would be heavy trucks operating on nearby roadways.

3.6.3 Regulatory Setting

3.6.3.1 Federal Plans, Policies, Regulations, and Laws

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control implemented the federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, EPA administrators determined that noise would be better addressed by state and local governments. Consequently, in 1982, responsibilities for regulating noise control policies were transferred to state and local governments.[6]

The Federal Transit Administration (FTA) has published a technical manual titled *Transit Noise and Vibration Impact Assessment*, which provides criteria for determining groundborne vibration impacts related to building damage during construction activities (FTA 2018). Although the proposed project would not be subject to the FTA guidelines, the research that underpins these guidelines is relevant to this assessment. According to the FTA guidelines, a vibration-damage criterion of 0.20 in/sec PPV should be considered for nonengineered timber and masonry buildings. Structures or buildings constructed of reinforced concrete, steel, or timber have a vibration-damage criterion of 0.50 in/sec PPV, pursuant to the FTA guidelines.

To address human response (annoyance) to groundborne vibration, FTA has established vibration thresholds for different land uses. These guidelines recommend 80 VdB or less for residential uses and buildings where people normally sleep (infrequent events), and 83 VdB or less for institutional land uses with primarily daytime operations (e.g., schools, churches, clinics, offices) (FTA 2018).

3.6.3.2 State Plans, Policies, Regulations, and Laws

Title 24 of the California Code of Regulations, also known as the California Building Standards Code, establishes building standards applicable to all occupancies throughout the state. The code provides acoustical regulations for exterior-to-interior sound insulation, and for sound and impact insulation between adjacent spaces of various occupied units. The Title 24 regulations state that interior noise levels generated by exterior noise sources shall not exceed 45 dB L_{dn}, with windows closed, in any habitable room for residential uses (OPR 2017).

3.6.3.3 Local Plans, Policies, Regulations, and Ordinances

The applicable sections of the *Town of Loomis General Plan* and Loomis Municipal Code are outlined below.

Town of Loomis General Plan Public Health and Safety Element—Noise

The Town of Loomis General Plan has established an exterior standard of 65 dBA L_{dn} for noise-sensitive structures and an interior standard of 45 dBA L_{dn} for continuous noise sources, such as roadway traffic noise (Table 3.6-5). However, standards based on 24-hour weighting are not adequate to address certain noise sources, particularly commercial noise sources, which occur infrequently but at potentially higher intensity.

[6] However, the noise-control guidelines and regulations contained in EPA rulings from prior years remain in place with designated federal agencies, allowing more individualized control by designated federal, state, and local government agencies for specific issues.

Table 3.6-5. Maximum Allowable Noise Exposures—Town of Loomis General Plan

Noise-Sensitive Uses	Outdoor Activity Areas[1,2]	Interior Spaces	
	dBA L_{dn}	dBA L_{dn}	dBA L_{eq}
Residential	65	45	-
Transient lodging	65	45	-
Hospitals and nursing homes	65	45	--
Theaters, auditoriums, music hall	_	_	35
Churches, meeting halls	65	_	40
Office Buildings	_	_	45
Schools, libraries, museums	_	_	45
Playgrounds, neighborhood parks	70	_	_

Notes:

dBA = A-weighted decibels; L_{dn} = day-night average noise level; L_{eq} = equivalent noise level

[1] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[2] Where it is not possible to reduce noise in outdoor activity areas to 65 dBA L_{dn}/community noise equivalent level (CNEL) or less using practical application of the best available noise reduction measures, an exterior noise level of up to 70 dBA L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Source: Town of Loomis 2001: Table 8-3

The *Town of Loomis General Plan* also includes standards addressing noise events of a shorter duration that are attributable to stationary sources (Table 3.6-6). For these source types, Loomis's daytime and nighttime average hourly and maximum noise-level standards are 50 dBA L_{eq}/70 dBA L_{max} and 40 dBA L_{eq}/60 dBA L_{max}, respectively.

Table 3.6-6. Noise Standards, Short-Duration Events near Residential Areas—Loomis General Plan

Noise-Sensitive Use	Duration of Sound (minutes per hour)	Standard	
		Day/Evening (7 a.m.–10 p.m.) dBA	Night 10 p.m.–7 a.m.) dBA
All residential	30–60	50	40
	15–30	55	45
	5–15	60	50
	1–5	65	55
	< 1 minute	70	60

Notes:

dBA = A-weighted decibels

Where the offensive noise contains a steady, audible tone (such as a screech or hum), or is a repetitive noise such as hammering, or contains speech or music, the standard limits shown shall be reduced by 5 dBA

Source: Town of Loomis 2001: Table 8-4

The following policies and noise compatibility standards in the Public Health and Safety Element of the *Town of Loomis General Plan* (Town of Loomis 2001) are applicable to the proposed project.

- **Policy 1:** New commercial and industrial development in the Town shall be sited and designed to minimize the potential for harmful or annoying noise to create conflict with existing land uses.
- **Policy 6:** Where noise mitigation is necessary, the following order of preference among options shall be considered: distance from the noise source; muffling of the noise source; design and orientation of the receptor; landscaped berms; landscaped berms in combination with walls.
- **Policy 7:** Use the land use/noise compatibility matrix shown on Figure 8-4 [of the *Town of Loomis General Plan*] to determine the appropriateness of land uses relative to roadway noise.
- **Policy 15:** Require that automobile and truck access to industrial and commercial properties adjacent to residential areas be located at the maximum practical distance from the residential area.
- **Policy 16:** Require that when no other feasible location for industrial or commercial use parking exists other than adjacent to residential uses, the parking shall be buffered from the residential uses by barriers.
- **Policy 17:** Limit the use of leaf blowers, motorized lawn mowers, parking lot sweepers, or other high-noise equipment on commercial properties if their activity will result in noise which adversely affects residential areas.
- **Policy 18:** Require that the hours of truck deliveries to industrial and commercial properties adjacent to residential uses be limited to daytime hours unless there is no feasible alternative or there are overriding transportation benefits by scheduling deliveries at night.
- **Policy 19:** Require that construction activities adjacent to residential units be limited as necessary to prevent adverse noise impacts.
- **Policy 20:** Future industrial or commercial development in areas determined to be near noise-sensitive land uses shall be subject to an acoustical analysis to determine the potential for stationary source noise impacts to neighboring land uses.

Loomis Municipal Code

Section 13.30.070 of the Loomis Municipal Code includes quantitative noise standards and limitations. The noise standards for exterior and interior receptors exposed to daytime or nighttime noise from continuous or stationary sources are the same as outlined in the *Town of Loomis General Plan* and summarized above. The Municipal Code's limitations on construction hours and truck deliveries are applicable to the proposed project. Allowable construction hours in the town of Loomis are Monday through Friday from 7 a.m. to 7 p.m. and Saturdays from 8 a.m. to 7 p.m. Construction activities on Sundays and national holidays may be allowed by the commission or the council only between 9 a.m. and 5 p.m.

3.6.4 Impact Analysis

3.6.4.1 Methodology

Data included in Chapter 2, "Project Description," and obtained during on-site noise monitoring were used to determine potential locations of sensitive receptors and land uses that could generate noise and vibration on the project site. Noise-sensitive land uses and major noise sources near the site were identified based on existing documentation (e.g., equipment noise levels and attenuation rates) and site reconnaissance data.

To assess the impacts of potential short-term construction noise on sensitive receptors, sensitive receptors were identified, along with their relative exposure to impacts, considering intervening building façades and distance. FTA's Noise and Vibration Impact Assessment methodology (FTA 2018) was used to predict the construction noise that would be generated by the proposed project. The emission noise levels referenced and usage factors were based on the FHWA Roadway Construction Noise Model. Noise levels were determined for the specific construction equipment that would be used, and the resulting noise levels at the locations of sensitive receptors were calculated.

Traffic noise modeling was conducted based on average daily traffic volumes and the vehicle fleet mix obtained from the traffic analysis prepared for this project by Kittelson and Associates, Inc., as discussed in Section 3.7, "Transportation and Traffic." The FHWA Highway Traffic Noise Prediction Model (FHWA 1978) was used to calculate traffic noise levels along affected roadways, based on the trip distribution estimates discussed in Section 3.7. To determine the project's contribution to existing traffic noise levels along area roadways, the analysis compared the predicted noise levels for baseline and cumulative conditions with and without project-generated traffic, using a reference distance of 100 feet from the roadway centerline.

Potential noise impacts from long-term (operational) stationary sources were assessed based on existing documentation (e.g., equipment noise levels) and site reconnaissance data. This analysis also included an evaluation of the proposed noise-generating uses that could affect noise-sensitive receptors near the project site.

To assess the proposed project's land use compatibility with on-site noise levels, predicted traffic noise contours were used to determine whether development of the proposed land uses would exceed the applicable noise criteria.

Groundborne vibration impacts were assessed qualitatively based on existing documentation (e.g., vibration levels produced by operation of specific construction equipment) and the distance of sensitive receptors from the given source.

The standards of significance applied in this analysis address the exterior noise standards established by the Town of Loomis. Unless otherwise stated, standards for interior noise levels would not be exceeded if exterior noise-level standards are achieved.

3.6.4.2 Thresholds of Significance

State CEQA Guidelines

Based on Appendix G of the State CEQA Guidelines, the proposed project would result in a significant impact if it would 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; (Impact 3.6-1 and Impact 3.6-3)
- generation of excessive groundborne vibration or groundborne noise levels; (Impact 3.6-2)
- 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 impacts of the proposed project are analyzed below based on local noise standards and the resulting increase to ambient conditions. The above thresholds from the State CEQA Guidelines have been consolidated into four identified impacts and responded to for each noise impact that would result from implementation of the proposed project.

Town of Loomis Standards

Town of Loomis standards have also been considered in defining the significance of noise impacts. Applicable standards are described below.

- **Transportation Impacts.** Long-term transportation noise impacts would be significant if noise levels would exceed the applicable exterior standard (65 dB L_{dn}) or result in a substantial increase (i.e., 3 dB) in ambient noise levels at existing nearby noise-sensitive land uses.
- **Land Use Compatibility Impacts**. Land use compatibility impacts would be significant if project-generated stationary noise levels would exceed the Town of Loomis's exterior daytime or nighttime average hourly or maximum noise level standard (50 dBA L_{eq}/70 dBA L_{max} or 40 dBA L_{eq}/60 dBA L_{max}, respectively).
- **Vibration Impacts.** Vibration impacts would be significant if vibration levels would exceed the Caltrans-recommended standard of 0.2 in/sec PPV with respect to the prevention of structural damage for normal buildings or FTA's maximum-acceptable vibration standard of 80 VdB with respect to human response for residential uses (i.e., annoyance) at nearby vibration-sensitive land uses.

3.6.4.3 Topics Not Addressed Further

The project site is not located within an airport land use plan, within 2 miles of a public airport or public use airport, or within the vicinity of a private airstrip. Therefore, impacts related to exposure of people residing or working in the project area to excessive noise levels within an airport land use plan, within 2 miles of a public airport or public use airport, or within the vicinity of a private airstrip are not evaluated further in this document.

3.6.4.4 Environmental Impacts and Mitigation Measures

Impact 3.6-1: Exposure of People to Short-Term Construction Noise Levels Exceeding Local Standards. *During short-term site preparation and construction activities, the proposed project could expose noise-sensitive uses to exterior noise levels that exceed standards for short-duration events near residential areas listed in the Town of Loomis General Plan. This impact would be* ***significant****.*

The proposed project would generate construction noise in the vicinity of the project site for all Project Driveway Access Options. Noise would come from equipment moving on- and off-site, workers traveling to and from the project site, and equipment operating on the site. Construction activities would include site clearing, excavation, site preparation, and construction of buildings and other improvements on-site. Based on similar projects previously analyzed, a conservative assumption that project construction could require up to 500 daily trips has been applied. Using this assumption, project construction–related increases in traffic noise levels along these roadway segments would range from 0 to 1 dB.

Heavy-duty construction equipment would be operated intermittently throughout the day during construction periods. Construction would occur over the course of approximately 6 months. Construction noise levels would vary over this time, with the highest noise levels expected to occur during site preparation and foundation construction. These activities are expected to last for a relatively short time compared to building construction, which would generate substantially lower levels of construction noise. The approach used in this EIR focuses on the worst-case location for sensitive receptors and the worst-case (noisiest) construction activities.

Noise would be generated by equipment such as graders, backhoes, skip loaders, water trucks, and other miscellaneous equipment. Construction noise levels for the project were estimated using the FHWA Roadway Construction Noise Model (FHWA 2006) at nearby off-site sensitive receptors (Table 3.6-5). Noise levels generated by various construction activities during the site grading and excavation stage would be 89 dBA L_{eq} at 50 feet, resulting in noise levels of 83-89 dBA L_{eq} at the closest sensitive receptors, which are a approximately 50-100 feet from the closest proposed construction activities. Transmission loss of noise for common building materials ranges between 18 dBA and 40 dBA, depending on the type, thickness, and weight of walls (FHWA 2011). The approximate national average sound-level reduction would be 15 dB with windows open and 25 dB with windows closed (EPA 1974, The Building Performance Centre 2007). Table 3.6-7 shows the most likely range of indoor noise levels for noise-sensitive uses near the project site. Modern residential construction and renovation (with insulated windows, door weatherstripping and thresholds, and exterior wall insulation) would be expected to provide an exterior-to-interior noise level reduction of at least 34 dBA with doors and windows closed (FHWA 2011; The Building Performance Centre 2007).

Table 3.6-7. Worst-Case Construction Noise Levels at the Nearest Use-All Options

Receiver	Ambient Measured Noise Level, dBA L_{eq}	Location	Distance between Noise-Sensitive Uses and Proposed Construction Areas	Worst-Case Outdoor Construction Noise Level, dBA L_{eq}	Doors and Windows Open, dBA L_{eq}	Doors and Windows Closed, dBA L_{eq}
LT-1	54	Northern portion of the project site	50	89	74	64
LT-2	57	Southeastern portion of the project site	100	83	68	58
ST-1	64	Northwestern portion of the project site	100	83	68	58
ST-3	58	Western portion of the project site	100	83	68	58
ST-4	57	Eastern portion of the project site	100	83	68	58
ST-5	57	4111 Hunters Drive, just east of the project site	100	83	68	58

Notes: dBA = A-weighted decibels; L_{eq} = equivalent noise level; LT = long term; ST = short term

Source: Modeling conducted by AECOM in 2018

Construction equipment would be used in different portions of the site, so no single receptor would be exposed to all of the construction noise generated. Therefore, this is an estimated worst-case temporary noise level. Assuming an exterior-to-interior noise level reduction of at least 25 dB for wooden structures (doors and windows closed) (EPA 1974), noise from construction equipment could result in a maximum temporary interior noise level of approximately 64 dBA L_{eq} at residences located north of the construction area when the noisiest construction activities occur directly adjacent to these residences (existing level of 89 dBA L_{eq} minus 25 dB equals 64) and 74 dBA L_{eq} with windows open. The predicted values exceed the maximum allowable noise exposure for short duration events as shown above in Table 3.6-6. This impact would be **significant**.

Mitigation Measure Noise-1: Minimize Construction Noise.

Prior to issance of a grading permit, the project applicant shall prepare a construction noise control plan for submittal to the Town of Loomis.The measures outlined by the noise control plan shall be implemented by construction contractor(s) during all construction phases. At a minimum, the plan shall include the following:

- Comply with Section 13.30.070, Noise Standards, of the Loomis Municipal Code, including limitations on the hours of construction (7 a.m. to 7 p.m. Monday through Friday and 8 a.m. to 7 p.m. on Saturdays).
- Provide acoustical shielding for stationary construction equipment, such as compressors.
- Minimize idling times of equipment by either shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.
- Designate a disturbance coordinator and conspicuously post this person's number around the project site and in construction notifications. The disturbance coordinator shall receive complaints about construction disturbances and, in coordination with the Town of Loomis, shall determine the cause of the complaint and implementation of feasible measures to alleviate the problem. Such measures may include use of acoustic blankets on construction equipment, placement of portable acoustic barriers along a residential property line, or limiting the duration of equipment operation.
- Provide written notice to all known occupied noise-sensitive uses (i.e., residential, educational, religious, lodging) within 400 feet of the edge of the project site boundary at least 2 weeks before the start of each construction phase, in particular grading and site preparation. This written notice shall also include the name and contact information of the project disturbance coordinator.

Significance after Mitigation

Section 13.30.070(C)(3), Limitation on Hours of Construction, of the Loomis Municipal Code exempts construction noise from the daytime standards for exterior noise levels. Designating a disturbance coordinator as described in Mitigation Measure Noise-1 would allow the project applicant, the construction contractor(s), and the Town of Loomis to address problems that arise during construction, to the extent feasible. These approaches have been shown to be effective in reducing temporary and short-term construction impacts.

Implementing Mitigation Measure Noise-1 would reduce the impact related to construction noise, but not to a less-than-significant level, because interior noise levels at adjacent noise-sensitive uses could exceed adopted standards during peak periods of the initial phase of construction. The Loomis Municipal Code exempts certain activities in recognition that construction noise is temporary, is more acceptable when limited to daylight hours, and is expected as part of typical development. Nonetheless, the Town cannot demonstrate at this time that implementing this mitigation measure would enable the proposed project to avoid a substantial temporary, short-term increase in ambient noise levels, or that it would fully reduce the impact to a less-than-significant level. Therefore, this impact would be **significant and unavoidable.**

Impact 3.6-2: Exposure of People to Groundborne Noise and Vibration Levels. *The proposed project would expose new sensitive receptors to groundborne noise and vibration. However, the levels of groundborne noise and vibration would not exceed FTA and Caltrans guidelines. This impact would be* ***less than significant.***

Project construction activities have the potential to result in varying degrees of temporary and short-term ground vibration, depending on the specific construction equipment used and the operations involved. In general, vibration-induced structural damage occurs only when certain types of construction activity (e.g., pile driving, heavy earthmoving) and material haul routes used by heavy trucks take place very close to existing structures. Vibration-induced disruption/annoyance could occur during more common types of construction activity (e.g., use of heavy earthmoving equipment, hauling of material) at a greater distance from the activity area. Table 3.6-8 lists the groundborne vibration levels associated with various types of construction equipment, as published by FTA.

Table 3.6-8. Typical Construction Equipment Vibration Levels

Equipment	PPV at 25 feet (in/sec)	Approximate Lv at 25 feet
Large bulldozer	0.089	87
Truck	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Notes:

in/sec = inches per second; Lv = velocity level in decibels, based on the root mean square velocity amplitude; PPV = peak particle velocity

Source: FTA 2018

On-site construction equipment would include excavators, backhoes, bulldozers, scrapers, rollers, graders, loaders, compactors, equipment to remove trees, and heavy trucks. The most intense ground vibration would result from large bulldozers, which generate vibration at levels of 0.089 in/sec PPV and 87 VdB at a distance of 25 feet, and from heavy trucks hauling material, which generate vibration levels of 0.076 in/sec PPv and 86 VdB at a distance of 25 feet. These levels would attenuate to 0.031 in/sec PPV or 74 VdB at a distance of 50 feet, the nearest vibration-sensitive residences. Vibration generated by heavy-duty construction equipment would not exceed the FTA standard (80 VdB) for potential human annoyance at these residences. Vibration from heavy trucks would not exceed the Caltrans-recommended standard of 0.2 in/sec PPV with respect to the prevention of structural damage during construction or operation. It is not expected that sleep disturbance would occur because no nighttime construction or heavy truck hauling activities would occur. The impact is **less than significant**.

Impact 3.6-3: Exposure of Existing Noise-Sensitive Receivers to a Substantial Permanent Increase in Ambient Noise Levels in the Project Vicinity Above Levels Existing Without the Project from Increased Long-Term Traffic. *The proposed project would result in an increase in average daily vehicular trips in the vicinity of the project site. However, this increased traffic volume would not increase noise levels above allowable levels nor result in a noticeable (3 dB or greater) increase in traffic noise. This impact would be* ***less than significant****.*

Long-term operation of the proposed project would result in an increase in average daily trip volumes on the local roadway network. To examine the affect of project-generated traffic increases, traffic noise levels associated with the proposed project were calculated for roadway segments near the project site using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108) (FHWA 1978). Traffic noise levels for weekday and weekend traffic patterns were modeled under existing, with and without the implementation of the proposed project. Study segment traffic volumes were derived from p.m. peak intersection turning movements provided by the project's traffic consultant (Kittelson & Associates) using a K factor (multiplication factor used to compute average daily trips) of 10 to compute the average daily trips on roadway segments. Vehicle speeds and truck volumes on local roadways were determined based on field observations conducted by AECOM.

Field observations show that roadway noise including noise from Interstate 80 is the dominant noise source on the project site. Table 3.6-9 summarizes the modeled traffic noise levels at 100 feet from the centerline of affected roadway segments near the project site. These segments either showed the greatest increase in traffic volumes attributable to the proposed project or are adjacent to existing noise-sensitive land uses. Additional input data included day/night percentages of automobiles, medium and heavy trucks, vehicle speeds, and ground attenuation factors. See Appendix D of this EIR for complete modeling inputs and results.

Table 3.6-9. Predicted Traffic Noise Levels, No Project and Plus Project Conditions

Roadway	Segment	L_{dn} at 100 Feet, dBA					
		Weekday			Weekend		
		No Project	Plus Project	Net Change	No Project	Plus Project	Net Change
I-80	From Horseshoe Bar Road to Sierra College Boulevard	80	80	0	80	80	0
I-80	From Sierra College Boulevard to Rocklin Road	81	81	0	81	81	0
Sierra College Boulevard	From King Road to Taylor Road	69	70	1	67	68	1
Sierra College Boulevard	From Taylor Road to Brace Road	70	70	0	68	69	1
Sierra College Boulevard	From Brace Road to Granite Drive	68	69	1	67	68	1
Sierra College Boulevard	From Granite Drive to I-80 ramps	69	70	1	68	70	2
Sierra College Boulevard	From I-80 ramps to Rocklin Road	72	72	0	70	70	0
Granite Drive	From Rocklin Road to Sierra College Boulevard	64	64	0	64	64	0
Taylor Road	From Horseshoe Bar Road to Sierra College Boulevard	66	66	0	65	65	0
Taylor Road	From Sierra College Boulevard to Delmar Avenue	67	67	0	66	66	0
Pacific Street	From Delmar Avenue to Rocklin Road	68	68	0	66	66	0
Brace Road	From Barton Road to Sierra College Boulevard	59	59	0	59	59	0
Rocklin Road	From Sierra College Boulevard to I-80 ramps	69	69	0	67	67	0
Rocklin Road	From I-80 ramps to Granite Drive	69	69	0	67	68	1
Rocklin Road	From Granite Drive to Pacific Street	67	67	0	65	65	0

Notes: dBA = A-weighted decibels; I-80 = Interstate 80; L_{dn} = day-night average noise level

Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Source: Data modeled by AECOM in 2018

Impact 3.6-4: Exposure of Existing Noise-Sensitive Receivers to a Substantial Temporary or Periodic Increase in Ambient Noise Levels in the Project Vicinity Above Levels Existing Without the Project from Operation of Stationary Sources. *The proposed project would result in increases in on-site stationary-source noise. These stationary-source noise sources would exceed the Town's noise standards (hourly and maximum) at adjacent residential uses. This impact would be* ***significant****.*

A variety of noise sources associated with future development of the project site may generate noise at levels that could annoy existing noise-sensitive receptors. Specific uses with the potential to annoy existing noise-sensitive receptors include leaf blowers and parking lot sweepers; heating, ventilation, and air conditioning (HVAC) operation; use of pnuematic impact wrench at the tire center, loading dock and truck delivery activities; and parking stall movements. Under all three Project Driveway Access Options described in Chapter 2, "Project Description," the mechanical room where HVAC compoments would be housed is completely enclosed to shield noise-sensitive land uses to the east and north. Furthermore, the mechanical room would be situated on the west side of the proposed structure, opposite the location from noise-sensitive land uses located to the north and east. Similarly, the loading dock would also be situated on the west side of the proposed structure, facing onto Sierra College Boulevard. As with HVAC, loading dock noise would be shielded by the proposed structure and loading dock wall.

Parking lot and property maintenance activities involving leaf blowers, weed eaters, or parking lot sweepers would be restricted to the daytime hours as outlined by the Town's noise Policy 17, which limits the use of leaf blowers, motorized lawn mowers, parking lot sweepers, or other high-noise equipment on commercial properties if their activity will result in noise which adversely affects residential areas. The ordinance would be followed under all three Project Driveway Access Options.

The proposed project also includes up to 784 parking spaces that would be dispersed around the proposed structure to the north and east, adjacent to existing noise-sensitive residences, and to the south, adjacent to a non-noise-sensitive commercial use. Because of the layout of the parking lot, adjacent noise-sensitive receptors would not be exposed to noise from all 784 parking spaces.[7]

Approximately 80 and 100 of the proposed parking spaces would be located adjacent to the noise-sensitive residential uses north and east of the project site, respectively. Based on the noise measurements described earlier in this section, the sound equivalent level (SEL) associated with a parking event typically results in a noise level of 71 dBA SEL at 50 feet. When quantifying the associated noise level for the 80 and 100 parking stalls adjacent to the residential uses, a conservative approach was taken to determine the number of parking events that may occur within a peak hour. Assuming that each parking space adjacent to a residential use would be filled and emptied during the peak hour (for a total of 160–200 parking events), the noise level would be 52 dBA L_{eq} at 65 feet from the center of the parking space cluster to the nearest noise-sensitive use.

Existing daytime noise levels at adjacent residential uses north and east of the project site were measured to be 54 dBA and 57 dBA L_{eq}, respectively. Existing nighttime noise levels measured 50 dBA L_{eq}. Existing ambient noise levels currently exceed the Town of Loomis's exterior daytime and nighttime average hourly noise level standards of 50 dBA L_{eq} and 40 dBA L_{eq}, respectively, and the ambient noise level then becomes the accepted noise level standard. The increase from existing noise levels at these residential uses attributable to the proposed project's parking events would be approximately 2 dBA, which is not audible to most people. As a result, noise from parking events during project operation would not cause a temporary or periodic noise-level increase at noise-sensitive receptors of 3 dBA, nor would project-related parking noise exceed stationary noise level standards when adjusted for ambient conditions. Therefore, this impact would be **less than significant**.

Deliveries to the warehouse under all three Project Driveway Access Options would occur exclusively from an entry off Brace Road, west of and adjacent to the existing noise-sensitive apartment building. Warehouse delivery trucks would enter the site approximately 75 feet from the apartment building façade on Brace Road and exit at the driveway on Sierra College Boulevard (Option 1A) or at the new Granite Driveway Access (Option 1B and Option 1C). Warehouse shipments would be received between 2 a.m. and 9 p.m., and average 10 to 13 trips per day with most deliveries completed by 10 a.m.

Fueling station deliveries under all three options would enter and exit the site from the Costco driveway on Sierra College Boulevard. Five to seven fuel deliveries are anticipated per day on average. During busy holiday weeks, an additional delivery is often required during the day. These deliveries occur any time between 6:00 a.m. and 7:00 p.m.; however, these deliveries would not occur near sensitive receptors.

Policy 18 of the *Town of Loomis General Plan* Public Health and Safety Element requires that the hours of truck deliveries to industrial and commercial properties adjacent to residential uses be limited to daytime hours unless there is no feasible alternative or there are overriding transportation benefits by scheduling deliveries at night. In order to limit the impact of heavy truck trips to level of service at study intersections, Costco plans to conduct warehouse deliveries during the nighttime hours, with up to three trucks per hour, resulting in an hourly noise level of 54 dBA L_{eq} at the apartment building façade. The primary noise sources associated with the truck unloading areas are the heavy trucks stopping (air brakes), backing into the loading docks (backup alarms), pulling out of the loading docks (engines accelerating), and short-term refrigeration unit operation.

Instantaneous maximum noise levels attributable to delivery trucks entering or exiting the project site under all three options would be approximately 75 dBA L_{max} at the apartment building façade. Existing daytime noise levels at adjacent residential uses east of the project site's delivery access point were measured to be 64 dBA L_{eq} and 82 dBA L_{max}. The increase from existing noise levels at these residential uses attributable to the proposed project's delivery trucks would be negligible; however, nighttime interior noise levels may exceed noise standards for short durations during each delivery. Therefore, this impact would be **potentially significant.**

An automotive tire shop is part of the proposed project, introducing a new nontransportation noise source to the adjacent noise-sensitive land uses. Based on the project description (see Chapter 2 of this EIR), the automotive

[7] Some option/s may have fewer than 784 parking spaces, but parking lot noise was evaluated for the worst-case option.

repair shop would be located on the east side of the proposed building. The bay doors would face the adjacent noise-sensitive land uses; however, all repair activities would be conducted within the building. The nearest noise-sensitive property line is approximately 260 feet from the automotive bay doors. Typical noise sources for this type of use are pneumatic wrenches and tire breakers, with an hourly operational noise level of 61 dBA L_{eq} at 100 feet. Noise emanating from the tire repair shop is anticipated to attenuate to 57 dBA L_{eq} with roll up door open and 52 dBA L_{eq} with roll up door closed at the nearest noise-sensitive property line.

Existing daytime noise levels at adjacent residential uses east of the project site were measured to be 57 dBA L_{eq}. Existing nighttime noise levels measured 50 dBA L_{eq}. Existing ambient noise levels currently exceed the Town of Loomis's exterior daytime and nighttime average hourly noise level standards of 50 dBA L_{eq} and 40 dBA L_{eq}, respectively, and the ambient noise level then becomes the accepted noise level standard. The increase from existing noise levels at these residential uses attributable to the proposed project's tire center would be approximately 3 dBA with roll up door open. Also, other project-related noise sources, such as parking lot and vehicular traffic on adjacent streets would contribute to the noise level received at noise-sensitive uses. The contribution form other project-related noise sources would vary, because the parking lot and roadway traffic would be located at greater distances to the receiver closest to the tire center. In a worst-case scenario, all noise sources would contribute to noise level received at a receiver if all happens at the same time and with the same level and at the same distance from the receiver. In that case, two noise sources with the same noise level would increase the noise exposure by approximately 3 dB and four noise-sources with the same levels would increase the noise exposure at the senstive uses by approximately 6 dB. Noise from the tire center during project operation could cause a temporary or periodic noise-level increase at noise-sensitive receptors of 3 dBA. This impact would be **potentially significant**.

Mitigation Measure Noise-2: Minimize Operational Noise (All Site Options)

Prior to issuance of a certificate of occupancy, the project applicant shall construct or fund construction of the following improvements to address noise exposure experienced at sensitive receptors during operational hours:

- Construct a 13-foot tall soundwall along the western property boundary of the adjacent Sierra Meadows apartment complex in order to shield first floor sensitive spaces from nighttime truck delivery noise generated by diesel engines and exhaust stacks.
- Install dual pane windows with an STC rating of 35 or higher at second floor apartment units facing the delivery road in order to reduce interior noise levels attributable to nighttime truck deliveries.
- Construct a 6-foot soundwall along the eastern boundary of the project site at the residential property line to reduce tire center noise.

Significance after Mitigation

Complying with the noise policies of the *Town of Loomis General Plan* as described in Mitigation Measure Noise-2 would allow the project applicant, the construction contractor(s), and the Town of Loomis to address problems that arise during operation, to the extent feasible. These approaches have been shown to be effective in reducing temporary and long-term operational impacts. Solid walls, berms, or elevation differences typically reduce noise levels by 5.0 to 10.0 dB(A).[8]

Implementing Mitigation Measure Noise-2 would reduce the impact related to operational noise to a less-than-significant level, because interior noise levels at adjacent noise-sensitive uses would not exceed adopted standards during individual delivery truck movements with the inclusion of a soundwall and second floor window upgrades. Effective noise barriers typically reduce noise levels by 5 to 10 decibels (dB) (FHWA 2017).

Noise associated with delivery trucks in the worst-case location would be approximately 75 dBA L_{max} at the adjacent apartment building the average sound-level reduction would be 15 dB with windows open and 25 dB with windows closed (EPA 1974), so noise levels would be between 50 dBA and 60 dBA during a delivery, which are expected to occur during noise-sensitive nighttime hours. Installation of dual-pane windows would reduce reduce noise levels further, but even if this imnprovement was not made, approximately one percent of individuals would be anticipated to be awakened by a SEL of 50 dBA and 1.5 percent would be awakened by a SEL of 60 dBA (Finegold and

[8] Highway Noise Mitigation, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), pg., 97.

Bartholomew 2001). Material with an STC rating of 35 has a transmission loss (reduction in noise) of about 25 to 30 dBA for traffic noise (Caltrans 2013).

Additionally, Mitigation Measure Noise-2 would reduce the tire center noise impact to a less-than-significant level because exterior noise levels at adjacent residential uses to the east would be below the thresholds with the inclusion of a soundwall and also located farther away than the residences to the north.[9] The combination of mitigation measures will reduce noise exposure to a level that is consistent with applicable local standards – the combination of dual pane windows with an STC rating of 36 or higher and a sound wall would reduce the interior noise to 40 dB or less. But, the installation of dual pane windows with an STC rating of 36 or higher at second floor apartment units facing the delivery road cannot be guaranteed since neither the Town nor the applicant own this property. Therefore, the impact is **significant and unavoidable**.

3.6.5 Significance after Mitigation

Implementing Mitigation Measures Noise-1 and Noise-2 would reduce project-related impacts under all three Project Driveway Access Options but not all noise impacts would be reduced to a less-than-significant level. The Town cannot demonstrate at this time that implementing these mitigation measures would enable the proposed project to avoid a substantial temporary, short-term increase in ambient noise levels due to construction, or that it would fully reduce the construction short-term impacts to a less-than-significant level. No additional feasible mitigation is available. Therefore, Impact 3.6-1 would be **significant and unavoidable.**

Noise associated with delivery trucks entering or exiting the project site under all three options could exceed applicable standards at the adjacent apartment building under all of the access options. Noise levels at residential uses attributable to the proposed project's tire center could cause a temporary or periodic noise-level increase. Implementing Mitigation Measure Noise-2 would reduce the impact related to operational noise to a less-than-significant level, but the installation of dual pane windows with an STC rating of 36 or higher at second floor apartment units facing the delivery road cannot be guaranteed since neither the Town nor the applicant own this property. No additional feasible mitigation is available. Therefore, the impact is **significant and unavoidable**.

[9] Ibid

3.7 Transportation and Traffic

This section describes potential impacts of the proposed project related to travel demand, as well as the operating condition of roadways, intersections, and public transit and bicycle and pedestrian movement in Loomis and other areas affected by project travel demand. The information and analysis in this section is a summary of the transportation impact analysis for the proposed project prepared by Kittelson & Associates, Inc., in October 2019. The study examined three scenarios with and without project conditions. The project-specific impacts are considered in this section (existing and existing plus project conditions) while the cumulative forecasts with and without the project are discussed in Section 4.0 (Cumulative Analysis) of this EIR.

- **Existing conditions:** The analysis of Existing traffic conditions identifies project site conditions and the current operational and geometric characteristics of the roadways in the study area. These conditions are compared with future conditions later in this section.
- **Existing plus Project conditions:** The analysis of Existing plus Project traffic conditions forecasts how the study area's transportation system would operate with the addition of traffic generated by the proposed project.
- **Cumulative (Short-Term) Baseline conditions:** The analysis of Short-Term Baseline traffic conditions forecasts how the study area's transportation system would operate with the addition of traffic generated by approved and pending projects in the area before the development of the proposed project.
- **Cumulative (Short-Term) plus Project[1] conditions:** The analysis of Cumulative Short-Term plus Project traffic conditions forecasts how the study area's transportation system would operate with the addition of traffic generated by the proposed Costco development in conjunction with trips generated by approved and pending projects.
- **Cumulative (Long-Term) Baseline conditions:** The analysis of Long-Term Baseline traffic conditions forecasts how the study area's transportation system would operate with the addition of traffic generated by background growth in the area by the year 2030.
- **Cumulative (Long-Term) plus Project[1] conditions:** The analysis of Cumulative Long-Term plus Project traffic conditions forecasts how the study area's transportation system would operate with the addition of traffic generated by the proposed Costco warehouse development, combined with trips generated by regional growth in the year 2030.

Measurements of transportation impacts considered in the transportation impact analysis (Kittelson & Associates 2019) include vehicle miles traveled (VMT)[2], level of service (LOS), and queues at the studied intersections as summarized below. The scope of the transportation impact analysis was developed based on direction from the Town of Loomis in consultation with the City of Rocklin and the California Department of Transportation (Caltrans) staff. A complete copy of that study is included as Appendix E to this EIR.

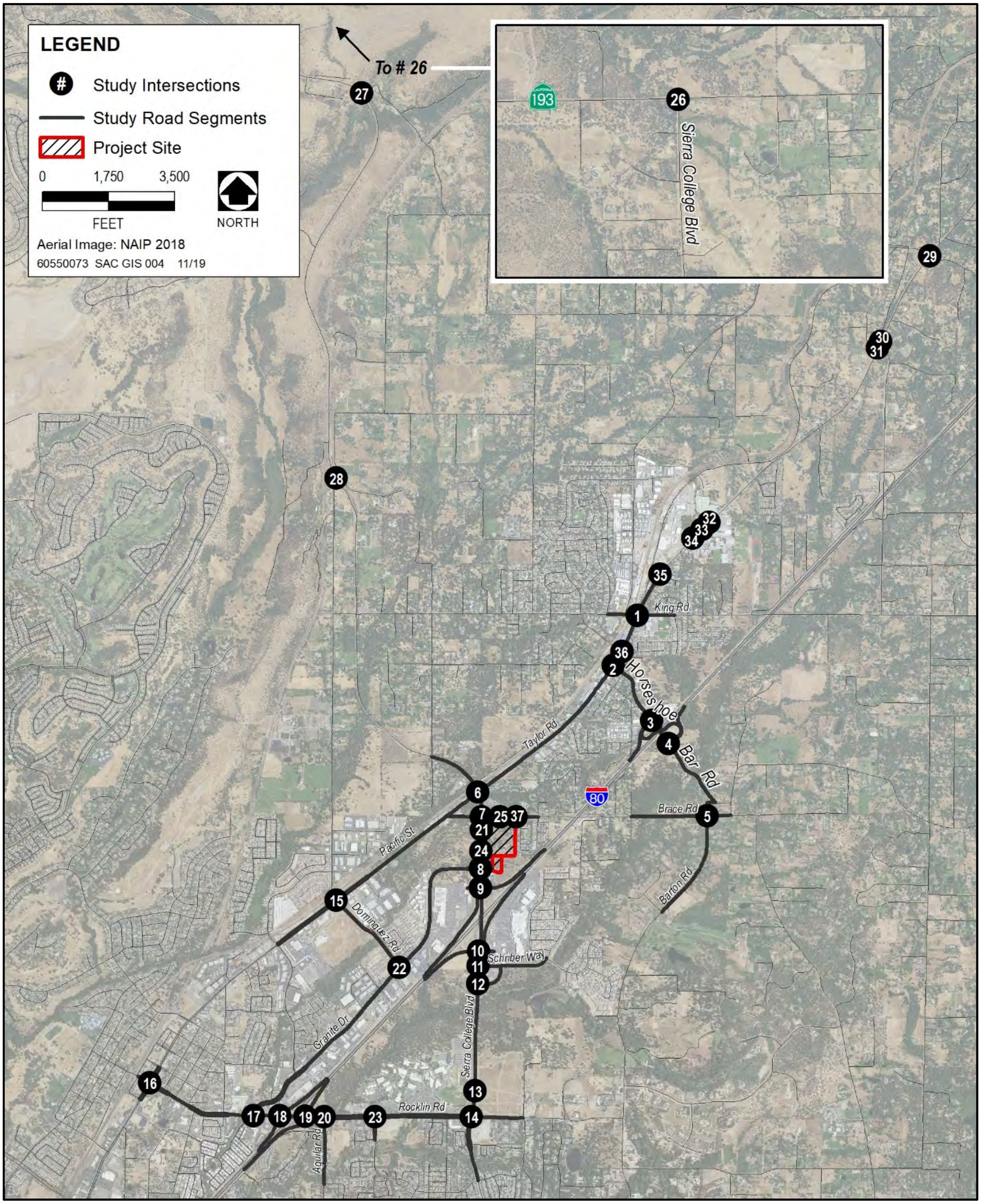
3.7.1 Existing Conditions

3.7.1.1 Circulation System

The Circulation Element of the *Town of Loomis General Plan* describes a developed circulation system that safely and efficiently ensures the movement of goods and people around Loomis (see Section 3.7.2.3, "Regional and Local Plans, Policies, Regulations, and Ordinances"). Figure 3.7-1 shows the roadway segments and intersections that would serve the project site. The roadway capacity and geometries of the affected roadway segments are discussed below.

[1] Cumulative impacts are analyzed in Chapter 4.

[2] Recent changes to CEQA (Cal. Code Regs., Title 14, Div. 6, Ch. 3, § 15000 et seq.) included revisions to the method for determining transportation and circulation impacts. Under the new thresholds, transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated." The changes identify vehicle miles traveled (VMT) as the appropriate metric to evaluate a project's transportation impacts. The adopted revisions included a grace period to allow time for local agencies to update plans and policies contained in their General Plan.



Note: The study intersections shown here are listed in Table 3.7-4, presented later in this section.
Source: Kittelson & Associates 2019

Figure 3.7-1. Study Intersections and Affected Roadway Segments

Roadway Segments

Interstate 80 (I-80) is the primary east-west route across Placer County and northern California. In the vicinity of the project site, I-80 is a six-lane, controlled-access freeway. Access to the freeway from Loomis is available at the Horseshoe Bar Road interchange, the Penryn Road interchange to the east, and the Sierra College Boulevard interchange to the west. In the study area, I-80 provides three travel lanes in each direction. Caltrans publishes annual reports of traffic volumes on the state highway system. The most recent counts available from Caltrans (2013) report an annual average daily traffic (ADT) volume on I-80 of 91,000 vehicles per day between Sierra College Boulevard and Horseshoe Bar Road, and 84,000 vehicles per day between Horseshoe Bar Road and Penryn Road.

Sierra College Boulevard is a north-south roadway that provides primary access to the project site. The circulation elements of the general plans for both the Town of Loomis and the City of Rocklin classify this roadway as an arterial, with an ultimate six-lane cross-section south of Taylor Road. In the study area, Sierra College Boulevard is generally a four- to five-lane roadway; however, segments near the I-80 ramps include additional travel lanes.

In conjunction with site development, Costco would provide right-of-way dedications and widen Sierra College Boulevard along the project site frontage to provide a third northbound travel lane and Class II bike lane between Granite Drive and Brace Road. A new signalized intersection would be constructed with a southbound left turn lane. Separate northbound right-turn lanes would be constructed on Sierra College Boulevard at the new signalized Costco access and at Brace Road. The new signalized entry on Sierra College Boulevard would be designed to accommodate a potential fourth approach to serve future Rocklin development on the vacant lot across Sierra College Boulevard to the west.

In addition to the recommended improvements to be constructed by Costco described above, the Town of Loomis will be separately widening Sierra College Boulevard to three lanes northbound with a Class II bike lane and three lanes southbound between Brace Road and Taylor Road as part of a funded Capital Improvement Plan project. The Sierra College Boulevard widening by the Town north of Brace Road is expected to be completed prior to opening of the Costco.

Granite Drive is a four-lane, southwest-northeast roadway located west of I-80 located in the city of Rocklin. The Circulation Element of the *City of Rocklin General Plan* classifies this roadway as an arterial. Granite Drive extends northward from Rocklin Road and terminates just east of its intersection with Sierra College Boulevard. Under Options 1B and 1C, Costco will reconfigure Granite Drive east of Sierra College Boulevard to provide side-by-side eastbound and westbound left-turn lanes on Granite Drive (separated by a raised median) between Sierra College Boulevard and the new north-south drive aisle connecting to the project site.

Taylor Road is a major arterial street that runs parallel to I-80. Taylor Road is generally a two-lane road through Loomis, but incremental half-section widening has occurred in conjunction with private development frontage improvements in some areas.

Improvements planned for Taylor Road by the Town of Loomis include providing two travel lanes, a center left-turn lane, curbs, gutters, bike lanes, and sidewalks on both sides of the street between King Road and Oak Street, consistent with the *Loomis Town Center Implementation Plan* (Town of Loomis 2016).

Horseshoe Bar Road is an arterial street and originates at an intersection on Taylor Road in downtown Loomis and continues east past the project site to an interchange with I-80. Beyond I-80, Horseshoe Bar Road continues for several miles into the rural area of Placer County near Folsom Lake. Horseshoe Bar Road is a two-lane road with auxiliary left turn lanes at major intersections.

Improvements planned by the Town of Loomis for Horseshoe Bar Road include providing two travel lanes, a center left-turn lane, curbs, gutters, bike lanes, and sidewalks on both sides between Taylor Road and the I-80 ramps. Plans also call for constructing roundabouts at the intersection of Horseshoe Bar Road at the planned Boyington Road Extension north of I-80 and at the I-80 ramps to meet needed capacity and LOS requirements (Town of Loomis 2016).

Brace Road is a minor street that begins at Taylor Road and continues east over I-80. This two-lane road provides secondary access to the project site. Improvements planned for Brace Road include providing curbs, gutters, bike lanes, and sidewalks on both sides from Sierra College Boulevard to I-80 and widening the roadway to standard width with 3-foot shoulders east of I-80 (Town of Loomis 2016). Costco will also provide a raised median between the

Sierra College Boulevard intersection and the proposed right in/right out Costco driveway on Brace Road, maintaining access to Homewood Lumber.

Intersection and Roadway Operating Standards

The efficiency of traffic operations at a location is measured in terms of the vehicular level of service (LOS). LOS is the primary unit of measurement for stating the operating quality of a highway, roadway, or intersection. LOS is calculated by comparing the actual number of vehicles using a facility to the facility's carrying capacity. In general, LOS is measured by the traffic volume-to-capacity ratio or by the average delay experienced by vehicles on the facility.

The quality of traffic operation is graded using one of six LOS designations: A, B, C, D, E, or F. A represents excellent (free-flow) conditions and F represents extreme congestion. LOS is measured during the course of 1 hour at intersections and on a daily basis on roadway segments.[3]

At intersections, LOS is defined based on the delay experienced per vehicle. The LOS methodology for signalized intersections accounts for the effects of signal type, timing, phasing, and progression on average delay. Table 3.7-1 presents quantitative definitions of average delay per vehicle and LOS for signalized intersections.

Table 3.7-1. Level of Service Criteria for Signalized Intersections

LOS	Average Control Delay per Vehicle (seconds)	General Description
A	≤10	LOS A describes operations with a control delay of 10 s/veh or less. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	>10 and <20	LOS B describes operations with control delay between 10 and 20 s/veh. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
C	>20 and <35	LOS C describes operations with control delay between 20 and 35 s/veh. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	>35 and <55	LOS D describes operations with control delay between 35 and 55 s/veh. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	>55 and <80	LOS E describes operations with control delay between 55 and 80 s/veh. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F*	>80	LOS F describes operations with control delay exceeding 80 s/veh. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Notes:

LOS = level of service; V/C = volume-to-capacity ratio; s/veh=second per vehicle.

* If the V/C for a lane group exceeds 1.0, LOS F is assigned to the individual lane group. The LOS for the overall approach or intersection is determined solely by the control delay.

Source: Transportation Research Board 2010

Unsignalized intersections include two-way stop-controlled and all-way stop-controlled intersections. The LOS for an all-way stop-controlled intersection is defined by delay for the intersection as a whole, whereas for a two-way stop-controlled intersection, LOS is based on the delay for the worst operating movement. Table 3.7-2 lists the LOS and delay parameters for unsignalized intersections.

[3] The analysis methodology in the Highway Capacity Manual 2010 (Transportation Research Board 2010) is applied to all study area intersections in the traffic impact study.

Table 3.7-2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (seconds per vehicle)
A	0 to 10
B	>10 to <15
C	>15 to <25
D	>25 and <35
E	>35 and <50
F[1]	>50

Note:

[1] If the volume-to-capacity ratio exceeds 1.0, level of service (LOS) F is assigned to the individual lane group for all unsignalized intersections or the minor street approach at two-way stop-controlled intersections. Overall intersection LOS is determined solely by control delay.

Source: Transportation Research Board 2010.

For freeway mainline road segments, LOS is measured in terms of density (Table 3.7-3). Density describes the proximity to other vehicles and is related to the freedom to maneuver within the traffic stream.

Table 3.7-3. Level of Service and Density Definitions for Basic Freeway Segments

Level of Service	Density (passenger cars per mile per lane)
A	≤11
B	>11 and ≤18
C	>18 and ≤26
D	>26 and ≤35
E	>35 and ≤45
F	>45 (demand exceeds capacity)

Source: Transportation Research Board 2010:Exhibit 11-5

Table 3.7-4 lists the study intersections depicted in Figure 3.7-1 and identifies the responsible jurisdiction and the corresponding operating standard as expressed by the Circulation Element of the *Town of Loomis General Plan*.

Table 3.7-4. Study Intersections, Responsible Jurisdictions, and Applicable Operating Standards

ID	North-South	East-West	Responsible Jurisdiction	LOS Operating Goal	Threshold for Significant Impact
1	Taylor Road	King Road	Loomis	D	LOS E/F or 5.0 seconds + added[1]
2	Taylor Road	Horseshoe Bar Road	Loomis	D	LOS E/F or 5.0 seconds + added [1]
3	Horseshoe Bar Road	I-80 WB ramp	Caltrans	D	LOS E/F or 5.0 seconds + added [1]
4	Horseshoe Bar Road	I-80 EB ramp	Caltrans	D	LOS E/F or 5% project trips
5	Barton Road	Brace Road	Loomis	C	LOS D/E/F or 5% project trips
6	Sierra College Boulevard	Taylor Road	Loomis	C	LOS D/E/F or 5.0 seconds + added [1]
7	Sierra College Boulevard	Brace Road	Loomis	D	LOS E/F or 5.0 seconds + added [1]
8	Sierra College Boulevard	Granite Drive	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
9	Sierra College Boulevard	I-80 WB ramps	Caltrans	E[2]	LOS E/F or 5.0 seconds + added [1]
10	Sierra College Boulevard	I-80 EB ramps	Caltrans	E[2]	LOS E/F or 5.0 seconds + added [1]
11	Sierra College Boulevard	Schriber Way	Rocklin	C[3]	*Stop Control:* LOS D/E/F or 5% project [4] *Signal Control:* LOS D/E/F or 5.0 seconds + added [1]
12	Sierra College Boulevard	Bass Pro Drive/ Dominguez Road	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
13	Sierra College Boulevard	Stadium driveway	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
14	Sierra College Boulevard	Rocklin Road	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
15	Pacific Street	Dominguez Road/ Delmar Avenue	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]

Table 3.7-4. Study Intersections, Responsible Jurisdictions, and Applicable Operating Standards

ID	North-South	East-West	Responsible Jurisdiction	LOS Operating Goal	Threshold for Significant Impact
16	Pacific Street	Rocklin Road	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
17	Granite Drive	Rocklin Road	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
18	I-80 WB ramps	Rocklin Road	Caltrans	D	LOS E/F or 5.0 seconds + added [1]
19	I-80 EB ramps	Rocklin Road	Caltrans	D	LOS E/F or 5.0 seconds + added [1]
20	Aguilar Road	Rocklin Road	Rocklin	C	LOS D/E/F or 5.0 seconds + added [1]
21	Sierra College Boulevard	Office driveway south of Brace Road	Loomis	C	LOS D/E/F or 5% project trips
22	Granite Drive	Dominguez Road	Rocklin	C[3]	*Stop Control:* LOS D/E/F or 5% project [4] *Signal Control:* LOS D/E/F or 5.0 seconds + added [1]
23	El Don Road	Rocklin Road	Rocklin	C	LOS D/E/F or 5.0 seconds added
24	Sierra College Boulevard	Site access	Loomis	C	LOS D/E/F or 5.0 seconds + added [1]
25	Project Driveway	Brace Road	Loomis	C	LOS D/E/F or 5% Project Trips[4]
26	Sierra College Boulevard	SR-193	Placer	D[3]	*Stop control:* LOS E/F or 2.5 seconds added & meets warrants [6] *Signal control:* LOS E/F or 4.0 seconds added [5]
27	Sierra College Boulevard	English Colony Way	Placer	C[3]	*Stop control:* LOS D/E/F or 2.5 seconds added & meets warrants [6] *Signal control:* LOS E/F or 4.0 seconds added [5]
28	Delmar Avenue	Sierra College Boulevard	Placer	C	LOS D/E/F or 2.5 seconds added & meets warrants [6]
29	Taylor Road	English Colony Way	Placer	C[3]	*Stop control:* LOS D/E/F or 2.5 seconds added & meets warrants [6] *Signal control:* LOS E/F or 4.0 seconds added [5]
30	Taylor Road	Penryn Road (North)	Placer	C	LOS D/E/F or 2.5 seconds added & meets warrants [6]
31	Taylor Road	Penryn Road (South)	Placer	C	LOS D/E/F or 2.5 seconds added & meets warrants [6]
32	Taylor Road	Del Oro High School North Lot	Loomis	C	LOS D/E/F or 5% Project Trips
33	Taylor Road	Del Oro High School Drop-Off	Loomis	C	LOS D/E/F or 5% Project Trips
34	Taylor Road	Del Oro High School South Lot	Loomis	C	LOS D/E/F or 5% Project Trips
35	Taylor Road	Rippey Road	Loomis	C	LOS D/E/F or 5% Project Trips
36	Taylor Road	Webb Street	Loomis	C	LOS D/E/F or 5% Project Trips
37	Project Driveway East	Brace Road	Loomis	C	LOS D/E/F or 5% Project Trips[4]

Notes: Caltrans = California Department of Transportation; EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; WB = westbound

[1] For signalized intersections, impact is significant if the Project increases delay to unacceptable levels from acceptable levels. Impact is significant in situations when the intersection is already operating at unacceptable LOS and the Project trips cause the average intersection delay to increase by 5.0 seconds or more.

[2] Caltrans direction for acceptable LOS of E at this location.

[3] For existing roadway network configuration the intersection was stop controlled; however, under future conditions the intersection would become signalized and therefore would be evaluated with the signalized intersection threshold.

[4] For unsignalized intersections, impact is significant if the Project increases delay to unacceptable levels from acceptable levels. Impact is significant in situations when the intersection is already operating at unacceptable LOS and the Project adds trips to the intersection exceeding 5 percent of the total traffic already at the intersection.

[5] For signalized intersections, impact is significant if the Project increases delay to unacceptable levels from acceptable levels. Impact is significant in situations when the intersection is already operating at unacceptable LOS and the Project trips cause the average intersection delay to increase by 4.0 seconds or more.

[6] For unsignalized intersections, impact is significant if the Project increases delay to unacceptable levels from acceptable levels and meets Manual on Uniform Traffic Control Device (MUTCD) signal warrants. Impact is significant in situations when the intersection is already operating at unacceptable LOS, meets MUTCD signal warrants, and the Project trips cause the average intersection delay to increase by 2.5 seconds or more.

Source: Data compiled by AECOM in 2019

Vehicle Miles Traveled

Measurements of transportation impacts may include VMT, VMT per capita, automobile trip generation rates, or automobile trips generated. Senate Bill (SB) 743 (discussed further in Section 3.7.4.2, “State Plans, Policies, Regulations, and Laws”) directs the Governor’s Office of Planning and Research (OPR) to develop guidelines for assessing transportation-related impacts that “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses” (Public Resources Code Section 21099[b][1]). VMT has long been a common metric used to measure travel demand. A “vehicle mile traveled” is one vehicle traveling on a roadway for a distance of one mile. The changes towards vehicle miles traveled (VMT) as the appropriate metric to evaluate a project’s transportation impacts includes a grace period to allow time for local agencies to update plans and policies contained in their General Plan. However, as the Town has not yet adopted a VMT methodology or significance threshold, the discussion of the potential changes to VMT resulting from the project is provided for infomational purposes only.

3.7.1.2 Existing Intersection Operations

Existing traffic volumes in the vicinity of the project site were determined by manually counting turning movements at each existing study intersection listed in Table 3.7-4. Figure 4 and Figure 5 of the transportation impact analysis (Kittelson & Associates 2019) present summaries of turning movement counts for the weekday peak hour and the weekend peak hour, respectively, which represent the hours with the highest volumes in the counting periods. While typically, traffic analysis would focus on weekday peak a.m. and/or p.m. hours only, the weekend midday peak hour was added due to the unique characteristics of the proposed project. Appendix A to the transportation impact analysis (Kittelson & Associates 2019) contains the traffic count worksheets.

Table 3.7-5 shows the LOS for intersections in the study area during the weekday a.m. and p.m. peak hours under Existing conditions. Appendix B to the transportation impact analysis (Kittelson & Associates 2019) includes the level-of-service worksheets. As shown, the following intersections operate at an unsatisfactory LOS:

- Horseshoe Bar Road & I 80 Eastbound Ramp (AM, PM)
- Sierra College Boulevard & Taylor Road (PM)
- Sierra College Boulevard & Rocklin Road (AM and PM)
- Pacific Street & Dominguez Road/Delmar Avenue (PM)
- Pacific Street & Rocklin Road (AM)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- El Don Drive & Rocklin Road (AM and PM)
- Sierra College Boulevard & SR 193 (PM)
- Sierra College Boulevard & Delmar Avenue (AM and PM)
- Taylor Road & Penryn Road (South) (AM)
- Taylor Road & Del Oro High School North Lot (AM)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)
- Taylor Road & Webb Street (PM and MD)

Table 3.7-5. Existing Conditions—Intersection Level of Service Analysis, Weekday A.M./P.M. and Weekend Midday Peak Hours

ID	Intersection	Intersection Control Type	LOS Operating Goal	Weekday A.M.		Weekday P.M.		Weekend Midday	
				Delay	LOS	Delay	LOS	Delay	LOS
1	Taylor Road/King Road	Signal	D	33.3	C	37.7	D	21.8	C
2	Taylor Road/Horseshoe Bar Road	Signal	D	30.3	C	26.3	C	13.9	B
3	Horseshoe Bar Road/I-80 WB ramp	Signal	D	13.8	B	14.0	B	13.4	B
4	Horseshoe Bar Road/I-80 EB ramp	TWSC	D	**70.2**	**F**	**68.2**	**F**	28.7	D
5	Barton Road/Brace Road	TWSC	C	10.8	B	10.7	B	12.2	B
6	Sierra College Boulevard/Taylor Road	Signal	C	31.8	C	**38.3**	**D**	25.0	C
7	Sierra College Boulevard/Brace Road	Signal	D	9.7	A	10.7	B	9.1	A
8	Sierra College Boulevard/Granite Drive	Signal	C	24.4	C	27.1	C	22.6	C
9	Sierra College Boulevard/I-80 WB ramps	Signal	E	13.2	B	19.0	B	19.3	B
10	Sierra College Boulevard/I-80 EB ramps	Signal	E	14.6	B	16.1	B	16.5	B
11	Sierra College Boulevard/Schriber Way	TWSC	C	9.2	A	9.2	A	10.3	B
12	Sierra College Boulevard/ Bass Pro Drive–Dominguez Road	Signal	C	6.5	A	7.5	A	8.7	A
13	Sierra College Boulevard/stadium driveway	Signal	C	6.1	A	6.6	A	4.4	A
14	Sierra College Boulevard/Rocklin Road	Signal	C	**35.7**	**D**	**43.3**	**D**	24.9	C
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	15.4	B	**43.7**	**D**	12.7	B
16	Pacific Street/Rocklin Road	Signal	C	**39.9**	**D**	33.7	C	19.6	B
17	Granite Drive/Rocklin Road	Signal	C	**40.7**	**D**	**50.8**	**D**	**43.7**	**D**
18	I-80 WB ramps/Rocklin Road	Signal	D	20.4	C	38.8	D	20.6	C
19	I-80 EB ramps/Rocklin Road	Signal	D	31.0	C	30.3	C	24.6	C
20	Aguilar Road/Rocklin Road	Signal	C	10.4	B	8.1	A	8.0	A
21	Sierra College Boulevard/ driveway south of Brace Road	TWSC	C	0.3	A	12.6	B	0.1	A
22	Granite Drive/Dominguez Road	TWSC	C	11.7	B	12.8	B	12.5	B
23	El Don Drive/Rocklin Road	Signal	C	**35.8**	**D**	**34.9**	**D**	13.7	B
26	Sierra College Blvd/SR-193	AWSC	C[3]	22.5	C	**43.1**	**E**	19.7	C
27	Sierra College Blvd/English Colony Way	TWSC	C	11	B	19.8	C	12.2	B
28	Sierra College Blvd/Delmar Avenue	TWSC	C[3]	**38**	**E**	**41.4**	**E**	22.2	C
29	Taylor Rd/English Colony Way	AWSC	C	21.4	C	13.2	B	15.4	C
30	Taylor Rd/Penryn Road (North)	TWSC	C	14.4	B	10	B	10.2	B

Table 3.7-5. Existing Conditions—Intersection Level of Service Analysis, Weekday A.M./P.M. and Weekend Midday Peak Hours

ID	Intersection	Intersection Control Type	LOS Operating Goal	Weekday A.M.		Weekday P.M.		Weekend Midday	
				Delay	LOS	Delay	LOS	Delay	LOS
31	Taylor Rd/Penryn Road (South)	TWSC	C	**233.5**	**F**	15.5	C	12	B
32	Taylor Rd/Del Oro High School North Lot	TWSC	C	**31.9**	**D**	12	B	13.5	B
33	Taylor Rd/Del Oro High School Drop-Off	TWSC	C	**265**	**F**	14.1	B	19.4	C
34	Taylor Rd/Del Oro High School South Lot	TWSC	C	**40.9**	**E**	15.7	C	16.1	C
35	Taylor Rd/Rippey Road	TWSC	C	13.9	B	11.3	B	11.6	B
36	Taylor Rd/Webb Street	TWSC	C	21.4	C	**26.8**	**D**	**70.2**	**F**

Notes: EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; AWSC: All-way stop control – The average intersection delay is reported; TWSC = two-way stop control—the delay is reported for the worst movement; WB = westbound,

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2019

3.7.1.3 Existing Freeway Mainline Operation

Table 3.7-6 outlines the existing mainline volume, density, and associated LOS for the study freeway segments. As shown, all study segments operate at acceptable LOS C or better. Appendix E of the transportation impact analysis (Kittelson & Associates 2019) includes the freeway mainline LOS worksheets.

Table 3.7-6. Existing Conditions—I-80 Mainline Level of Service Analysis, Weekday A.M./P.M. Peak Hour

ID	Segment	Direction	Number of Lanes	Weekday A.M.			Weekday P.M.			Weekend Midday		
				Volume	Density*	LOS	Volume	Density*	LOS	Volume	Density*	LOS
1	I-80 east of Sierra College Boulevard	EB	3	3,110	19.0	C	4,398	25.8	C	3,980	22.5	C
		WB	3	4,062	25.4	C	3,803	22.5	C	3,892	21.5	C
2	I-80 west of Sierra College Boulevard	EB	3	3,118	19.1	C	4,042	23.4	C	3,963	22.4	C
		WB	3	3,702	22.9	C	3,716	22.0	C	3,812	21.1	C

Notes: EB = eastbound; ID = identification number of study roadway segment; I-80 = Interstate 80; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2019

3.7.1.4 Queuing Analysis

For the purposes of this analysis, a vehicle queue is considered a potential safety hazard if the queue overflows the available storage for a turn pocket and blocks the adjacent travel lane, or if the queue extends to an upstream signal and blocks through traffic.[4] Queues at study intersections were evaluated using Synchro software and 95th-percentile queue lengths were reported to identify locations where the queues may exceed available storage capacity (queues may be longer during 5 percent of the peak-hour traffic signal cycles).

The 95th-percentile queues at the study intersections were reviewed to identify locations where the queues may exceed the available storage capacity. This measure is typically used in traffic engineering as a conservative measure of reporting queuing. Because the 95th-percentile queue has only a 5 percent probability of being exceeded, the

[4] The traffic impact study identifies deficiencies in queuing as occurring at locations where project traffic would cause the 95th-percentile queue length for a turn pocket to overflow its available storage compared to No Project conditions, or would cause a queue to spill back into an upstream signalized intersection.

average driver would likely experience shorter queue lengths than the reported value. As such, the analysis is considered conservative given the reported queues would be less than those experienced by the average driver. Average queues can be found on the Synchro output sheets provided in Appendix C to the transportation impact analysis (Kittelson & Associates, Inc. 2019).

Existing Conditions

Queues at several intersections extend beyond available storage lengths during the weekday a.m., weekday p.m., and weekend midday peak hours. Appendix C to the transportation impact analysis (Kittelson & Associates, Inc. 2019) presents the storage lengths at each intersection and the queuing worksheets for Existing conditions. The 95th percentile queues would extend beyond the available storage lengths at the following locations:

- Taylor Road & King Road (AM, PM, and MD)
- Taylor Road & Horseshoe Bar Road (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Westbound Ramp (AM, PM, and MD)
- Sierra College Boulevard & Taylor Road (PM)
- Sierra College Boulevard & Brace Road (PM)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- Sierra College Boulevard & Rocklin Road (AM and PM)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- I-80 Westbound Ramps & Rocklin Road (PM)
- I-80 Eastbound Ramps & Rocklin Road (AM and PM)
- El Don Drive & Rocklin Road (AM and PM)
- Taylor Road & English Colony Way (AM and MD)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)

In addition, the queues reported at the above locations would affect operations at upstream locations as listed below:

- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The southbound through at Sierra College Boulevard & I-80 WB Ramps would affect operations at Sierra College Boulevard & Granite Drive (PM)
- The westbound through at I-80 Eastbound Ramps & Rocklin Road would affect operations at Aguilar Road & Rocklin Road (PM)

3.7.1.5 Transit, Bicycle, Rail, and Pedestrian Facilities

Transit

Placer County Transit provides public bus service to the Loomis area Monday through Saturday, with three routes operating in the project study area: two fixed routes and a dial-a-ride service. The Auburn to Light Rail bus route operates on 1-hour headways during the morning and afternoon commute periods and stops at the Sierra College Transfer Center. The Lincoln/Sierra College bus route operates on one-hour headways between Sierra College and the city of Lincoln. Both routes stop at the downtown multimodal center, while the Taylor Road Shuttle makes additional stops along Taylor Road. The Taylor Road Shuttle operates on two-hour headways during the morning and afternoon commute periods and travels between Auburn and the Sierra College Transfer Center. The Taylor Road Shuttle links Loomis, Penryn, Auburn, and Sierra College in Rocklin and the Placer Commuter Express, which runs during commute hours and links the community with downtown Sacramento. Service is provided between 6:30 a.m. and 4:15 p.m. Monday through Friday with four buses per day. Dial-a-ride service is available between 6 a.m. and 8 p.m. The Taylor Road Shuttle provides the nearest service to the project site along Sierra College Boulevard.

The Union Pacific Railroad runs parallel to and immediately north of Taylor Road. At-grade crossings are located at Webb Street and King Road. Each is equipped with standard crossing gates and warning flashers. The Capitol Corridor Joint Powers Authority operates passenger train service between San Jose and Auburn on the Union Pacific Railroad line and the closest station to the project site is approximately 2.7 miles to the southwest in downtown Rocklin.

Bicycle and Pedestrian Facilities

The *Town of Loomis Bicycle Transportation Plan–2010* (Town of Loomis 2010a) identifies existing and planned bicycle facilities. The existing bicycle system consists of a series of Class II facilities (on-street striped bike lanes) on major arterials. Class II lanes exist on Taylor Road between Sierra College Boulevard and the northern town limits, although the lanes are not marked through the downtown area. Bike lanes also exist on King Road at various locations.

Pedestrian facilities include sidewalks, crosswalks, pedestrian signals, curb ramps, and streetscape amenities. The *Town of Loomis Trails Master Plan 2010* (Town of Loomis 2010b) identifies the locations of existing sidewalks and trails. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps is provided in the vicinity of the project site; however, significant sidewalk gaps were noted in the study area. Partial sidewalks are provided on Sierra College Boulevard, King Road, Taylor Road, and Horseshoe Bar Road. Crosswalks are provided at all signalized intersections and at several other unsignalized locations. No sidewalks exist on portions of Taylor Road and King Road outside of the developed area of Loomis, and most local streets in the older area of downtown Loomis lack sidewalks.

3.7.2 Cumulative (Short-Term) Baseline Conditions

Queueing during the weekday a.m., weekday p.m., and weekend midday peak hours are identified for Cumulative Baseline Short Term conditions in the queuing worksheets in Appendix C to the transportation impact analysis (Kittelson & Associates, Inc. 2019). Based on this information, the queues at the intersections listed below would extend beyond the storage lengths available at these locations:

- Taylor Road & King Road (AM, PM, and MD)
- Taylor Road & Horseshoe Bar Road (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Westbound Ramp (AM, PM, and MD)
- Sierra College Boulevard & Taylor Road (AM, PM, and MD)
- Sierra College Boulevard & Brace Road (PM and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 WB Ramps (AM, PM, and MD)
- Sierra College Boulevard & I-80 EB Ramps (PM and MD)
- Sierra College Boulevard & Schriber Way (AM, PM, and MD)
- Sierra College Boulevard & Rocklin Road (AM, PM, and MD)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- I-80 Westbound Ramps & Rocklin Road (PM and MD)
- I-80 Eastbound Ramps & Rocklin Road (AM and PM)
- Aguilar Road & Rocklin Road (AM and PM)
- El Don Drive & Rocklin Road (AM)
- Sierra College Boulevard & SR-193 (MD)
- Taylor Road & English Colony Way (AM and MD)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)

In addition, the queues reported at the above locations would affect operations at upstream locations as listed below:

- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The northbound left-turn at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- The northbound through at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- The southbound through at Sierra College Boulevard & I-80 WB Ramps would affect operations at Sierra College Boulevard & Granite Drive (AM, PM and MD)
- The southbound through at Sierra College Boulevard & Schriber Way would affect operations at Sierra College Boulevard & I-80 EB Ramps (AM, PM, and MD)
- The westbound left at I-80 Westbound Ramps & Rocklin Road would affect operations at I-80 Eastbound Ramps & Rocklin Road (PM)
- The westbound through at I-80 Eastbound Ramps & Rocklin Road would affect operations at Aguilar Road & Rocklin Road (AM and PM)
- The eastbound through at Aguilar Road & Rocklin Road would affect operations at I-80 Eastbound Ramps & Rocklin Road (AM)

3.7.3 Cumulative (Long-Term) Baseline Conditions

Queueing during the weekday a.m., weekday p.m., and weekend midday peak hours are identified for Cumulative Baseline Long Term conditions in the queuing worksheets in Appendix C to the transportation impact analysis (Kittelson & Associates, Inc. 2019). The queues at the intersections listed below would extend beyond the storage lengths available at these locations:

- Taylor Road & King Road (AM, PM, and MD)
- Taylor Road & Horseshoe Bar Road (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Westbound Ramp (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Eastbound Ramp (PM and MD)
- Sierra College Boulevard & Taylor Road (AM, PM, and MD)
- Sierra College Boulevard & Brace Road (AM, PM, and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 WB Ramps (AM, PM, and MD)
- Sierra College Boulevard & I-80 EB Ramps (AM, PM, and MD)
- Sierra College Boulevard & Schriber Way (AM, PM, and MD)
- Sierra College Boulevard & Bass Pro Drive/Dominguez Road (AM, PM, and MD)
- Sierra College Boulevard & Stadium Dwy (AM and PM)
- Sierra College Boulevard & Rocklin Road (AM, PM, and MD)
- Pacific Street & Dominguez Road/Delmar Avenue (AM and PM)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- I-80 Westbound Ramps & Rocklin Road (AM, PM, and MD)
- I-80 Eastbound Ramps & Rocklin Road (AM and PM)
- Aguilar Road & Rocklin Road (AM)
- Granite Drive & Dominguez Road (AM, PM, and MD)
- El Don Drive & Rocklin Road (AM)
- Sierra College Boulevard & Project Driveway (AM, PM, and MD)
- Sierra College Boulevard & SR-193 (AM, PM, and MD)

- Sierra College Boulevard & English Colony Way (AM, PM, and MD)
- Taylor Road & English Colony Way (AM, PM, and MD)
- Taylor Road & Penryn Road (south) (AM, PM, and MD)
- Taylor Road & Del Oro High School North Lot (AM)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)

In addition, the queues reported at the above locations would affect operations at upstream locations as listed below.

- The westbound through at Horseshoe Bar Road & I-80 Eastbound Ramp would back up to the I-80 Eastbound mainline (PM and MD)
- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The southbound left-turn at Sierra College Boulevard & Brace Road would affect operations at Sierra College Boulevard & Taylor Road (PM)
- The northbound left-turn at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (AM)
- The northbound through at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM)
- The southbound through at Sierra College Boulevard & I-80 Westbound Ramps would affect operations at Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- The southbound through at Sierra College Boulevard & Schriber Way would affect operations at Sierra College Boulevard & I-80 EB Ramps (AM and PM)
- The southbound through at Sierra College Boulevard & Bass Pro Drive/Dominguez Road would affect operations at Sierra College Boulevard & Schriber Way (AM and PM)
- The westbound left-turn at I-80 Westbound Ramps & Rocklin Road would affect operations at I-80 Eastbound Ramps & Rocklin Road (PM)
- The westbound through at I-80 Eastbound Ramps & Rocklin Road would affect operations at Aguilar Road & Rocklin Road (PM).

3.7.4 Regulatory Setting

3.7.4.1 Federal Plans, Policies, Regulations, and Laws

No federal plans, policies, regulations, or laws related to transportation and traffic are applicable to the proposed project.

3.7.4.2 State Plans, Policies, Regulations, and Laws

Transportation Corridor Concept Report

The Transportation Corridor Concept Report (TCCR) is Caltrans's long-range (20-year) planning document for each state highway route. The TCCR identifies existing route conditions and future needs, including existing and forecasted travel data, a concept LOS standard, and the facility needed to maintain the concept LOS and address mobility needs over the next 20 years.

The I-80 TCCR provides data for the portion of I-80 from the Sierra College Boulevard interchange to the Nevada state line. Loomis adjoins segment 9. The TCCR notes that the concept LOS for this segment is LOS F, assuming the existing six-lane facility remains. The TCCR identifies programmed improvements and notes that widening the Horseshoe Bar Road overcrossing for four lanes is programmed in the Metropolitan Transportation Plan. No improvements to the Sierra College Boulevard ramps or mainline I-80 are planned under the latest TCCR.

California Department of Transportation Traffic Study Guidelines

Caltrans's *Guide for the Preparation of Traffic Impact Studies* includes the following generalized statement regarding target LOS goals for Caltrans facilities (Caltrans 2002:1):

> *Caltrans endeavors to maintain a target LOS at the transition between LOS 'C' and 'LOS D'…on State highway facilities, however, Caltrans acknowledges that this may not be always feasible and recommends that the lead agency consults with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE [measure of effectiveness] should be maintained.*

Based on these standards, the Town of Loomis's LOS D is the minimum acceptable LOS in the study area. Caltrans staff were contacted to confirm operating requirements for study intersection assessment purposes as noted above. Caltrans District 3 Forecasting and Operations staff identified a LOS E target standard for the Sierra College Boulevard ramp terminals with I-80.

Senate Bill 375

SB 375 (Chapter 728, Statutes of 2008) aligns regional transportation planning efforts, regional greenhouse gas reduction targets, and land use and housing allocations. SB 375 requires each metropolitan planning organization (MPO), such as SACOG, to adopt a sustainable communities strategy or alternative planning strategy that will prescribe land use allocation in that MPO's regional transportation plan. SACOG adopted its sustainable communities strategy in April 2012. The California Air Resources Board, in consultation with the MPOs, provide each affected region with reduction targets for greenhouse gases emitted by passenger cars and light trucks. These reduction targets will be updated every 8 years but can be updated every 4 years if needed based on changing technology.

Sacramento Area Council of Government's 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (SACOG's MTP/SCS) was adopted on August 18th, 2016. The 2016 MTP/SCS demonstrates how the region can accommodate expected regional population growth and the increased demand for transportation in the region, while also showing that the region could achieve a reduction in per-capita passenger VMT.

Senate Bill 743

SB 743 (Chapter 386, Statutes of 2013) required changes to the guidelines implementing CEQA (i.e., the State CEQA Guidelines) (California Code of Regulations Title 14, Section 15000 et seq.) regarding the analysis of transportation impacts. OPR has changed the text in the CEQA Guidelines (See Section 15064.3) that identifies VMT as the most appropriate metric for evaluating a project's transportation impacts. The changes also require analyses of certain transportation projects to address the potential for induced travel. Section 15064.3(c) states that "A lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide."

The Governor's Office of Planning and Research has prepared the Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) published November 2017 to provide an initial alternative approach to evaluating project effects on the transportation system. The Technical Advisory provides the following guidelines specific to retail projects:

- Lead agencies should usually analyze the effects of a retail project by assessing the change in total VMT, because a retail project typically re-routes travel from other retail destinations. A retail project might lead to increases or decreases in VMT, depending on previously existing retail travel patterns.
- Recommended threshold for retail projects: A net increase in total VMT may indicate a significant transportation impact.
- Because new retail development typically redistributes shopping trips rather than creating new trips, estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts.
- By adding retail opportunities to the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Lead agencies generally, therefore, may presume such development creates a less than significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, might tend to have a significant impact. Where such development decreases VMT, lead agencies may consider it to have a less-than-significant impact.

Many cities and counties define local-serving and regional-serving retail in their zoning codes. Lead agencies may refer to those local definitions when available, but should also consider any project-specific information, such as market studies or economic impacts analyses that might bear on customers' travel behavior. Because lead agencies will best understand their own communities and the likely travel behaviors of future project users, they are likely in the best position to decide when a project will likely be local serving. Generally, however, development including stores larger than 50,000 square feet might be considered regional serving, and so lead agencies should undertake an analysis to determine whether the project might increase or decrease VMT.

However, the jurisdictions involved in this project have not adopted VMT thresholds yet. Therefore, the VMT analysis provided in the transportation impact analysis (Kittelson & Associates, Inc. 2019) is for informational purposes, and this analysis does not represent an adverse environmental traffic effect under CEQA. All adverse physical impacts associated with the project's increase in travel demand (VMT) are fully addressed in topic-specific sections of this EIR detailing impacts related to greenhouse gas emissions, air pollutant emissions, transportation noise, and other relevant topics.

Complete Streets

In 2008, the State of California enacted the Complete Streets Act of 2008. The law required cities and counties, when updating their general plans, to ensure that local streets and roads meet the needs of all users, including bicyclists, pedestrians, transit riders, children, seniors, persons with disabilities and motorists. The law took effect in January 2011, when the Governor's Office of Planning and Research issued new general plan update guidelines. The purpose is to ensure convenient access to jobs, school, entertainment, recreation, and critical services such as banking, medical care, and shopping, which requires a transportation system of roads, transit, bikeways, and sidewalks.

3.7.4.3 Regional and Local Plans, Policies, Regulations, and Ordinances

Metropolitan Transportation Plan/Sustainable Communities Strategy

SACOG is responsible for preparing the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS)[5] every four years in coordination with the 22 cities and six counties in the greater Sacramento region. Under memoranda of understanding, long-range transportation plans in Placer and El Dorado counties are incorporated into the MTP/SCS.

If a city, county, or public agency in the Sacramento region wants to use federal transportation funding for transportation projects or programs, those projects must be included in the MTP/SCS project list. The MTP/SCS includes transportation improvements and investments that will serve the Sacramento region's projected land use pattern and population growth. All transportation projects that are regionally significant for potential air quality impacts must also be included in the MTP/SCS. SACOG works collaboratively with local government planning and public works departments, transit service providers, air quality management districts, state and federal transportation departments, stakeholder interests, and residents across the region to develop the MTP/SCS. Local improvements must be included in the regional MTP to receive state and federal funding.

Placer County Significance Criteria

The Placer County General Plan identifies policies presenting significance criteria, including the following:

- Policy 3.A.7: The County shall develop and manage its roadway system to maintain the following minimum LOS:
  - LOS C on rural roadways, except within one-half mile of state highways where the standard shall be LOS D.
  - LOS C on urban/suburban roadways, except within one-half mile of state highways where the standard shall be LOS D.

The County may allow exceptions to these level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.

[5] The MTP/SCS is a 28-year plan for transportation improvements in the six-county region, based on growth projections. The MTP/SCS identifies policies and strategies to reduce greenhouse gas emissions from passenger vehicles to hit targets set by the California Air Resources Board (ARB). The purpose is to encourage integration of transportation and land use planning.

- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.
- Environmental impacts including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- The impacts on general safety.
- The impacts of the required construction phasing and traffic maintenance.
- The impacts on quality of life as perceived by residents.
- Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards.

Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.

Specific methodology is provided in the County's Impact Analysis Methodology of Assessment Memorandum prepared September 30th, 2015 as outlined below:

Signalized Intersection Assessment Methodology:

- A project may be considered to exceed minimum LOS policies if:
  - An intersection operating at or above the established Placer County policies without the project traffic trips will decrease to an unacceptable LOS with the project; or
  - An intersection currently operating below the established acceptable LOS policy will experience an increase in overall average intersection delay of 4 seconds or greater.

Unsignalized Intersection Assessment Methodology:

- A project may be considered to exceed minimum LOS policies if:
  - An all-way stop or side street controlled intersection, which currently operates at or above the established Placer County policies without the project, will deteriorate to an unacceptable LOS with the project and cause the intersection to meet the Manual on Uniform Traffic Control Device (MUTCD) traffic sign warrant(s); or
  - An all-way stop or side street controlled intersection which currently operates below the established acceptable LOS policy and meets MUTCD signal warrant(s) will experience an increase of 2.5 seconds or more with the project.

Further consideration will be given in situations where the existing level of service is just above or at the approved minimum level of service and any increase in vehicle trips, or even daily fluctuations in traffic will deteriorate the level of service to an unacceptable level.

Based on the review of Placer County roadway segment analysis in the approved Bickford Ranch EIR, roadway segment impacts would be considered in conjunction with intersection performance along the corridor. The specific methodology outlined in the Impact Analysis Methodology of Assessment Memorandum prepared September 30th, 2015 states:

- A project may be considered to exceed minimum LOS policies (as defined by Policy 3.A.7 as outlined above) if:
  - A roadway segment operating at or above the established Placer County policies without the project traffic trips will decrease to an unacceptable LOS with the project; or
  - A roadway segment currently operating below the established acceptable LOS policy will experience an increase in volume to capacity (V/C) ratio of 0.05 or greater with the project;

or

  - A roadway segment currently operating below the established acceptable LOS policy will experience an increase in ADT of 100 or more project generated trips, per lane.

Town of Loomis General Plan

The following policies in the Circulation Element of the *Town of Loomis General Plan*, which was updated in 2016 (Town of Loomis 2016), are relevant to the proposed project.

- **Level of Service Policy:** In order to minimize congestion, maintain Level of Service C on all roads and intersections within the Town of Loomis. Level of Service D may be allowed in conjunction with development approved within the Town as an exception to this standard, at the intersections of King and Taylor, Horseshoe Bar Road and Taylor, Horseshoe Bar Road and I-80, Sierra College and Brace Road, and Webb and Taylor, when:
  1. The deficiency is substantially caused by "through" traffic, which neither begins nor ends in Loomis and is primarily generated by non-residents; or
  2. The deficiency will be temporary (less than three years), and a fully-funded plan is in place to provide the improvements needed to remedy the substandard condition.
- **Roadway Improvement Policy:** Roadway improvements within the Town of Loomis shall conform to the roadway classification system and improvement standards specified in the current version of the Town of Loomis Design & Improvement Standards after their adoption.
- **Policy on Character of Roadway Improvements:** The design of Downtown roadway and streetscape improvements will continue to maintain the "small town downtown" character.

The Circulation Element also contains a number of policies directed toward roadway system funding improvements. Policy 2 states that the Town of Loomis shall require new development projects to analyze their contribution to the increased vehicle, pedestrian, and bicycle traffic and to implement the roadway improvements needed to address their impacts. Policy 4 requires that provisions be made for ongoing maintenance of new local streets, such as establishing a maintenance district covering the specific roadways, or assumption of maintenance responsibilities by the pertinent homeowners association or other approved organization.

The EIR prepared for the *Town of Loomis General Plan (2001)* also clarifies LOS thresholds by noting that when a project adds traffic to a roadway segment that already operates at an unacceptable LOS, a significant impact would occur when the project would increase the roadway segment's volume-to-capacity ratio by 5 percent or more.

Town of Loomis Municipal Code

To offset the impact of future development and maintain current levels of service and corresponding infrastructure, the Town of Loomis imposes development impact fees as outlined in Title 12, Chapter 12.24 ("Development Impact Fees") of the Loomis Municipal Code. Included is a road circulation/major road fee that applies to the cost of improving traffic circulation throughout the town by existing and improving major roads. The Town also imposes a fee for improvements to Sierra College Boulevard to defray the cost of widening, extending, and improving this roadway as new development occurs, and for planned improvements to the Horseshoe Bar Road/I-80 interchange. Fees are collected at building permit issuance and allocated to fund roadway improvements that are programmed to meet projected traffic demand.

Town of Loomis Capital Improvement Program (CIP)

The Town of Loomis CIP identifies a list of improvements required to serve future development. The CIP includes a list of roadway improvements selected to meet traffic conditions through the five-year CIP cycle. The cost of each improvement and the funding source is listed in the CIP, along with funds to be collected through the impact fee program. The most recent CIP for the Town was adopted in June 2016 and runs through June 2021. The Town of Loomis will be separately completing widening of Sierra College Boulevard to three lanes northbound and three lanes southbound between Brace Road and Taylor Road as part of a funded Capital Improvement Plan project. The Sierra College Boulevard widening by the Town north of Brace Road is expected to be completed prior to opening of the Costco.

City of Rocklin General Plan

The Transportation and Circulation Element addresses the location and extent of existing and planned transportation routes, terminals, and other local public utilities and facilities. The General Plan identifies roadway and transit goals and policies that have been adopted to ensure that the transportation system of the City will have adequate capacity to serve planned growth. These goals and policies are intended to provide a plan and implementation measures for an integrated, multi-modal transportation system that will safely and efficiently meet the transportation needs of all economic and social segments of the City.

City of Rocklin Capital Improvement Program

The City's Traffic Impact Fee and CIP define the roadway and intersection improvements needed to maintain the LOS policy adopted in the City's General Plan. (See Rocklin General Plan Circulation Element, Policy 13.)

The City of Rocklin General Plan Circulation Element (2012) states the following:

A. Maintain a minimum traffic LOS C for all signalized intersections during the PM peak hour on an average weekday, except in the circumstances described below.

B. Recognizing that some signalized intersections within the City serve and are impacted by development located in adjacent jurisdictions, and that these impacts are outside the control of the City, a development project which is determined to result in a LOS worse than "C" may be approved, if the approving body finds (1) the diminished LOS is an interim situation which will be alleviated by the implementation of planned improvements or (2) based on the specific circumstances described in Section C. below, there are no feasible street improvements that will improve the LOS to "C" or better as set forward in the Action Plan for the Circulation Element.

C. All development in another jurisdiction outside of Rocklin's control which creates traffic impacts in Rocklin should be required to construct all mitigation necessary in order to maintain a LOS C in Rocklin unless the mitigation is determined to be infeasible by the Rocklin City Council. The standard for determining the feasibility of the mitigation would be whether or not the improvements create unusual economic, legal, social, technological, physical or other similar burdens and considerations.

The City regularly monitors traffic on City streets to include in the City's CIP those improvements needed to maintain an acceptable LOS through the use of traffic fees and other financing mechanisms. The CIP is updated periodically to assure the growth of the City and surrounding jurisdictions does not degrade the LOS on the City's roadways. The fee program currently in effect was adopted on July 1, 2017. Fees are calculated on a citywide basis, differentiated by type of development.

3.7.5 Impact Analysis

3.7.5.1 Methodology

Trip Generation

To estimate trips associated with the proposed project, Kittelson & Associates, Inc. relied on trip generation studies conducted at Costco Wholesale sites located across the western United States, using industry-standard engineering practices consistent with guidance from the Institute of Transportation Engineers' standard reference book, *Trip Generation Handbook,* 9th Edition, Volume 1.[6] These surveys were conducted between 2001 and 2010, and include surveys of 22 Costco warehouses with fuel centers in California, Oregon, Washington, Montana, Utah, and Colorado. Table 3.7-7 summarizes the average trip rates recorded.

6 Note that the Trip Generation Manual (9th Edition and 10th Edition) includes trip data for a "Discount Club" (Land Use Code 857) that is described as follows: "A discount club is a discount store or warehouse where shoppers pay a membership fee in order to take advantage of discounted prices on a wide variety of items such as food, clothing, tires and appliances; many items are sold in large quantities or bulk. Some sites may include on-site fueling pumps." By comparison, the trip rates presented in Trip Generation for the Discount Club are 41.80 trips/KSF per day weekdays, 4.18 trips/KSF for the weekday PM peak hour, and 6.37 trips/KSF for the Saturday peak hour of the generator; each lower than the Costco trip rates shown in Table 3.7-7. Per the Trip Generation Handbook, 3rd Edition, the weekday PM peak hour pass-by rate for Land Use Code 857 is 37% and the Saturday midday peak hour pass-by rate is 30 percent (both slightly higher than the values shown in Table 12 for Costco) while no diverted trip data was reported (not collected).

Table 3.7-7. Average Trip Characteristics for a Costco Warehouse with a Fueling Station

Land Use	Weekday Daily Trip Rate (per KSF)	Trip Rate during Weekday P.M. Peak Hour of Adjacent Street (per KSF)			Trip Rate during Weekend Midday Peak Hour (per KSF)		
Costco Warehouse with Fueling Station	79.27	7.17	48.50%	51.50%	9.79	51%	49%
Primary Trips	No data		35.10%			50%	
Pass-by Trips[1]	No data		33.30%			29%	
Diverted Trips[2]	No data		31.50%			21%	

Notes:

KSF = thousand square feet

[1] *Pass-by* trips are existing trips on roadways adjacent to the site that allow motorists to turn into the Costco development, then continue on to their ultimate destination.

[2] *Diverted* trips are existing trips on nearby roadways in which motorists decide to drive out-of-direction for a distance to stop at Costco, then continue on to their ultimate destinations after they finish shopping.

Source: Kittelson & Associates, Inc. 2019.

Based on the survey data summarized in Table 3.7-7, trip generation for the proposed project was estimated as shown in Table 3.7-8. Note that the table does not show weekday a.m. peak-hour trips because the Costco Warehouse building would not be open to members during the morning commute hours. No adjustments for employee transportation demand management (TDM) measures were made as employee trips occur primarily outside of the analysis peak hours.

Table 3.7-9 presents trip generation estimates for the proposed Costco fueling station for the weekday a.m. peak-hour assuming the planned future 30 fueling position capacity. The averages summarized in Table 3.7-9 reflect data collected at multiple California locations based on comparable size and available data including Lancaster, Cypress, Commerce, Roseville, and Sunnyvale. Note that only members can access the fueling stations, which require a membership card for pump activation.

Table 3.7-8. Trip Generation by Proposed Loomis Costco Wholesale Warehouse with Fueling Station

Description	Floor Area (square feet)	Weekday Daily Trips	Weekday P.M. Peak-Hour Trips by Adjacent Street Traffic			Saturday Midday Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Costco Wholesale with Fueling Station	155,000	12,290	539	572	1,111	773	745	1,581
Pass-by Trips (33.3% PM/28.9% MD)		(4,090)	(179)	(191)	(370)	(223)	(216)	(439)
Diverted Trips (31.5% PM/20.6 MD)		(3,870)	(170)	(180)	(350)	(159)	(154)	(180)
TOTAL		**4,330**	**190**	**201**	**391**	**391**	**375**	**766**

Notes:

The number of weekday and weekend daily (primary, pass-by, and diverted) trips was estimated using weekday p.m. peak-hour trip type percentages.

Source: Kittelson & Associates, Inc. 2019

Table 3.7-9. Trip Characteristics for the Proposed Costco Fueling Station

Trip Characteristics	Weekday A.M. Peak Hour	Weekday A.M. Peak-Hour Trips (30 fueling dispensers)		
		Total	In (50%)	Out (50%)
Total Trip Rate	13.98 trips per fuel dispenser	420	210	210
Internal Trip Percentage	0%[1]	0	0	0
Pass-by Trip Percentage[2]	32.50%	-136	-68	-68
Diverted Trip Percentage[2]	36.80%	-154	-77	-77
	Net New Trips	**130**	**65**	**65**

[1] The warehouse would not be open during weekday a.m. peak period.

[2] Percentage of external trips.

Source: Kittelson & Associates, Inc. 2019

Costco anticipates an average of about 10-13 Costco trucks a day delivering goods to the Costco Warehouse. The Costco trucks typically measure up to approximately 70 feet long for double-axle trailers. Typical receiving time is from 2:00 AM to 1:00 PM, averaging two to three trucks per hour, with most of the deliveries completed before the 10:00 AM warehouse opening time. Deliveries to the warehouse are made primarily in Costco trucks from its freight consolidation facility in Tracy, California. In addition to the Costco depot trucks, deliveries such as bread are expected to be made by local vendors using single-unit trucks and/or single-axle trailers.

Costco anticipates that the Costco fueling station will receive five to seven fuel deliveries per day on average. During busy holiday weeks, an additional delivery is often required during the day. These deliveries occur any time between 6:00 AM and 7:00 PM.

Trip Distribution and Assignment

Expected vehicular trips generated by the proposed project were distributed onto the studied roadway network. This trip distribution analysis considered the locations of customers' residences, based on Costco Wholesale membership data, as well as existing travel patterns in the study area. The project site is located approximately 5 miles east of the existing Roseville Costco warehouse and is expected to draw members from the market area served by the Roseville Costco. For example, Costco Wholesale anticipates that the proposed project would directly serve some current Costco members who reside east of the Roseville Costco warehouse, including those living in Loomis and Rocklin. The Town of Loomis and the City of Rocklin approved the trip distribution patterns used in this analysis.

Exhibit 1 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) presents Existing Costco Warehouse Sites.

Based on the project site location and the existing Costco Warehouses, approximately 45 percent of the project net new site-generated trips are expected to travel to and from the project site via I-80, including 35 percent traveling east of Sierra College Boulevard and approximately 10 percent traveling west of Sierra College Boulevard). The remaining trips were routed to Town of Loomis, City of Rocklin, and Placer County roadway facilities.

The presence of the Roseville Costco directly impacts (limits) the amount of new traffic anticipated to the proposed Project site from points to the north and west. For example, the number of project-generated trips on Sierra College Boulevard north of Taylor Road is expected to be relatively limited (approximately 10 percent) because residents of Lincoln and portions of the housing west of Sierra College Boulevard are able to access the Roseville Costco via State Route 65. Similarly, while resident population is generally denser west of Sierra College Boulevard, the number of net new trips routing on Pacific Street west of Sierra College Boulevard was estimated at 10 percent while the portion routed on Taylor Road east of Sierra College Boulevard was estimated higher at 12 percent recognizing that some residents to the west will continue to shop at the Roseville Costco.

Figure 7 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) presents the proposed project's trip distribution patterns during the weekday a.m. peak hour for fuel trips only, as the warehouse would be closed during this peak hour. Figure 8 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) presents the proposed project's trip distribution patterns for the weekday p.m. and weekend midday peak hours with the warehouse in operation. Additional figures showing diverted trip assignments and the percentage of traffic added by the project at each study intersection are provided in Appendix H to the transportation impact analysis (Kittelson & Associates, Inc. 2019).

Project Driveway Access Options

As detailed in Chapter 2 of this EIR, to address comments received on the previous EIR published June 7, 2018, the proposed vehicle access to the project site now consists of three site access option plans: Option 1A; Option 1B; and Option 1C. Option 1A provides access to the site at three locations, including a new signalized intersection on Sierra College Boulevard, a right-in/right-out only driveway located on Brace Road, and a full movement driveway located further east on Brace Road. Option 1B includes three public site access points, incluing an unsignalized right-in/right-out only on Brace Road, a new signalized intersection along Sierra College Boulevard, and a new roadway connection between the south side of the Costco site and Granite Drive. Option 1C includes four public site access points, including an unsignalized right-in/right-out only on Brace Road, an unsignalized full access on Brace Road, and a new roadway connection between the south side of the Costco site and Granite Drive. Each of these options is addressed fully throughout this EIR.

3.7.5.2 Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, the proposed project would result in a significant impact related to transportation and traffic if it would:

- conflict with an applicable plan, ordinance, or policy establishing measures of performance of the circulation system, taking into account all modes of transportation relevant components of circulation system;
- conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise materially decrease the performance or safety of such facilities;
- conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- result in inadequate emergency access.

3.7.5.3 Significant Impact

Intersection Delay and Level of Service

Based on direction provided by the lead jurisdiction, Town of Loomis, an intersection is considered significantly impacted as follows:

- **Impacts at Signalized Intersections.** An impact would be significant if project trips would cause intersection LOS to change from acceptable to unacceptable levels; or if the intersection is already operating at unacceptable LOS and the project trips would cause the average intersection delay to increase by 5.0 seconds or more.
- **Impacts at Unsignalized Intersections.** An impact would be significant if project trips would cause intersection LOS to change from acceptable to unacceptable levels; or if the intersection is already failing and the project would add trips to the intersection exceeding 5 percent of the total traffic already at the intersection.

This criteria is applied to study locations within the Town of Loomis, as well as to jurisdictions where an incremental delay-based impact is not established. Based on the guidelines from each jurisdiction above, Table 3.7-4 lists the study intersections, the responsible jurisdiction, and the corresponding operating standard.

Intersection Queuing

The Town and neighboring jurisdictions do not have formally-adopted guidelines on queuing analysis methodology or criterion that establishes thresholds of significance for vehicle queues at intersections. For the purposes of this study, a vehicle queue that overflows the available storage for a turn pocket blocking the adjacent travel lane or that queues to an upstream signal blocking through traffic is considered a potential safety hazard and would be considered a significant impact. Therefore, this study identifies a significant impact as occurring at locations where the project traffic would cause the queue length for a turn pocket to overflow its available storage compared to no project conditions or cause a queue to spillback into an upstream signalized intersection. Further, in cases where the no project queue already overflows the queue storage and the project would contribute 5 percent of the total traffic for the movement, the impact would be considered significant.

Increase in VMT - Conflict with CEQA Guidelines Section 15064.3, Subdivision (b)

It is possible that the proposed project could result in a net increase in VMT. As noted previously, the jurisdictions involved in this project have not adopted VMT thresholds yet. Therefore, the VMT analysis is for informational purposes only, and this analysis does not represent an adverse environmental traffic effect under CEQA. All adverse physical impacts associated with the project's increase in travel demand (VMT) are fully addressed in topic-specific sections of this EIR detailing impacts related to greenhouse gas emissions, air pollutant emissions, transportation noise, and other relevant topics.

There are multiple retail uses in the region such as the Costco Wholesale stores located to the south and east of Loomis including Roseville, Citrus Heights, Folsom, Cal Expo (Sacramento), Rancho Cordova and Woodland. The proposed project is located approximately four miles northeast of the existing Roseville Costco Warehouse. Costco Wholesale anticipates the proposed project will directly serve a portion of existing members who reside east of the Roseville Costco Warehouse, particularly those along the I-80 corridor and must currently drive past Loomis on I-80 to reach Roseville.

The VMT estimate for the project reflects factors including the anticipated site trip generation and distribution, project membership, as well associated VMT changes at the existing Roseville Costco site. The VMT estimate included:

- assessment of project trip generation (including members, employees, and deliveries)
- assessment of project trip length based on Costco member location
- assessment of anticipated growth in Costco membership at both the project site and the existing Roseville Costco site
- estimation of project site VMT associated with Costco members, including primary, diverted, and pass-by trips
- estimation of latent demand at the Roseville Costco site, with additional VMT to account for potential new trips to the Roseville Costco site
- additional VMT based on the regional trip length estimate to account for new Costco employees trips

The project would generate approximately 12,290 trips. A significant number of these trips are pass-by and diverted trips. Pass-by trips are already on the roadway network that do not add VMT. Diverted trips are already on the roadway network, but that turn from a major route to access the site. For the purposes of this study, diverted trips were assumed to travel between the I-80 ramps and the Project site (approximately 0.5 mile). Trip generation for the project site accounts for all trips to and from the site (members, employees, and deliveries). The average member trip distance would be approximately 22 miles, based on a review of the membership database.

Due to the proximity of the Roseville Costco, there would be a substantial redistribution of existing members between the two sites. The Costco market projections estimate a total regional membership of 104,200 for both the Roseville and Loomis warehouses. Of these members 9,100 are projected to be new members (approximately 8.7 percent of the total membership). The remaining 95,100 members are existing members who are currently visiting the Roseville site and are already traveling on the regional transportation network. The daily VMT increase attributable to the project site is 8,420 miles. This includes the 4,330 primary trips with a 22-mile average distance, and 8.7 percent of them being new trips plus 3,870 diverted trips with an assumed average distance of a half mile, and 8.7 percent of the trips being new trips. There would be 4,090 pass-by trips that turn into and out of the project site and do not add VMT to the roadway network.

Latent demand may be realized at the Roseville Costco as it becomes less crowded with the proposed project opening and new Costco members using the existing warehouse. The total daily VMT associated with latent demand would be 2,525. This includes 3,815 primary trips with a 7.2-mile average distance, and 8.7 percent of them being new trips plus 3,425 diverted trips with an assumed average distance of a half mile, and 8.7 percent of the trips being new trips. There would be 3,425 pass-by trips that turn into and out of the Roseville Costco site and do not add VMT to the roadway network.

Employees would generate additional VMT, which was estimated by taking an average of 250 employees on-site per day, assuming 100 percent of employees drive, multiplied by the City of Rocklin Travel Demand Model one-way trip length for commercial land uses for a total of 3,900 miles (500 trips x 7.8 miles).

Finally, Costco would have an average of 13 warehouse deliveries a day, most likely from the facility in Tracy, California, which is approximately 100 miles from the project site, and 7 fuel deliveries per day between the project sit and the West Sacramento terminal location, approximately 30 miles from the project site The total VMT for truck trips site is approximately 3,020 miles.

The total daily VMT would be approximately 17,865 (8,420 + 2,525 + 3,900 + 3,020). This estimate does not reflect a reduction in VMT associated with re-routing of Costco member trips that currently are made to the Roseville site but will transfer to the project site out of convenience/shorter travel distance. Based on Costco membership data, an estimated 31 percent of existing Roseville Costco members are located north of the project site. These members to the north could realize an average trip length reduction of approximately five miles by switching membership from the Roseville site to the project site, which would reduce areawide VMT.

3.7.5.4 Environmental Impacts and Mitigation Measures

IMPACT 3.7-1: Degradation of Levels of Service at Intersections in the Study Area. *The addition of project-generated traffic to the existing roadway network would cause the LOS at study area intersections to degrade below applicable thresholds and would result in the need for restriping, re-phasing, and optimization of intersection cycle lengths. This impact would be* ***significant****.*

Operation of the proposed project was estimated to generate 4,330 daily net new trips with consideration of pass-by and diverted trips (Table 3.7-8). The mix of trips associated with project operation consists of 130 net new trips (65 inbound, 65 outbound) to the proposed fueling station during the weekday a.m. peak hour (Table 3.7-9). A total of 391 net new trips (190 inbound, 201 outbound) were projected to occur during the weekday p.m. peak hour and 766 net new trips (391 inbound, 375 outbound) were projected for the weekend midday peak hour (Table 3.7-8).

Existing-conditions traffic volumes for the weekday a.m. and p.m. peak hours and the weekend midday peak hour were added to the projected site-generated traffic to arrive at total Existing plus Project condition traffic volumes. Figures 16 and 17 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) show the Existing plus Project traffic condition for Option 1A (cited as Project Driveway Access Option 1A in the transportation impact analysis) during the weekday a.m. and p.m. peak hours and the weekend midday peak hour, respectively.

Project Driveway Access Option 1A

To gauge the impact of project-related traffic on the existing roadway network, the project analysis assumed that signal timings would be unchanged from those under Existing conditions. Table 3.7-10 shows delays and LOS at the study intersections during the weekday a.m. and p.m. peak hours under Existing (no project) and Existing plus Project conditions. Table 3.7-11 shows delays and LOS at the study intersections under these two scenarios during the weekend midday peak hour. Appendix B to the transportation impact analysis (Kittelson & Associates, Inc. 2019) includes the LOS worksheets.

As shown in Tables 3.7-10 and 3.7-11, the following study intersections operate at unacceptable LOS:

- Horseshoe Bar Road & I-80 Eastbound Ramp (AM and PM)
- Sierra College Boulevard & Taylor Road (PM)
- Sierra College Boulevard & Rocklin Road (AM and PM)
- Pacific Street & Dominguez Road/Delmar Avenue (PM)
- Pacific Street & Rocklin Road (AM)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- El Don Drive & Rocklin Road (AM)
- Sierra College Boulevard & SR-193 (PM)
- Sierra College Boulevard & Delmar Avenue (AM, PM, and MD)
- Taylor Road & Penryn Road (South) (AM)
- Taylor Road & Del Oro High School North Lot (AM)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)
- Taylor Road & Webb Street (PM and MD)

Table 3.7-10. Existing and Existing plus Project Conditions— Analysis of Intersection Delays and Levels of Service, Weekday A.M./P.M. Peak Hour–Project Driveway Access Option 1A

ID	Intersection	Traffic Control Type	LOS Operating Goal	Weekday A.M.					Weekday P.M.				
				Existing Conditions		Existing plus Project Conditions		Change in Delay (sec)	Existing Conditions		Existing plus Project Conditions		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Road/King Road	Signal	D	33.3	C	33.8	C	0.5	37.7	D	39.4	D	1.7
2	Taylor Road/Horseshoe Bar Road	Signal	D	30.3	C	31.2	C	0.9	26.3	C	27.2	C	0.9
3	Horseshoe Bar Road/I-80 WB ramp	Signal	D	13.8	B	13.8	B	0.0	14.0	B	14.0	B	0.0
4	Horseshoe Bar Road/I-80 EB ramp	TWSC	D	**70.2**	**F**	**70.2**	**F**	0.0	**68.2**	**F**	**68.2**	**F**	0.0
5	Barton Road/Brace Road	TWSC	C	10.8	B	10.9	B	0.1	10.7	B	10.9	B	0.2
6	Sierra College Boulevard/Taylor Road	Signal	C	31.8	C	32.8	C	1.0	**38.3**	**D**	**41.6**	**D**	3.3
7	Sierra College Boulevard/Brace Road	Signal	D	9.7	A	13.2	B	3.5	10.7	B	14.1	B	3.4
8	Sierra College Boulevard/Granite Drive	Signal	C	24.4	C	24.8	C	0.4	27.1	C	28.3	C	1.2
9	Sierra College Boulevard/I-80 WB ramps	Signal	E	13.2	B	13.7	B	0.5	19.0	B	27.1	C	8.1
10	Sierra College Boulevard/I-80 EB ramps	Signal	E	14.6	B	14.7	B	0.1	16.1	B	16.3	B	0.2
11	Sierra College Boulevard/Schriber Way	TWSC	C	9.2	A	9.2	A	0.0	9.2	A	9.2	A	0.0
12	Sierra College Boulevard/Bass Pro Drive–Dominguez Road	Signal	C	6.5	A	6.5	A	0.0	7.5	A	7.5	A	0.0
13	Sierra College Boulevard/stadium driveway	Signal	C	6.1	A	6.1	A	0.0	6.6	A	6.6	A	0.0
14	Sierra College Boulevard/Rocklin Road	Signal	C	**35.7**	**D**	**35.8**	**D**	0.1	**43.3**	**D**	**45.0**	**D**	1.7
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	15.4	B	15.7	B	0.3	**43.7**	**D**	**44.2**	**D**	0.5
16	Pacific Street/Rocklin Road	Signal	C	**39.9**	**D**	**40.0**	**D**	0.1	33.7	C	34.2	C	0.5
17	Granite Drive/Rocklin Road	Signal	C	**40.7**	**D**	**40.9**	**D**	0.2	**50.8**	**D**	**52.1**	**D**	1.3
18	I-80 WB ramps/Rocklin Road	Signal	D	20.4	C	20.4	C	0.0	38.8	D	38.8	D	0.0
19	I-80 EB ramps/Rocklin Road	Signal	D	31.0	C	31.0	C	0.0	30.3	C	30.3	C	0.0
20	Aguilar Road/Rocklin Road	Signal	C	10.4	B	10.5	B	0.1	8.1	A	8.2	A	0.1
21	Sierra College Boulevard/driveway south of Brace Road	TWSC	C	0.3	A	0.3	A	0.0	12.6	B	12.9	B	0.3
22	Granite Drive/Dominguez Road	TWSC	C	11.7	B	11.8	B	0.1	12.8	B	13.0	B	0.2
23	El Don Drive/Rocklin Road	Signal	C	**35.8**	**D**	**35.8**	**D**	0.0	34.9	C	35.0	C	0.1
24	Sierra College Boulevard/project driveway	Signal	C	DNE		6.5	A	-	DNE		11.3	B	-
25	Brace Road/project driveway	TWSC	C	DNE		0.0	A	-	DNE		9.5	A	-
26	Sierra College Blvd/SR-193	AWSC	D	22.5	C	23.0	C	0.5	**43.1**	**E**	**45.8**	**E**	2.7
27	Blvd/English Colony	TWSC	C	11.0	B	11.4	B	0.4	19.8	C	21.6	C	1.8
28	Sierra College Blvd/Delmar Av[2]	TWSC	C	**38.0**	**E**	**39.5**	**E**	1.5	**41.4**	**E**	**45.5**	**E**	4.1
29	Taylor Rd/English Colony Way	AWSC	C	21.4	C	21.5	C	0.1	13.2	B	13.4	B	0.2
30	Taylor Rd/Penryn Road (North)	TWSC	C	14.4	B	14.4	B	0.0	10.0	B	10.1	B	0.1
31	Taylor Rd/Penryn Road (South)	TWSC	C	**233.5**	**F**	**245.3**	**F**	11.8	15.5	C	16.1	C	0.6
32	Taylor Rd/Del Oro High School North[1] Lot	TWSC	C	**31.9**	**D**	**32.7**	**D**	0.8	12.0	B	12.2	B	0.2
33	Taylor Rd/Del Oro High School Drop-Off[1]	TWSC	C	**265.0**	**F**	**273.4**	**F**	8.4	14.1	B	14.3	B	0.2
34	Taylor Rd/Del Oro High School South[1] Lot	TWSC	C	**40.9**	**E**	**41.6**	**E**	0.7	15.7	C	15.9	C	0.2
35	Taylor Rd/ Rippey Road	TWSC	C	13.9	B	13.9	B	0.0	11.3	B	11.3	B	0.0
36	Taylor Rd/ Webb Street[1]	TWSC	C	21.4	C	21.8	C	0.4	**26.8**	**D**	**28.7**	**D**	1.9
37	Brace Road/ Project Driveway East	TWSC	C	DNE		10.0	B	-	DNE		9.3	A	-

Notes: * The delay reported reflects the critical movement.
DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; LOS = level of service; sec = seconds; TWSC = two-way stop controlled; WB = westbound
Boldface type indicates intersections performing below acceptable LOS. Shaded cells indicate a project impact.
1 An impact is significant in situations when the intersection is already operating at unacceptable LOS and the Project adds trips to the intersection exceeding 5% of the total traffic already at the intersection. At these locations, the project does not contribute 5 percent or more of the volumes.
2 Intersection does not meet signal warrants for impacts condition, therefore per the Placer County guidelines, this intersection is not significantly impacted. Traffic signal warrants provided in Appendix J of the Kittelson transportation impact analysis.
Source: Kittelson & Associates, Inc. 2019

Table 3.7-11. Existing and Existing plus Project Conditions—Analysis of Intersection Delays and Levels of Service, Weekend Midday Peak Hour– Project Driveway Access Option 1A

ID	Intersection	Traffic Control Type	LOS Operating Goal	Existing Conditions		Existing plus Project Conditions		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Rd/King Rd	Signal	D	21.8	C	23.1	C	1.3
2	Taylor Rd/Horseshoe Bar Rd	Signal	D	13.9	B	14.9	B	1.0
3	Horseshoe Bar Rd/I-80 Westbound Ramp	Signal	D	13.4	B	13.4	B	0.0
4	Horseshoe Bar Rd/I-80 Eastbound Ramp	TWSC	D	28.7	D	28.7	D	0.0
5	Barton Rd/Brace Rd	TWSC	C	12.2	B	12.6	B	0.4
6	Sierra College Blvd/Taylor Rd	Signal	C	25.0	C	28.1	C	3.1
7	Sierra College Blvd/Brace Rd	Signal	D	9.1	A	15.0	B	5.9
8	Sierra College Blvd/Granite Dr	Signal	C	22.6	C	23.7	C	1.1
9	Sierra College Blvd/I-80 WB Ramps	Signal	E	19.3	B	30.3	C	11.0
10	Sierra College Blvd/I-80 EB Ramps	Signal	E	16.5	B	16.6	B	0.1
11	Sierra College Blvd/Schriber Way	TWSC	C	10.3	B	9.9	A	-0.4
12	Sierra College Blvd/Bass Pro Dr-Dominguez Rd	Signal	C	8.7	A	8.5	A	-0.2
13	Sierra College Blvd/Stadium Dwy	Signal	C	4.4	A	4.3	A	-0.1
14	Sierra College Blvd/Rocklin Rd	Signal	C	24.9	C	25.9	C	1.0
15	Pacific St/Dominguez Rd-Delmar Ave	Signal	C	12.7	B	13.5	B	0.8
16	Pacific St/Rocklin Rd	Signal	C	19.6	B	20.3	C	0.7
17	Granite Dr/Rocklin Rd	Signal	C	43.7	**D**	**45.6**	**D**	1.9
18	I-80 Westbound Ramps/Rocklin Rd	Signal	D	20.6	C	20.6	C	0.0
19	I-80 Eastbound Ramps/Rocklin Rd	Signal	D	24.6	C	24.6	C	0.0
20	Aguilar Rd/Rocklin Rd	Signal	C	8.0	A	8.2	A	0.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	C	0.1	A	0.1	A	0.0
22	Granite Dr/Dominguez Rd	TWSC	C	12.5	B	12.9	B	0.4
23	El Don Dr/Rocklin Rd	Signal	C	13.7	B	14.1	B	0.4
24	Sierra College Boulevard/Project Driveway	Signal	C	DNE		14.5	B	-
25	Brace Road/Project Driveway	TWSC	C	DNE		9.2	A	-
26	Sierra College Blvd/SR-193	AWSC	D	19.7	C	21.5	C	1.8
27	Sierra College Blvd/English Colony Way	TWSC	C	12.2	B	13.2	B	1.0
28	Sierra College Blvd/Delmar Avenue[2]	TWSC	C	22.2	C	**25.4**	**D**	3.2
29	Taylor Rd/English Colony Way	AWSC	C	15.4	C	16.1	C	0.7
30	Taylor Rd/Penryn Road (North)	TWSC	C	10.2	B	10.3	B	0.1
31	Taylor Rd/Penryn Road (South)	TWSC	C	12.0	B	12.5	B	0.5
32	Taylor Rd/Del Oro High School North Lot	TWSC	C	13.5	B	14.1	B	0.6
33	Taylor Rd/Del Oro High School Drop-Off	TWSC	C	19.4	C	21.0	C	1.6
34	Taylor Rd/Del Oro High School South Lot	TWSC	C	16.1	C	16.7	C	0.6
35	Taylor Rd/Rippey Road	TWSC	C	11.6	B	11.9	B	0.3
36	Taylor Rd/Webb Street	TWSC	C	**70.2**	**F**	**121.4**	**F**	51.2
37	Brace Road/Project Driveway East	TWSC		DNE		9.3	A	-

Notes:
DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; LOS = level of service; sec = seconds; TWSC = two-way stop controlled; WB = westbound
* The delay reported reflects the critical movement.
Boldface type indicates intersections performing below acceptable LOS.
Source: Kittelson & Associates, Inc. 2019

Based on the impact criteria defined earlier, the following intersections would be significantly impacted by the proposed Project Driveway Access Option 1A:

- 26 Sierra College Boulevard & SR-193 (PM)
- 31 Taylor Road & Penryn Road (South) (AM)
- 36 Taylor Road & Webb Street (MD)

The above three intersections are unsignalized intersections. The increase in delay exceeds the Town's significance threshold of an increase in traffic volume of 5 percent or more, and thus, would result in a **significant** impact.

Project Driveway Access Options 1B & 1C

Figures 18 and 19 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) show the Existing plus Project traffic condition for Project Driveway Access Options 1B and 1C (cited as Project Driveway Access Option 1B & 1C in the transportation impact analysis) during the weekday a.m. and p.m. peak hours and the weekend midday peak hour, respectively.

Project Driveway Access Options 1B and 1C would affect operations of study intersections 7, 8, 21, 24, 25, and 37 due to rerouting of trips at project driveways. Table 3.7-12 shows the baseline Existing No-Project and Plus Project delays and LOS for those study intersections affected by Project Driveway Access Options 1B and 1C during weekday AM and PM peak hours. Table 3.7-13 shows the baseline Existing No-Project and Plus Project delays and LOS for the affected study intersections during the weekend midday peak hour.

As shown in the two tables, none of the six study intersections affected by site trip routing to the Project driveways are significantly impacted by the proposed project for Project Driveway Access Options 1B and 1C.

Table 3.7-12. Existing Plus Project - Intersection LOS Analysis, Weekday AM/PM Peak Hour – Project Driveway Access Options 1B & 1C

ID	Intersection	Traffic Control Type	Weekday AM Existing Delay (sec)	Weekday AM Existing LOS	Weekday AM Plus Project Delay (sec)	Weekday AM Plus Project LOS	Weekday AM Change in Delay (sec)	Weekday PM Existing Delay (sec)	Weekday PM Existing LOS	Weekday PM Plus Project Delay (sec)	Weekday PM Plus Project LOS	Weekday PM Change in Delay (sec)
Project Driveway Access Option 1B												
7	Sierra College Blvd/Brace Rd	Signal	9.7	A	13.2	B	3.5	10.7	B	16.7	B	6.0
8	Sierra College Blvd/Granite Dr	Signal	24.4	C	24.1	C	-0.3	27.1	C	29.9	C	2.8
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	0.3	A	0.3	A	0.0	12.6	B	13.0	B	0.4
24	Sierra College Blvd/Project Driveway	Signal	DNE		6.5	A	-	DNE		11.2	B	-
25	Brace Road/Project Driveway	TWSC	DNE		0.0	A	-	DNE		9.5	A	-
37	Brace Road/Project Driveway East	TWSC	DNE					DNE				
Project Driveway Access Option 1C												
7	Sierra College Blvd/Brace Rd	Signal	9.7	A	13.2	B	3.5	10.7	B	14.1	B	3.4
8	Sierra College Blvd/Granite Dr	Signal	24.4	C	24.1	C	-0.3	27.1	C	29.9	C	2.8
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	0.3	A	0.3	A	0.0	12.6	B	12.9	B	0.3
24	Sierra College Blvd/Project Driveway	Signal	DNE		6.4	A	-	DNE		11.0	B	-
25	Brace Road/Project Driveway	TWSC	DNE		0.0	A	-	DNE		9.5	A	-
37	Brace Road/ Project Driveway East	TWSC	DNE		10.0	B	-	DNE		10.4	B	-

Notes:
AWSC: All-way stop control – The average intersection delay is reported.
TWSC: Two-way stop control - delay reported reflects the critical movement.
DNE: Intersection does not exist under no Project conditions.
Boldface type indicates intersections performing below acceptable LOS. Refer to Table 1 for applicable operating standards.
Source: Kittelson & Associates, Inc. 2019

Table 3.7-13. Existing Plus Project - Intersection LOS Analysis, Weekend Midday Peak Hour – Project Driveway Access Options 1B & 1C

ID	Intersection	Traffic Control Type	Existing		Plus Project		Change in Delay (sec)
			Delay (sec)	LOS	Delay (sec)	LOS	
	Project Driveway Access Option 1B						
7	Sierra College Blvd/Brace Rd	Signal	9.1	A	12.6	B	3.5
8	Sierra College Blvd/Granite Dr	Signal	22.6	C	24.8	C	2.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	DNE		0.1	A	-
24	Sierra College Boulevard/Project Driveway	Signal	DNE		15.6	B	-
25	Brace Road/Project Driveway	TWSC	DNE		9.3	A	-
37	Brace Road/Project Driveway East	TWSC	DNE				
	Project Driveway Access Option 1C						
7	Sierra College Blvd/Brace Rd	Signal	9.1	A	15.0	B	5.9
8	Sierra College Blvd/Granite Dr	Signal	22.6	C	24.8	C	2.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	DNE		0.1	A	-
24	Sierra College Boulevard/Project Driveway	Signal	DNE		14.1	B	-
25	Brace Road/Project Driveway	TWSC	DNE		9.2	A	-
37	Brace Road/Project Driveway East	TWSC	DNE		10.1	B	-

Notes:
AWSC: All-way stop control – The average intersection delay is reported.
TWSC: Two-way stop control - The delay reported reflects the critical movement.
DNE: Intersection does not exist under no Project conditions.
Boldface type indicates intersections performing below acceptable LOS. Refer to Table 1 for applicable operating standards.
Source: Kittelson & Associates, Inc. 2019

Table 62 of the transportation impact analysis report (Kittelson & Associates, Inc. 2019) presents the intersection and queuing mitigation measures under Existing plus Project Conditions. The same lettering and numbering used in the Kittleson transportation impact analysis report is used in this EIR section (TR MM 4, etc.).

Mitigation Measure TR MM 4: Restripe Intersection.

Restripe Taylor Road & Webb Street intersection approaches to improve LOS and intersection operations.

Mitigation Measure TR MM 6: Provide Traffic Signal.

Install traffic signals at: Sierra College Boulevard & SR-193 and at Taylor Road & Penryn Road.

Significance after Mitigation

The analysis conducted for the transportation impact analysis (Kittelson & Associates, Inc. 2019) applied mitigation measures TR MM 4 and TR MM 6 to the affected study intersections, under Existing Plus Project conditions, as shown in Table 62 of the transportation impact analysis and Table 3.7-14, below (Kittelson & Associates, Inc. 2019).

Table 3.7-14. Existing plus Project Mitigation Measures

ID	Intersection	Project Driveway Access Option(s)	Jurisdiction	Mitigation Measure	Improvement	Effects of Mitigation
26	Sierra College Boulevard & SR-193	1A, 1B, 1C	Placer	TR MM 6	Install a traffic signal.	Provides protected time (stops major street) to facilitate minor street movements
31	Taylor Road & Penryn Road (South)	1A, 1B, 1C	Placer	TR MM 6	Install a traffic signal.	Provides protected time (stops major street) to facilitate minor street movements
36	Taylor Road & Webb Street	1A, 1B, 1C	Loomis	TR MM 4	Eliminate 3 parking spaces on the north side of Webb Street and provide a 50 foot westbound right turn pocket.	Provides right turn lane, allowing these vehicles to move through intersection without waiting behind left/through vehicles

Table 3.7-15 presents a comparison of the LOS results with the proposed mitigation measures in place to Existing (no project) conditions. the mitigation measures would reduce the LOS impacts to less than significant levels at some of the impacted locations; however, significant and unavoidable impacts remain as noted. Some impacts are deemed to be **significant and unavoidable** impacts because the intersections are located outside of the Town of Loomis (lead agency) jurisdiction and the town cannot ensure the mitigation would be implemented. For this reason, it is not considered to be feasible mitigation for purposes of environmental review. The Town is working in good faith to reach an agreement with the affected agencies that would represent a fair-share contribution toward improvements based on the project's increased traffic volumes to the roadway system.

Table 3.7-15. Existing plus Project Conditions—Results of Implementing Mitigation Results

ID	Intersection	Scenario	Existing Conditions		Existing plus Project Conditions with Mitigation		Change in Delay (sec)	Impact with Mitigation?
			Delay (sec)	LOS	Delay (sec)	LOS		
Project Driveway Access Option 1A								
26	Sierra College Blvd & SR-193	PM	43.1	E	9.1	A	-34.0	Significant unavoidable*
31	Taylor Road & Penryn Road (South)	AM	233.5	F	9.3	A	-224.2	Significant unavoidable*
36	Taylor Road & Webb Street	MD	70.2	F	99.1	F	28.9	Significant unavoidable[1]
Project Driveway Access Option 1B								
26	Sierra College Blvd & SR-193	PM	Same results as Project Driveway Access Option 1A					
31	Taylor Road & Penryn Road (South)	AM	Same results as Project Driveway Access Option 1A					
36	Taylor Road & Webb Street	MD	Same results as Project Driveway Access Option 1A					
Project Driveway Access Option 1C								
26	Sierra College Blvd & SR-193	PM	Same results as Project Driveway Access Option 1A					
31	Taylor Road & Penryn Road (South)	AM	Same results as Project Driveway Access Option 1A					
36	Taylor Road & Webb Street	MD	Same results as Project Driveway Access Option 1A					

Notes: ID = identification number of study intersection; LOS = level of service; sec = seconds

* The mitigation measures are outside of the lead agency jurisdiction to implement and determine feasibility; however, the measures would improve the intersection operation to less than significant levels, and therefore the agency(ies) with jurisdiction over these intersections should implement them or allow them to be implemented.

[1] Temporary impact given this impact can be mitigated with the westbound right-turn mitigation measure under Short Term and Long Term conditions. Traffic volumes projected at intersection do not meet signal traffic warrants. Note that an alternative route is available for Webb Street traffic traveling to Taylor Road by routing to the traffic signal at Taylor Road/Horseshoe Bar Road. Further, the Project does not add trips to the failing approach.

Source: Kittelson & Associates, Inc. 2019

IMPACT 3.7-2: Potential for Project-Related Degradation of LOS on the I-80 Mainline. *Project operation would introduce new trips onto the I-80 freeway mainline. However, the addition of project-generated traffic to existing traffic would not cause the LOS to degrade below the applicable thresholds on the I-80 mainline in the study area so project operation would not conflict with an applicable congestion management program. This impact would be* ***less than significant****.*

Existing traffic volumes on I-80 during the weekday a.m. and p.m. peak hours were added to anticipated project-generated traffic to determine Existing plus Project traffic volumes. Appendix E of the transportation impact analysis (Kittelson & Associates, Inc. 2019) includes the freeway mainline LOS worksheets. Tables 3.7-16, 3.7-17, and 3.7-18 outline Existing and Existing plus Project mainline volumes, density, and associated LOS and changes in density for the study segments for the weekday a.m., weekday p.m., and weekend midday peak hours, respectively. As shown, all study segments operate at acceptable LOS C with project traffic regardless of the Project Driveway Access Option considered (no difference in the project volumes between project driveway access options for the freeway segments analyzed). Therefore, no significant impacts on the freeway mainline would occur under Existing plus Project conditions. This impact would be **less than significant**.

Table 3.7-16. Existing and Existing plus Project Conditions—Analysis of I-80 Mainline Levels of Service, Weekday A.M. Peak Hour

ID	Segment	Direction	Existing Conditions			Existing plus Project Conditions			Change in Density*
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	3,110	19.0	C	3,132	19.1	C	0.1
		WB	4,062	25.4	C	4,080	25.6	C	0.2
2	I-80 west of Sierra College Boulevard	EB	3,118	19.1	C	3,125	19.1	C	0.0
		WB	3,702	22.9	C	3,709	23.0	C	0.1

Notes: EB = eastbound; I-80 = Interstate 80; LOS = level of service; WB = westbound.

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates, Inc. 2019:Table 23

Table 3.7-17. Existing and Existing plus Project Conditions—Analysis of I-80 Mainline Levels of Service, Weekday P.M. Peak Hour

ID	Segment	Direction	Existing Conditions			Existing plus Project Conditions			Change in Density*
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	4,398	25.8	C	4,469	26.3	D	0.5
		WB	3,803	22.5	C	3,870	22.9	C	0.4
2	I-80 west of Sierra College Boulevard	EB	4,042	23.4	C	4,061	23.5	C	0.1
		WB	3,716	22.0	C	3,736	22.1	C	0.1

Notes: EB = eastbound; I-80 = Interstate 80; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates, Inc. 2019:Table 24

Table 3.7-18. Existing and Existing plus Project Conditions—Analysis of I-80 Mainline Levels of Service, Weekend Midday Peak Hour

ID	Segment	Direction	Existing Conditions			Existing plus Project Conditions			Change in Density*
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	3,980	22.5	C	4,110	23.3	C	0.8
		WB	3,892	21.5	C	4,029	22.3	C	0.8
2	I-80 west of Sierra College Boulevard	EB	3,963	22.4	C	4,002	22.6	C	0.2
		WB	3,812	21.1	C	3,850	21.3	C	0.2

Notes: EB = eastbound; I-80 = Interstate 80; ID = identification number of study roadway segment; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates, Inc. 2019:Table 25

IMPACT 3.7-3: Potential for Creation of Substantial Traffic-Related Hazards. *The increase in vehicular trips associated with occupancy of the proposed Costco Wholesale warehouse would cause queues at study area intersections to increase, resulting in the need for re-phasing and optimization of cycle length at those intersections. This impact would be **significant**.*

As discussed previously (see Section 3.7.1.4, "Queuing Analysis"), for the purposes of this study, a vehicle queue is considered a potential safety hazard if the queue overflows the available storage for a turn pocket and blocks the adjacent travel lane, or if the queue extends to an upstream signal and blocks through traffic. Such a hazard would be considered a significant impact.

The 95th-percentile queues at the study intersections were reviewed to identify locations where the queues may exceed the available storage capacity. Appendix C to the transportation impact analysis (Kittelson & Associates, Inc. 2019) includes the queuing worksheets. Existing plus Project conditions for all of the Project Driveway Access Options, one or more 95th percentile queues would extend beyond the available storage lengths at the following intersections:

Project Driveway Access Option 1A

- Taylor Road & King Road (AM, PM, and MD)
- Taylor Road & Horseshoe Bar Road (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Westbound Ramp (AM, PM, and MD)
- Sierra College Boulevard & Taylor Road (PM)
- Sierra College Boulevard & Granite Drive (AM and PM)
- Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- Sierra College Boulevard & Rocklin Road (AM and PM)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- I-80 Westbound Ramps & Rocklin Road (PM)
- I-80 Eastbound Ramps & Rocklin Road (AM and PM)
- El Don Drive & Rocklin Road (AM and PM)
- Taylor Road & English Colony Way (AM and MD)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)

In addition, the queues reported at the above locations would affect operations at the upstream locations as shown:

- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The southbound through at Sierra College Boulevard & I-80 WB Ramps would affect operations at Sierra College Boulevard & Granite Drive (PM and MD)
- The westbound through at I-80 Eastbound Ramps & Rocklin Road would affect operations at Aguilar Road & Rocklin Road (PM)

Based on the intersection queuing significant impact criteria presented previously (Project traffic causes queue overflow or if queues overflows under no Project, the Project contributes 5 percent of the total traffic for the movement), an intersection queue significant impact occurs at the following intersections under Project Driveway Access Option 1A:

- Taylor Road & King Road (MD)
- Sierra College Boulevard & Granite Drive (PM)
- Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- Granite Drive & Rocklin Road (MD)

Project Driveway Access Options 1B and 1C

As previously explained, Project Driveway Access Options 1B and 1C would affect operations of study intersections 7, 8, 21, 24, 25, and 37 due to driveway trip routing. All other study intersections would operate the same under Project Driveway Access Options 1B and 1C as they would under Project Driveway Access Option 1A. Of the six affected intersections, one or more 95th percentile queues would extend beyond the available storage lengths at the following intersections (for those intersections affected by the driveway options):

- Sierra College Boulevard & Brace Road (AM, PM, and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)

In addition, the queues reported at the above locations would affect operations at the upstream locations, as shown (for those intersections affected by the driveway options):

- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The southbound through at Sierra College Boulevard & I-80 WB Ramps would affect operations at Sierra College Boulevard & Granite Drive (PM and MD)

Based on the intersection queuing significant impact criteria presented previously (Project traffic causes queue overflow or if queues overflows under no Project, the Project contributes 5% of the total traffic for the movement), an intersection queue significant impact occurs at the following affected study area intersections:

- Sierra College Boulevard & Brace Road (PM and MD)[7]
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)

Therefore, at the above study intersections, this impact would be **significant.** Table 62 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) and Table 3.7-19, below, presents the queuing mitigation measures under Existing plus Project Conditions that would be implemented to reduce the queues at these locations to less-than-significant levels. (Please note: the same mitigation measure lettering and numbering is used in this section as in the traffic impact analysis).

Mitigation Measure TR MM 1: Modify Signal Timing.

Modify signal timing (to optimize cycle length and/or splits) at the intersections of Taylor Road & King Road, Sierra College Boulevard & Brace Road, Sierra College Boulevard & Granite Drive, Sierra College Boulevard & I-80 westbound ramps, and Granite Drive & Rocklin Road to improve LOS and intersection operations.

Mitigation Measure TR MM 4: Restripe Intersection.

Restripe Sierra College Boulevard & Brace Road and Sierra College Boulevard & Granite Drive intersection approaches to improve LOS and intersection operations.

[7] Weekday PM and Weekend Midday peak hour impacted for Project Driveway Access Option 1B only.

Table 3.7-19. Existing plus Project Mitigation Measures

ID	Intersection	Project Driveway Access Option(s)	Jurisdiction	Mitigation Measure	Specific Actions Recommended	Effects of Mitigation
1	Taylor Road & King Road	1A, 1B, 1C	Loomis	TR MM 1	Provide optimized cycle length with optimized splits based on current demand	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection
7	Sierra College Boulevard & Brace Road	1B	Loomis	TR MM 1 & 4	Restripe the westbound right lane to a shared westbound left-right lane. Optimize cycle length and splits)	Provides additional left turn lane, allowing more vehicles to turn left during each signal phase
8	Sierra College Boulevard & Granite Dr	1A	Rocklin	TR MM 1 & 4	Restripe northbound right turn lane to shared through-right lane. Optimize cycle length with optimized splits based on current demand.	Provides additional through lane, allowing more vehicles to travel through the intersection
8	Sierra College Boulevard & Granite Dr	1B, 1C	Rocklin	TR MM 1 & 4	Restripe westbound through lane to left turn and restripe westbound right turn lane to a shared through-right lane. Optimize cycle length with optimized splits based on current demand.	Provides additional left turn lane, allowing more vehicles to turn left during each signal phase
9	Sierra College Boulevard & I-80 Westbound Ramps	1A, 1B, 1C	Caltrans	TR MM 1	Provide optimized cycle length with optimized splits based on current demand	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection
17	Granite Drive & Rocklin Road	1A, 1B, 1C	Rocklin	TR MM 1	Provide optimized cycle length with optimized splits based on current demand	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection

Significance after Mitigation

Mitigation Measures listed in Table 62 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) and Table 3.7-19, above, require modification of signal timing to optimize cycle length and/or splits at the affected study intersections. Table 3.7-20 presents a comparison of the queuing results to Existing (no project) conditions with the adoption of the mitigation measures.

As shown, implementing mitigation measures listed in Table 62 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) would reduce the queuing impact at study intersections 1 and 7, Taylor Road & King Road and Sierra College Boulevard & Brace Road to a **less-than-significant** level.

In conjunction with site development, Costco would provide right-of-way dedications and widen Sierra College Boulevard along the project site frontage to provide a third northbound travel lane between Granite Drive and Brace Road. Separate northbound right-turn lanes would be constructed on Sierra College Boulevard at the new signalized Costco access and at Brace Road. The new signalized entry on Sierra College Boulevard would be designed to accommodate a potential fourth approach to serve future Rocklin development on the vacant lot across Sierra College Boulevard to the west. For Project Driveway Access Options 1B and 1C, Costco will also reconfigure Granite Drive east of Sierra College Boulevard to provide side-by-side eastbound and westbound left-turn lanes on Granite Drive (separated by a raised median) between Sierra College Boulevard and the new north-south drive aisle connecting to the project site.

In addition to the recommended improvements to be constructed by Costco described above, the Town of Loomis will be separately completing widening of Sierra College Boulevard to three lanes northbound and three lanes southbound between Brace Road and Taylor Road as part of a funded Capital Improvement Plan project. The Sierra College Boulevard widening by the Town north of Brace Road is expected to be completed prior to opening of the Costco.

Table 3.7-20. Significance after Mitigation

ID	Intersection	Jurisdiction	Peak Hour	Movement	Storage (feet)	No Project Queue (feet)	Mitigated Queue (feet)	Impact with mitigation?
Project Driveway Access Option 1A								
1	Taylor Road & King Road	Loomis	MD	WBL	95	133	126	Less than significant
8	Sierra College Boulevard & Granite Drive	Rocklin	PM	NBT	370	325	245	Significant unavoidable*
				SBT	495	427	443	Significant unavoidable*
				EBL	185	217	183	Significant unavoidable*
9	Sierra College Boulevard & I-80 WB Ramps	Caltrans	PM	SBT	370	378	365	Significant unavoidable*
			MD	SBT	370	268	361	Significant unavoidable*
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	294	211	Significant unavoidable*
Project Driveway Access Option 1B								
1	Taylor Road & King Road	Loomis	MD	WBL	95	Same results as Project Driveway Access Option A		
7	Sierra College Boulevard & Brace Road	Loomis	PM	WBL	100	92	72	Less than significant
			MD	WBL	100	79	62	Less than significant
8	Sierra College Boulevard & Granite Drive	Rocklin	AM	WBL	160	122	84	Significant unavoidable*
			PM	WBL	160	153	73	Significant unavoidable*
			MD	WBL	160	130	82	Significant unavoidable*
9	Sierra College Boulevard & I-80 WB Ramps	Caltrans	PM	SBT	370	Same results as Project Driveway Access Option 1A		
			MD	SBT	370	Same results as Project Driveway Access Option 1A		
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	Same results as Project Driveway Access Option 1A		
Project Driveway Access Option 1C								
1	Taylor Road & King Road	Loomis	MD	WBL	95	Same results as Project Driveway Access Option 1A		
8	Sierra College Boulevard & Granite Drive	Rocklin	AM	WBL	160	Same results as Project Driveway Access Option 1B		
			PM	WBL	160	Same results as Project Driveway Access Option 1B		
			MD	WBL	160	Same results as Project Driveway Access Option 1B		
9	Sierra College Boulevard & I-80 WB Ramps	Caltrans	PM	SBT	370	Same results as Project Driveway Access Option 1A		
			MD	SBT	370	Same results as Project Driveway Access Option 1A		
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	Same results as Project Driveway Access Option 1A		

Notes:
I-80 = Interstate 80; ID = identification number of study intersection; NBL = northbound through lane; NBT = northbound turn; SBT = southbound turn; WB = westbound; WBL = westbound through lane
* The mitigation measure would improve intersection operation enough to reduce the impact to a less-than-significant level; however, the mitigation measure may be deemed infeasible or outside of the lead agency's jurisdiction to implement.
Source: Kittelson & Associates, Inc. 2019

However, study intersections 8 Sierra College Boulevard & Granite Drive, 9 Sierra College Boulevard & I-80 WB Ramps, and 17 Granite Drive & Rocklin Road are outside the jurisdiction of the Town of Loomis, and within the jurisdictions of the City of Rocklin and Caltrans. CEQA Guidelines Section 15126.4 requires that mitigation measures are fully enforceable through permit conditions, agreements, or other legally binding instruments. The improvements identified in Table 62 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) are not part of a capital improvement program (CIP) nor are they programmed in regional transportation plans, except that the Taylor Road and Penryn Road traffic signal is in the Placer County CIP and the Sierra College Boulevard and SR 193 traffic signal is programmed by SPRTA, to be funded by private developers. Since there is no enforcement mechanism established to ensure implementation of these measures, and the improvements are outside the Town's authority to implement, the Town cannot guarantee the improvements required to mitigate project impacts at intersections 8 Sierra College Boulevard & Granite Drive, 9 Sierra College Boulevard & I-80 WB Ramps, and 17 Granite Drive & Rocklin Road. Therefore, the Town must assume that, at the time of project approval, impacts at the three intersections are **significant and unavoidable**.

IMPACT 3.7-4: Project-Related Interference with Emergency Access. *The short-term, temporary addition of construction-related traffic could cause an increase in emergency response times and impede emergency services by resulting in traffic congestion during lane closures or when heavy trucks enter or exit the project site. Therefore, construction-related impacts would be **potentially significant**.*

Construction Impacts

Construction of the proposed project could require temporary lane or street closures or detours, which could affect emergency access. In addition, pedestrian, bicycle, or vehicular movements around the site may need to be restricted or redirected to accommodate material hauling, construction, staging, and modifications to existing infrastructure. Lane restrictions, closures, and/or detours could cause an increase in traffic volumes or delays on adjacent roadways. In the event of an emergency, emergency response access or response times could be adversely affected. This impact would be **potentially significant**. Mitigation Measure 3.7-4 presented below, following the operational impact discussion, would be implemented to reduce this construction impact.

Operational Impacts

The proposed site plan provides access to the site at three locations including a new signalized intersection on Sierra College Boulevard, a right-in/right-out only driveway located on Brace Road, and a full movement driveway located further east on Brace Road. Primary access to the project site would be provided by a signalized driveway on Sierra College Boulevard approximately 625 feet north of Granite Drive. This access would be designed to accommodate a potential fourth approach for future development on the vacant lot across Sierra College Boulevard to the west. Costco fueling station delivery vehicles would enter and exit the Project site at the proposed new Project signalized intersection on Sierra College Boulevard. A secondary limited right-in/right-out driveway would be located along Brace Road approximately 215 feet from Sierra College Boulevard under all three options. The right-in/right-out only Brace Road driveway would also serve entering warehouse delivery trucks. Warehouse deliver trucks would exit the site at the new Project signalized intersection on Sierra College Boulevard. Under Project Driveway Access Options 1B and 1C, a third access driveway would connect to Granite Drive, and would serve as the primary exit for fueling station deliveries. Project Driveway Access Options 1A and 1C would also include an unsignalized full access driveway on Brace Road located approximately 675 feet east of Sierra College Boulevard.The transportation impact analysis for the proposed project (prepared by Kittelson & Associates, Inc., in October 2019), also evaluated on-site circulation for adequate maneuverability for passenger vehicles, delivery trucks, and emergency vehicles. The AutoTurn software application was used to evaluate the maneuverability of larger trucks throughout the site. Specific details regarding the truck turning can be found in the project application and were provided to the Town of Loomis for review. The project access driveways have adequate widths and curve radii to accommodate larger trucks.

In addition, to ensure adequate safety and operation at the internal intersections and drive aisles, shrubbery and landscaping near the internal intersections and site access points would be maintained to ensure adequate sight distance in accordance with Town of Loomis standards, which are implemented to avoid safety issues.

The proposed Costco warehouse fueling station area would initially provide five islands (10 fueling aisles) with four fueling positions each, offering a total of 20 fueling positions where vehicles can simultaneously purchase fuel. The site plan is expandable, adding a third row of fuel dispensers that would result in a total of 30 fueling positions.

Based on the current site plan, the queueing area beyond the pumps extending toward the primary entry aisle from Sierra College Boulevard measures approximately 80 feet, assuming all 30 fuel dispensers are in operation.

Vehicular queuing data have been collected at other representative Costco fueling station sites to provide reliable information regarding the anticipated queues for the proposed facility. For this analysis, Costco fueling station queuing data collected in 2016 and 2017 were gathered from five Costco sites, each with 22 or more fueling dispensers.

Table 14 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) summarizes the five comparable locations. Observed queues were reported for the maximum, average, and 95th-percentile scenarios during both the weekday p.m. peak hour and a weekend midday peak hour. The 95th-percentile queue is defined as the queue length (in vehicles) that has only a 5 percent probability of being exceeded during the analysis time period. The industry-standard methodology for queuing analysis considers the 95th-percentile queue.

Extrapolating the observed data to the 30-fueling position configuration proposed at Loomis and assuming each queued vehicle occupies 25 feet, each lane leading to a fueling position can store up to three vehicles (75 feet) without impacting the primary entry aisle from Sierra College Boulevard (not counting the vehicles at the fuel pump position). With ten fueling aisles each holding three vehicles, the queue storage area between the fuel pumps and primary entry aisle from Sierra College Boulevard can accommodate at least 30 vehicles before affecting operations at the drive aisle. The 30 available spaces would be in excess of the average 95th percentile queue observed at the five fueling station sites (25 vehicles). In addition, the five sites studied were limited to fewer fueling positions (24 vs. 30). Queues at the proposed project site should be shorter given the ability to fuel more vehicles simultaneously at the project site.

Figure 15 of the transportation impact analysis (Kittelson & Associates, Inc. 2019) illustrates the available queue storage area and the projected queues for the fueling station. As shown in the figure, the proposed site plan provides sufficient storage within the fueling station facility to accommodate the average 95th-percentile queue anticipated without interference to the on-site drive aisle that leads to Sierra College Boulevard.

The plan for operations at the project site must meet Town of Loomis standards for turning radii, drive aisle width, and other road geometry and must comply with Town landscaping standards requiring that vegetation be set back to maintain the line of sight. Maintaining adequate safety and operation at internal intersections and drive aisles and trimming the shrubbery and landscaping near the internal intersections and site access points would ensure adequate emergency access. The available spaces at the fueling station would be well in excess of the average 95th-percentile queue observed at the five Costco fueling station sites; therefore, the operation of the proposed project would provide adequate emergency access. This operational impact would be **less than significant**.

Mitigation Measure 3.7-4: Prepare and Implement a Construction Traffic Control Plan.

The project applicant shall prepare and implement a traffic control plan for construction activities that may affect road rights-of-way, to facilitate travel by emergency vehicles on affected roadways. The traffic control plan shall:

- illustrate the location of the proposed work area;
- provide diagrams showing areas where the public right-of-way will be closed or obstructed and where the placement of traffic control devices will be necessary to perform the work;
- show the phases of traffic control and criteria for use of traffic control measures;
- preserve safe and convenient passage for bicyclists and pedestrians through/around construction areas;
- preserve emergency vehicle access;
- provide a point of contact for area residents to obtain construction information; and
- identify the time periods when traffic control will be in effect and the time periods when construction work will require prohibiting access to private property from a public right-of-way.

Measures in traffic control plans should include, but would not be limited to advertising planned lane closures, posting warning signage, and employing a flag person to direct traffic flows when needed. During project construction, access to the existing surrounding land uses shall be maintained at all times, with detours used as necessary during road closures. The plan may be modified by the Town of Loomis at any time to eliminate or avoid traffic conditions that represent hazards to public safety. The traffic control plan shall be submitted to the Town of Loomis for review and approval before issuing a grading permit.

Significance after Mitigation

Implementing Mitigation Measure 3.7-4 would reduce the potentially significant impacts of decreased emergency response times during construction to a **less-than-significant** level by requiring preparation and implementation of a construction traffic control plan that would provide for adequate emergency access during construction activities.

IMPACT 3.7-5: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or otherwise materially decrease the performance or safety of such facilities. *The proposed project is expected to result in minimal increases in transit ridership in the study area and in pedestrian and bicycle traffic in the study area. This impact would be **less than significant**.*

The proposed project would provide new pedestrian facilities (sidewalks) along the site frontages on Sierra College Boulevard and Brace Road. The frontage improvements would provide connectivity with existing facilities along both roadways and with new pedestrian facilities that would be provided on the project site. Pedestrian crosswalks would be provided at proposed new signalized Costco site access intersection on Sierra College Boulevard – an intersection that is ideally located for pedestrian safety relative to other intersection locations. The project would reconstruct the Type II bicycle facility on Sierra College Boulevard northbound along the site frontage, including providing separate northbound right-turn lanes at the proposed signalized Project access and at Brace Road. In addition, the project would provide on-site bicycle parking for both members and employees. Because of the nature of products and services provided by Costco, the proposed project would minimally increase pedestrian and bicycle traffic in the study area off-site. The Project site would not be in conflict with applicable Town pedestrian and bicycle plans for any of the Project Driveway Access Options considered. The impact of the proposed project on pedestrian and bicycle facilities would be **less than significant** for all Project Driveway Access Options considered.

Transit service would be available to members and employees. As discussed above, three routes operate in the project study area: two fixed routes and a dial-a-ride service. The Auburn to Light Rail bus route operates on 1-hour headways during the morning and afternoon commute periods and stops at the Sierra College Transfer Center. The Lincoln/Sierra College bus route operates on 1-hour headways between Sierra College and the city of Lincoln. Both routes stop at the downtown multimodal center while the Taylor Road Shuttle makes additional stops along Taylor Road. The Taylor Road Shuttle operates on 2-hour headways during the morning and afternoon commute periods and travels between Auburn and the Sierra College Transfer Center. The Taylor Road Shuttle provides the nearest service to the project site along Sierra College Boulevard. However, because of the nature of products and services provided by Costco and the limited transit connectivity provided adjacent to the site, the proposed project is expected to minimally increase transit ridership in the study area. The impact of the proposed project on transit services would be **less than significant** for all Project Driveway Access Options considered.

3.7.6 Significance after Mitigation

Operation of the proposed project would result in vehicular trips onto the roadway network, which would result in a significant impact on operating conditions. Mitigation measures were evaluated to reduce the Project impacts to less than significant levels under CEQA. Table 62 of the Traffic Study prepared by Kittelson & Associates, Inc, presents the intersection and queuing mitigation measures under Existing plus Project Conditions. The proposed mitigation measures were applied to the study intersections to evaluate LOS and queuing effects. Table 63 of the Traffic Study prepared by Kittelson & Associates, Inc, presents the LOS results in comparison to no Project conditions and Table 64 of the Traffic Study prepared by Kittelson & Associates, Inc, outlines the corresponding queueing results. The mitigation measures would reduce the LOS and queue impacts to less than significant levels at some of the impacted locations; however, significant and unavoidable impacts remain as noted. Impacts 3.7-1 and 3.7-3 would be **significant and unavoidable** impacts because facilities requiring improvement are outside of the jurisdiction of the Town of Loomis (lead agency).

Construction of the proposed project could require temporary lane or street closures or detours, which could affect emergency access. With respect to emergency access, heavy trucks entering and leaving the project site during construction could increase congestion and delays along Sierra College Boulevard and/or Brace Road during periods of activity. Implementation of Mitigation Measure 3.7-4 would reduce Impact 3.7-4 to a **less-than-significant** level.

3.8 Energy

Energy use (and efficiency) is an important indicator of GHG emissions and is therefore analyzed in this section in conjunction with the GHG analysis. This section considers the primary energy requirements for the proposed project; the benefit of existing regulations that require energy-efficient construction and operation; the potential for the proposed project to result in the wasteful, inefficient, and unnecessary consumption of energy; and the energy conservation measures proposed as part of the project design to reduce energy use.

3.8.1 Environmental Setting

3.8.1.1 Energy Services and Demands

Electrical and Natural Gas Services

In 2016, the total system power for California was 285,488 gigawatt-hours (GWh) of electricity, of which approximately 198,842 GWh of electricity was generated in-state (CEC 2019a).

In Placer County, including the town of Loomis, electrical and natural gas services are provided by Pacific Gas and Electric Company (PG&E), one the largest combined natural gas and electrical energy companies in the United States. PG&E generates, transmits, and distributes electrical service to approximately 16 million people throughout its approximately 70,000-square-mile service area, which stretches north to south in California from Eureka to Bakersfield and west to east from the Pacific Ocean to the Sierra Nevada (PG&E 2019a).

PG&E owns approximately 106,681 circuit miles of electrical distribution lines and 18,466 circuit miles of electrical transmission lines. In 2018, PG&E delivered approximately 79,776 GWh of electricity within its service area (CEC 2019b); Placer County consumed approximately 3.6 percent (2,905 GWh) of that total (CEC 2019c).

PG&E provides natural gas service to Loomis through portions of its approximately 42,000 miles of natural gas distribution pipelines. In 2018, natural gas consumption in the PG&E service area totaled approximately 4,794 million therms (CEC 2019d), less than 2 percent (95 million therms) of which was consumed by users in Placer County (CEC 2019e).

Energy Sources

PG&E provides power from a variety of sources, including nuclear, hydroelectric, natural gas, and renewable energy resources such as wind, geothermal, biomass, solar, and small hydro, as detailed in Table 3.8-1 (PG&E 2017c). In 2018, approximately 86 percent of energy delivered by PG&E was from non-GHG-generating sources; 39 percent of energy delivered by PG&E was from qualified renewable sources, thereby reaching the State’s 2020 renewable energy goal ahead of schedule. PG&E owns and operates eight solar plants, and has connected more than 380,000 private rooftop solar customers to its energy grid. PG&E’s hydroelectric system spans nearly 500 miles and has a generating capacity of nearly 3,900 megawatts total from 66 powerhouses (PG&E 2019b).

Table 3.8-1. Pacific Gas and Electric Company Electrical Power Mix, 2018

Electrical Sources	Percent
Non-emitting Nuclear	34*
Large Hydroelectric	13*
Renewable[1]	39*
Natural Gas/Other	15

Notes:

1 Renewable energy sources include wind, geothermal, biomass, solar, and small hydro. These energy sources are considered eligible under California’s Renewable Portfolio Standard Program.

* These resources are greenhouse gas–free.

Source: PG&E 2019b

Energy Conservation and Renewable Energy Programs

In addition, PG&E offers incentives, rebates, and educational resources to residents, businesses, nonprofits, and government agencies in Loomis. For nonresidential customers, PG&E offers rebates and incentives for power management software; occupancy sensors on lights; steam traps; heating, ventilation, and air conditioning (HVAC) motors and pumps; electric water heaters; process cooling; data center airflow management; boiler economizers; refrigeration; boiler heat recovery; refrigeration control; variable-frequency drive pumps; boilers; and fans.

Energy Use for Transportation

Transportation is the largest energy-consuming sector in California, accounting for approximately 40 percent of all energy use in the state (U.S. Energy Information Administration 2019). More motor vehicles are registered in California than in any other state, and commute times in California are among the longest in the country.

Types of transportation fuel have diversified in California and elsewhere. Historically gasoline and diesel fuel accounted for nearly all demand; now, however, numerous options are available, including ethanol, natural gas, electricity, and hydrogen. Despite advancements in alternative fuels and clean-vehicle technologies, gasoline and diesel remain the primary fuels used for transportation in California, with 15.1 billion gallons of gasoline and 4.2 billion gallons of diesel consumed in 2015 (CEC 2017a, 2017b).

The Sacramento Area Council of Governments (SACOG) prepared a regional analysis of vehicle miles traveled (VMT) and found average daily VMT for Placer County, excluding the Tahoe Basin, to be approximately 8,605. This travel demand is forecast to increase to 11,360 in 2020 and to 13,762 in 2036 under the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) (SACOG 2016). Within the SACOG region (which includes Placer County), the population growth rate has been greater than the rate of increase of total VMT, resulting in a reduction in VMT per capita from 2000 through 2012. VMT forecasts project a continuation of this declining per-capita VMT trend for the region through 2036 (SACOG 2016). The SACOG 2016 MTP/SCS identifies several policies and factors as supporting this declining trend in per-capita VMT. Among these factors are the trend toward more compact development, with more residents able to find jobs, schools, shopping, and other activities closer to their place of residence, and proposed improvements in transit and walkability that promote a shift away from reliance on private vehicles for transportation.

3.8.2 Regulatory Setting

U.S. Environmental Protection Agency and National Highway Traffic Safety Administration Standards

EPA and the National Highway Traffic Safety Administration (NHTSA) implemented national GHG emission and fuel economy standards for model year 2012–2016 light-duty cars and trucks. The second phase of the standards includes GHG and fuel economy standards for model years 2017–2025. The 2017–2025 standards are anticipated to save approximately 4 billion barrels of oil and 2 billion MT of GHG emissions. In 2025, if all standards are met through fuel efficiency improvements, the average industry fleetwide fuel efficiency for light-duty cars and trucks would be approximately 54.5 miles per gallon (EPA 2012).

In addition to standards for light-duty cars and trucks, EPA and NHTSA have implemented Phase 1 of the Medium- and Heavy-Duty Vehicle GHG Emissions and Fuel Efficiency Standards, which apply to model years 2014–2018. Phase 2 of these standards apply to model years 2021–2027 (EPA 2015).

Renewable Fuel Standard Program

Created by the Energy Policy Act of 2005, which amended the CAA, the Renewable Fuel Standard program established requirements for volumes of renewable fuel used to replace petroleum-based fuels. The four renewable fuels accepted as part of the Renewable Fuel Standard program are biomass-based diesel, cellulosic biofuel, advanced biofuel, and total renewable fuel. The 2007 Energy Independence and Security Act expanded the program and its requirements to include long-term goals of using 36 billion gallons of renewable fuels and extending annual renewable-fuel volume requirements to year 2022. The four renewable fuels have specific renewable fuel-blending requirements for obligated parties such as refiners and importers of gasoline or diesel fuel. EPA implements the program in consultation with U.S. Departments of Agriculture and Energy. Gasoline and diesel refiners and importers (Obligated Parties) are required to demonstrate compliance with the Renewable Fuel Standard program.

3.8.2.1 State Plans, Policies, Regulations, and Laws

The legal framework for GHG emission reductions has come about through executive orders, legislation, and regulations. The major components of California's climate change initiatives are outlined below.

Senate Bill 375

SB 375, signed by the Governor in September 2008, aligned regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 required metropolitan planning organizations (MPOs) to adopt a sustainable communities strategy (SCS) that will prescribe land use allocation in that MPO's regional transportation plan. ARB adopted regional GHG targets for passenger vehicles and light trucks for 2020 and 2035 for the 18 MPOs in California. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate "alternative planning strategy" to meet the targets.

Senate Bills 1078 and 107, Executive Orders S-14-08 and S-21-09, and Senate Bill 350

SB 1078 (Chapter 516, Statutes of 2002) required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

Executive Order S-14-08 expanded the state's Renewable Portfolio Standard to 33 percent renewable power by 2020. Executive Order S-21-09 directs ARB under its AB 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020.

The 33 percent-by-2020 goal and requirements were codified in April 2011 with SB X1-2. This new Renewable Portfolio Standard applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. Consequently, PG&E, which would be the electricity provider for the proposed project, must meet the 33 percent goal by 2020. SB 350 (2015) increased the renewable-source requirement to 50 percent by 2030, which was further increased under SB 100 in 2018 to 60 percent by 2030 and requiring all the State's electricity to come from carbon-free resources by 2045.

These requirements reduce the carbon content of electricity generation, and would reduce GHG emissions associated with both existing and new development, including new development on the project site.

The California Public Utilities Commission reported that California's three largest investor-owned utilities—PG&E, Southern California Edison, and San Diego Gas and Electric Company—collectively provided 36 percent of their 2017 retail electricity sales using renewable sources and are continuing progress toward meeting the future RPS requirements (CPUC 2016, CPUC 2019).

California Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code, which establishes mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. Part of the intent of the CalGreen code is to provide cost-effective strategies to help meet California's GHG reduction mandates.[1] These standards include a set of minimum requirements and more rigorous voluntary measures for new construction projects to achieve specific green building performance levels. This code went into effect as part of local jurisdictions' building codes on January 1, 2011. The 2013 update to the California Green Building Standards Code became effective in January 2014. Another update to the energy efficiency standards became effective January 1, 2017. The CALGreen code was most recently updated in 2018 and 2019, with new measures taking effect on January 1, 2020. Updates to the code improve energy efficiency of newly constructed buildings and of additions and alterations to existing buildings compared to previous versions of the code.

[1] For more detail, please see the California Building Standards Commission website: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen.

3.8.2.2 Regional and Local Plans, Policies, Regulations, and Ordinances

Sacramento Area Council of Governments

SACOG is designated by the U.S. government and the State of California as the MPO for the area and is responsible for developing a regional transportation plan (i.e., MTP) in coordination with Sacramento, Yolo, Yuba, Sutter, El Dorado, and Placer counties and the 22 cities within those counties (excluding the Tahoe Basin). This plan incorporates countywide transportation planning covering a 20-year planning horizon, which must be updated every 4 years. As a requirement of SB 375, MPOs need to develop a sustainable communities strategy as part of the MTP to identify strategies and policies to reduce GHG emissions from passenger vehicles to meet state targets established by ARB.

SACOG's MTP/SCS for 2035 was adopted on April 19, 2012. SACOG's MTP/SCS calls for meeting and exceeding ARB's GHG reduction goals for passenger vehicles and light-duty trucks of 7 percent by 2020 and 16 percent by 2035, where 2005 is the baseline year for comparison (SACOG 2012). SACOG's 2016 MTP/SCS was adopted on February 18, 2016 (SACOG 2016). The 2016 MTP/SCS demonstrates how the region can accommodate expected regional population growth and the increased demand for transportation in the region, while also showing that the region could achieve a reduction in per-capita passenger VMT.

SACOG has created a framework for describing the MTP/SCS that is made up of community types. Local land use plans (e.g., adopted and proposed general plans, specific plans, master plans, corridor plans) were divided into one of five community types based on the location of the plans. The project site is in the community type identified by the MTP/SCS as a "Developing Community" (SACOG 2016 :27):

> Developing Communities are typically, though not always, situated on vacant land at the edge of existing urban or suburban development; they are the next increment of urban expansion. Developing Communities are identified in local plans as special plan areas, specific plans, or master plans and may be residential-only, employment-only, or a mix of residential and employment uses. Transportation options in Developing Communities often depend, to a great extent, on the timing of development. Bus service, for example, may be infrequent or unavailable today, but may be available every 30 minutes or less once a community builds out. Walking and bicycling environments vary widely though many Developing Communities are designed with dedicated pedestrian and bicycle trails.

Town of Loomis General Plan

The *Town of Loomis General Plan* (Town of Loomis 2001) contains goals, policies, and programs that address important community issues and is the basis for land use and public policy decisions. The following policies from the *Town of Loomis General Plan* are related to energy:

Chapter III, "Land Use and Community Development"

- **Policy F.6:** Loomis shall require landscaping throughout off-street parking lots to mitigate the adverse visual impact of large paved areas and provide shading to assist in energy conservation within adjacent buildings.

Chapter VI, "Public Services, Facilities, and Finance"

- **Policy 8:** New construction and reconstruction/restoration shall consider energy conservation in the selection of building materials, building orientation, and landscaping.
- **Policy 9:** The Town shall identify the potential for energy conservation measures for the use of renewable energy sources and alternatives to fossil fuels.
- **Policy 10:** The Town shall actively participate in the energy conservation programs of the local, state, and federal agencies.

Town of Loomis Strategic Energy Resources Report

The Town of Loomis approved the *Loomis Strategic Energy Resources Report* on March 17, 2015 (Town of Loomis 2015). The report presents the following goals and supporting strategies as a roadmap for expanding efforts to increase energy efficiency and use of renewable energy efforts in Loomis:

Goal 1: Increase Energy Efficiency in Existing Structures.

- **Strategy 1.1:** Expand outreach and education to increase participation in voluntary home energy-efficiency programs.
- **Strategy 1.2:** Expand outreach and education to increase participation in voluntary non-residential energy-efficiency programs.
- **Strategy 1.3:** Identify and promote programs that help finance energy efficiency and renewable energy projects.

Goal 2: Increase the Energy Performance of New Construction.

- **Strategy 2.1:** Improve compliance with Title 24 Green Building and Energy Efficiency Standards.
- **Strategy 2.2:** Provide incentives for buildings to exceed the current Title-24 Energy Efficiency Standards.
- **Strategy 2.3:** Reduce the heat island effect and related summer heat gain in residential and non-residential projects.

Goal 3: Increase Renewable Energy Use.

- **Strategy 3.1:** Evaluate the Town's residential, non-residential, and municipal solar potential and assess barriers to increased solar energy use.
- **Strategy 3.2:** Develop a comprehensive renewable energy program that provides outreach, financing, and technical assistance.
- **Strategy 3.3:** Encourage new development projects to meet 70% of their energy needs from renewable sources.

Goal 4: Increase Energy Efficiency in Municipal Structures and Operations.

- **Strategy 4.1:** Improve energy efficiency of existing municipal structures.
- **Strategy 4.2:** Evaluate feasibility of improving energy efficiency of traffic signals and public lighting.

Goal 5: Increase Community Water Conservation and Efficiency to Reduce Associated Energy Use.

- **Strategy 5.1:** Encourage residents and businesses to conserve water used indoors.
- **Strategy 5.2:** Encourage residents and businesses to conserve water used outdoors.

Loomis Municipal Code

The Loomis Municipal Code provides regulations regarding land and structures to promote the health, safety, and welfare of the public and ensure the orderly development of the town. The following provisions of the Municipal Code related to energy are applicable to the proposed project:

- Section 13.30.080(B) in Section 13.30.080, "Outdoor Lighting," begins by stating: "Lighting shall be energy efficient…"
- Section 13.34.050(A), "Landscape Design," in Section 13.34.050, "Landscape Standards," states: "The required landscape plan shall be designed to integrate all elements of the project (e.g., buildings, parking lots, and streets) to achieve their aesthetic objectives, desirable microclimates, and minimize water and energy demand."
- Section 13.38.050(F)(8) in Section 13.38.050, "General Requirements for All Signs," states: "Light sources shall utilize energy efficient fixtures to the greatest extent possible."

3.8.3 Impact Analysis

3.8.3.1 Methodology

The evaluation of potential energy impacts was based on a review of the following planning documents and regulations pertaining to the project site and surrounding area:

- *California Energy Demand 2010–2020, Adopted Forecast* (CEC 2009)
- *Town of Loomis General Plan* (Town of Loomis 2001)
- *Loomis Strategic Energy Resources Report (*Town of Loomis 2015)
- CCR Title 24, including the 2016 California Green Building Code (CCR Title 24, Part 11)

Future energy demand was calculated based on the GHG emissions modeling conducted using CalEEMod Version 2016.3.2. The primary energy demands identified are associated with construction of the proposed project, operations of the warehouse and fueling center facilities, and transportation for deliveries and staff and customer trips. Estimates of future transportation energy demand depend on a variety of factors such as fuel prices, vehicle technologies and prices, regulatory requirements, and consumer demand and preferences. Energy-related impacts were identified by comparing existing capacity against future demand.

3.8.3.2 Thresholds of Significance

Appendix G of the State CEQA Guidelines provides guidance for assessing impacts related to energy supplies, focusing on the goal of conserving energy by ensuring that projects use energy wisely and efficiently, including a list of six environmental impacts related to use of energy in Section II(c). For the purposes of this EIR, energy impacts are considered significant if the proposed project would:

- result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

3.8.3.3 Environmental Impacts and Mitigation Measures

Impact 3.8-1: Consumption of Energy. *Implementing the proposed project would result in energy consumption in the form of electricity, natural gas, and fossil fuels (e.g., gasoline, diesel fuel) during construction phases. The project's operational phases would also require energy. The proposed project would not result in an unnecessary, inefficient or wasteful use of energy. This impact would be* ***less than significant****.*

Construction-Related Energy Consumption

Implementing the proposed project would increase consumption of energy in the form of electricity, natural gas, and fossil fuels (e.g., gasoline, diesel fuel) during construction and operation. Energy demands during construction are primarily driven by construction equipment and vehicle fueling. During this period, energy would be consumed by construction vehicles and equipment operating on-site, trucks delivering equipment and supplies to the project site, and construction workers driving to and from the site. The proposed project would not require any demolition, and the project grading plan does not call for the import or export of soils.

Table 3.8-2 presents the total fuel consumption anticipated for the proposed construction activities, shown both for the overall construction period and amortized over an assumed 20-year period of building operation. Over the anticipated 6-month construction period, the proposed project would require approximately 22,215 gallons of diesel and 4,033 gallons of gasoline. When amortized over a period of 20 years, fuel consumption would equal 1,111 gallons of diesel and 202 gallons of gasoline per year. These calculations are based on the CalEEMod emissions estimates for proposed construction activities and application of U.S. Energy Information Administration CO_2 emissions coefficients (U.S. Energy Information Administration 2016) to estimate fuel consumption for each phase of construction activities.

Table 3.8-2. Modeled Construction Fuel Consumption, Total and Amortized over 20 Years-All Site Options

Phase	Source	MT CO_2e/ Year [a]	Fuel Type	Factor (MT CO_2/Gallon) [b]	Gallons/Year
Rough Grade	Off-Road Equipment	178.21	Diesel	0.01016	17,541
	Hauling	0.00	Diesel	0.01016	-
	Vendors	78.77	Diesel	0.01016	7,753
	Workers	4.75	Gasoline	0.008887	534
Base for Paving	Off-Road Equipment	4.51	Diesel	0.01016	444
	Hauling	0.00	Diesel	0.01016	-
	Vendors	8.57	Diesel	0.01016	843
	Workers	0.22	Gasoline	0.008887	25
Paving - Asphalt	Off-Road Equipment	4.03	Diesel	0.01016	396
	Hauling	0.00	Diesel	0.01016	-
	Vendors	3.87	Diesel	0.01016	381
	Workers	0.22	Gasoline	0.008887	25
Concrete Foundations / Slab on Grade	Off-Road Equipment	11.06	Diesel	0.01016	1,089
	Hauling	0.00	Diesel	0.01016	-
	Vendors	8.29	Diesel	0.01016	816
	Workers	0.44	Gasoline	0.008887	50

Table 3.8-2. Modeled Construction Fuel Consumption, Total and Amortized over 20 Years-All Site Options

Phase	Source	MT CO_2e/ Year [a]	Fuel Type	Factor (MT CO_2/Gallon) [b]	Gallons/Year
Building Erection	Off-Road Equipment	54.95	Diesel	0.01016	5,408
	Hauling	0.00	Diesel	0.01016	-
	Vendors	5.53	Diesel	0.01016	544
	Workers	15.19	Gasoline	0.008887	1,709
Architectural Coating	Off-Road Equipment	3.41	Diesel	0.01016	336
	Hauling	0.00	Diesel	0.01016	-
	Vendors	0.00	Diesel	0.01016	-
	Workers	3.05	Gasoline	0.008887	343
			Total Gallons	**Diesel**	35,551
				Gasoline	2,686
			Amortized Demands (over 20 years)	**Diesel**	1,778
				Gasoline	134

Notes:

CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; MT = metric tons

Assumed amortization period is 20 years, based upon timeline used in analysis of US Green Building Council's *Green Building Costs and Financial Benefits (US Green Building Council 2002)*.

Sources:

[a] Modeled by AECOM in 2019

[b] U.S. Energy Information Administration 2016

Consistent with the *Town of Loomis General Plan*, which has a policy requiring new development to consider energy conservation during the selection of building materials, among other design elements, the proposed project intends to incorporate the use of locally sourced, renewable, and pre-manufactured building components. As part of the project design, the following actions are proposed for the construction phase, as detailed in Chapter 2, "Project Description."

- New and renewable building materials typically would be extracted and manufactured within the region. The materials for the masonry concrete would be purchased locally, minimizing transportation-related emissions and impacts on the local roadway system.
- Pre-manufactured building components, including structural framing and metal panels, would be used during construction, thus minimizing waste generation.

Using locally sourced materials would reduce the project's energy requirements for transporting materials to the project site. In addition, using renewable materials would reduce overall energy demand in extracting and manufacturing demands for such materials relative to new materials. Finally, using pre-manufactured materials would reduce overall waste because the manufacturing process would be streamlined to reduce generation of waste materials and would allow excess materials from one process to be used in another. Alternatively, with on-site construction, excess materials would be less likely to be reused and more likely to be diverted to recycling and landfill facilities. Although this is not quantified in Table 3.8-2, fuel savings would be achieved through the proposed use of locally sourced materials, and the amount of waste to be hauled off-site would be reduced. The proposed project does not include unusual characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region. As noted, the grading plan does not call for the import or export of soils. Emissions regulations to control air pollutant emissions would require that engines be more efficient which results in reduced fuel consumption. In addition, on-road vehicles (i.e., haul trucks, worker vehicles) would be subject to federal fuel efficiency requirements. Construction activities would comply with existing energy standards with regard to transportation fuel consumption. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be inefficient, wasteful, or unnecessary. This impact would be **less than significant.**

As described in Section 3.3, "Air Quality," existing regulations minimize the idling time of heavy-duty construction equipment. Construction contractors are required to shall shut off equipment when not in use and reduce idling time to 5 minutes, as required by 13 CCR Sections 2449(d) and 2485. This existing regulation would also reduce the consumption of energy by reducing fuel consumption by construction equipment, and thus, would further support the less-than-significant impact for the proposed project's construction-related energy consumption.

Building Operational Energy Consumption

The proposed warehouse would include up to approximately 155,000 square feet of floor space dedicated to retail goods and services. Using CalEEMod, electrical and natural gas demands were modeled to estimate energy use (Table 3.8-3). The electrical demands created by the proposed facilities would total approximately 1,972,158 kilowatt-hours per year. This would be approximately 0.07 percent of the total amount of electricity consumed within Placer County in 2018 (2,905.65 GWh) (CEC 2019c). The natural gas demand generated by the proposed project would be approximately 1,892,445 thousand British thermal units (kBtu) per year, or about 0.02 percent of the total amount of natural gas consumed within Placer County in 2018 (9,093,134,100 kBtu) (CEC 2019e).

Table 3.8-3. Estimated Annual Electrical and Natural Gas Demands All Site Options

Proposed Project Component	Demands	
	Electrical (kWh/year)	Natural Gas (kBtu/year)
Warehouse	1,827,450	1,813,500
Fueling Center	35,788	78,945
Parking	108,920	0
Total	**1,972,158**	**1,892,445**

Notes: kBtu = thousand British thermal units; kWh = kilowatt-hours
Source: Data compiled by AECOM in 2019

Consistent with the *Town of Loomis General Plan*, which has a policy requiring new development to consider energy conservation during the selection of building materials, building orientation, and landscaping, the proposed project includes several energy-conserving features. Landscaping would include a mix of drought-tolerant shrubs and grasses, and a variety of shade trees to be dispersed throughout the parking lot area and along the site perimeter; reducing water demands through these landscaping strategies also reduces off-site energy requirements for the treatment and movement of water to the site by the water utility company. Additional project design features are described in Chapter 2, "Project Description," and detailed below. However, to avoid an overestimate of energy savings, these project design features are not factored into the operational energy demands shown in Table 3.8-3. Specific energy conservation and sustainability features incorporated into the project include the following:

- Parking lot light standards would be designed to distribute light evenly and use less energy than are used by a larger number of fixtures at lower heights. LED lamps would be used to provide a higher level of perceived brightness with less energy than other lamps such as the high-pressure sodium type.
- Pre-manufactured metal wall panels with insulation would be use and carry a higher energy efficiency rating (R-Value) and greater solar reflectivity to help conserve energy consumed to heat and cool the structure. Building heat absorption would be reduced further by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.
- A reflective "cool roof" material would be used to produce lower heat absorption, thereby lowering energy requirements during the summer when the HVAC system is running hard. This roofing material meets the requirements of the U.S. Environmental Protection Agency's Energy Star energy efficiency program.
- HVAC comfort systems would be controlled by a computerized building management system to maximize efficiency.
- HVAC units would be high-efficiency directed duct units.
- Parking lot lights would be controlled by the project's energy management system
- Energy-efficient transformers (i.e., Square D Type EE transformers) would be used.
- Variable-speed motors would be used on make-up air units and booster pumps.
- Gas and water heaters would be direct vent and 94% efficient or greater.
- Tanks would be used to capture heat released by refrigeration equipment to heat domestic water in lieu of venting heat to the outside.

The parking lot light standards and control system would reduce energy requirements by improving the distribution of lighting throughout the space, and using the more energy-efficient LED technology rather than standard lighting fixtures. Selected building materials would reduce heat absorption and increase solar reflectivity, thereby lowering energy use during the warmer months of the year. Installing a computerized building management system to control HVAC and other similar operational systems would reduce energy requirements for building operations because the systems could be adjusted automatically in response to actual requirements, rather than relying on manual adjustments. Other energy conservation systems for building operations, such as the capture of heat released by refrigeration equipment to heat water, would provide additional energy savings by using what otherwise would be wasted energy to replace a building energy requirement. The warehouse will be constructed to be solar-ready to support the future installation of renewable energy generation facilities. To not overestimate energy savings, the project design features outlined in the project description are not factored into the energy demands shown in Table 3.8-3.

In addition, irrespective of the many project design features incorporated to ensure energy efficiency in building and site operations of the proposed project, energy efficiency requirements for new construction have increased over time; therefore, the proposed buildings would generally be more energy efficient than existing similar buildings in the area. The proposed buildings would be constructed to meet or exceed all energy efficiency standards applicable at the time of construction, including the energy performance standards found in CCR Title 24, including the Building Energy Efficiency Standards in the California Green Building Standards Code (CCR Title 24, Part 11).

Energy consumption associated with the space heating and cooling, lighting, and other operational energy uses for the proposed project's buildings is closely tied to the design of the buildings. As a result of the project-specific energy efficient design features, the proposed building site operations and would not result in an unnecessary, inefficient or wasteful use of energy. However, to maximize energy efficiency in all practicable ways relevant to the proposed project, the buildings would also meet or exceed the energy performance standards found in CCR Title 24, including the Building Energy Efficiency Standards in the California Green Building Standards Code (CCR Title 24, Part 11). The impact is **less than significant**.

Transportation-Related Energy Consumption

The proposed project would be constructed on an undeveloped site southeast of the intersection of Sierra College Boulevard and Brace Road, and one-half mile from the nearest exit and entry point for Interstate 80. Sierra College Boulevard is a four-lane main thoroughfare for residents in the region and Interstate 80 provides the primary southwest-to-northeast route between more rural communities in the area and the more urban centers of Roseville and Sacramento. The project site was selected for the purposes of traffic control, as this location is near the main interstate to facilitate the coming and going of daily delivery trucks and consumers, and to limit the distance traveled on surface streets, where idling and increased emissions would be more likely. In addition, truck deliveries to the warehouse would be made using a Costco-managed truck fleet; these trucks are equipped with engine idle shutoff timers, which would minimize the use of fuel and related energy consumption during deliveries.

Transportation fuel consumption during operation of the proposed warehouse and fueling center was estimated based on the CalEEMod emissions calculations for operational mobile activities, the EMFAC2017 vehicle fleet mix for Placer County, and application of U.S. Energy Information Administration CO_2 emissions coefficients (U.S. Energy Information Administration 2016). Table 3.8-4 shows the estimate of diesel and gasoline fuel consumption during project operations.

Table 3.8-4. Estimated Annual Fuel Consumption for Operations All Three Options

	MT CO_2e/ Year [a]	% Average Fleet Mix [b]	Factor (MT CO_2/Gallon) [c]	Gallons/Year
Gross Project Fuel Consumption (New VMT for proposed project, inclusive of customers, employees, and warehouse and fueling center delivery truck trips and idling.)	5,059			
Diesel		22.87%	1.02E-02	114,698
Gasoline		76.37%	8.89E-03	437,834

Notes: CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; MT = metric tons; VMT = vehicle miles traveled

Sources:

[a] Modeled by AECOM in 2019

[b] EMFAC2017 (v1.0.1) web database

[c] U.S. Energy Information Administration 2016

The proposed project would generate additional VMT and would have associated fuel demands for operational transportation. The majority of energy demand by the proposed project is attributable to mobile operations, primarily those from consumer trips to and from the warehouse and fueling center. While the proposed project would incorporate many energy-saving features into the design of the facility, the overall operations would generate an increase in mobile operations. However, as part of the project design, Costco delivery trucks would be equipped with engine-idle shutoff timers, thereby reducing overall fuel use and fuel-related energy demands by mobile operations associated with delivery of goods to the proposed warehouse. In addition, project siting is such that the proposed warehouse and fueling center are along Sierra College Boulevard near I-80 minimizing the off-highway distance for warehouse goods and fuel delivery trucks, as well as for employees and customers travelling to and from the site. There is also access between the proposed site and a planned transit stop to provide opportunity for employees to access the site via public transportation rather than personal vehicles. Therefore, transportation energy requirements for the proposed project would not be an unnecessary, inefficient or wasteful use of energy. Finally, there is no adverse physical environmental effect associated with transportation-related energy uses that is not addressed in a topic-specific section of this EIR (greenhouse gas emissions, air quality, transportation noise, etc.). Thus, this impact would be **less than significant.**

In addition, as described in Impact 3.5.1, “Generation of Greenhouse Gas Emissions,” Mitigation Measure GHG-1 includes promotion of transportation demand management strategies to reduce employee VMT and installation of electric vehicle charging stations with priority parking access on-site to encourage a reduction in fuel use resulting from consumer trips. This mitigation measure would also reduce energy demands related to employee and customer transportation-related energy consumption.

Summary of Energy Demand

Energy would be consumed through all phases of project construction and operations. Energy-requiring activities range from equipment operation, to building operations and lighting of the parking lot, to transportation during all phases of the proposed project. Table 3.8-5 summarizes total energy requirements for the proposed project. For comparison purposes, Table 3.8-5 shows conversion of all energy requirements to a common energy unit of British thermal units (Btu).

Operational transportation is a substantially greater energy-consuming factor than construction or building operations. However, there is no adverse physical environmental effect associated with energy demand or use that is not already addressed in detail in this EIR. As described above, the proposed project would incorporate several processes and design elements specifically selected with the goal of reducing the proposed project’s overall energy requirements. Implementing Mitigation Measure GHG-1 would further reduce transportation-related energy requirements during operations. To maximize energy efficiency in all practicable ways relevant to the proposed project, the buildings would also meet or exceed the energy performance standards found in CCR Title 24, including the Building Energy Efficiency Standards in the California Green Building Standards Code (CCR Title 24, Part 11).

Existing Regulations

The project is required to comply with relevant portions of the CalGreen code, which are designed to promote energy conservation.

> **CCR Title 24.** The applicant is required to design and construct the buildings to meet or exceed all energy efficiency standards applicable at the time of construction and shall comply with the energy performance standards found in CCR Title 24, including the Building Energy Efficiency Standards in the California Green Building Standards Code (CCR Title 24, Part 11).

Table 3.8-5. Summary of Proposed Project Energy Requirements All Site Plan Options

Phase	Energy Requirement [a]	Unit	Annual Energy Consumption (MMBtu) [b]
Construction (amortized over 20 years)			
Diesel	1,778	gallons/year	245
Gasoline	134	gallons/year	17
		Subtotal	*262*
Building Operations			
Warehouse			
Electrical	1,827,450	KWh/year	6,237
Natural Gas	1,813,500	kBtu/year	1,814
Fueling Center			
Electrical	35,788	KWh/year	122
Natural Gas	78,945	kBtu/year	79
Parking			
Electrical	108,920	KWh/year	372
Natural Gas	–	kBtu/year	–
		Subtotal	*8,623*
Operational Transportation			
Diesel	114,698	gallons/year	15,839
Gasoline	437,834	gallons/year	54,729
		Subtotal	70,568
		Total	***79,454***

Notes:

kBtu/year = thousand British thermal units per year; KWh/year = kilowatt-hours per year; MMBtu = million British thermal units

Totals do not add due to rounding.

Sources:

[a] Modeled by AECOM in 2019

[b] U.S. Energy Information Administration 2016

Conclusion

As described above, the proposed project does not include unusual characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region. Furthermore, the proposed project would incorporate construction practices that would reduce the waste generated during construction and reduce overall VMT for material deliveries to the project site. Building operations are designed through various site features to be energy efficient. In addition, there is no adverse physical environmental effect associated with energy demand or use that is not already addressed in detail in other topic-specific sections of this EIR. Energy efficiency is a possible indicator of environmental impacts. The actual adverse physical environmental effects associated with energy use and the efficiency of energy use are detailed throughout this EIR in the environmental topic–specific sections. For example, the use of energy for transportation leads to air pollutant and greenhouse emissions, the impacts of which are addressed in Sections 3.3 and 3.5 of this EIR. There is no physical environmental effect associated with energy use that is not addressed in the environmental topic–specific sections of this EIR. Compliance with CCR Title 24 will ensure implementation of energy efficiency measures in building design and construction. Compliance with existing regulations will ensure that the proposed project would not be inefficient, wasteful, or unnecessary. This impact would be **less than significant**.

Impact 3.8-2: Conflicts with Energy Plans. *The project site is privately owned property designated and zoned for development consistent with what is proposed as a part of the project. There is* ***no impact****.*

The project site is privately owned property designated and zoned for development consistent with what is proposed as a part of the project. The Town does not have any renewable energy plan or energy efficiency plan that would conflict with construction or operation of the proposed project. There is **no impact**.

3.8.4 Significance after Mitigation

Project construction and operation would not result in wasteful or inefficient consumption of energy due to the many project features incorporated into the design to improve energy efficiency and the reduction in vehicle miles traveled associated with placement of the project at the project site. Compliance with CCR Title 24 will ensure implementation of energy efficiency measures in building design and construction. Compliance with existing regulations will ensure that the proposed project would not be inefficient, wasteful, or unnecessary. Impact 3.8-1 would be **less than significant.**

4. Cumulative Impacts

4.1 Introduction

Sections 15126 and 15130 of the State CEQA Guidelines provide that EIRs consider the significant environmental effects of a proposed project, as well as cumulative impacts. "Cumulative impacts" are two or more individual effects which, when considered together, are considerable or which compound and increase other environmental impacts (State CEQA Guidelines Section 15355). Cumulative impacts may be analyzed by considering a list of past, present, and possible future projects producing related or cumulative impacts (State CEQA Guidelines Section 15130[b][1][A]) or through a summary of projections adopted in a local, regional, or statewide plan (State CEQA Guidelines Section 15130[B]).

An EIR is to focus the discussion on the cumulative impacts of a project when the project's incremental effect is cumulatively considerable (State CEQA Guidelines Section 15130). "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (State CEQA Guidelines Section 15065[a][3]).

As set forth in the State CEQA Guidelines (Section 15130[b]), the discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. The analysis should be guided by the standards of practicality and reasonableness, and it should focus on the cumulative impacts to which the other identified projects contribute to the cumulative impact. "The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable."

Based on the foregoing direction, the analysis in this EIR chapter provides:

- a list of related past, present, and future projects;
- long-range demographic forecasts based on adopted regional plans;
- a determination of whether the long-term impacts of all related past, present, and future plans and projects would cause a cumulatively significant impact; and
- a determination as to whether implementation of the proposed project would have a "cumulatively considerable" contribution to any significant cumulative impact. (See State CEQA Guidelines Sections 15130[a] and 15130[b], 15355[b], 15064[h], and 15065[c].)

4.2 Cumulative Context

4.2.1 Regional Growth

The Sacramento Area Council of Governments (SACOG) has developed a regional plan for growth known as the Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS). The MTP/SCS includes a land use strategy to improve mobility and reduce travel demand from passenger vehicles by prioritizing compact and transit-oriented development and reducing the growth in vehicle miles traveled (VMT) and associated greenhouse gas (GHG) emissions. The MTP/SCS is based on projections of growth in the region, between jurisdictions and among housing place types (i.e., infill and greenfield development). The document serves as the adopted regional plan that provides a summary of projections based on which certain cumulative impacts are considered later in this chapter.

The Town of Loomis is located in rapidly growing southwest Placer County, which is home to the cities of Rocklin and Roseville. The *Town of Loomis General Plan* (General Plan) aims to maintain the town's rural character by directing growth into the Town Center. Demographic forecasts in the MTP/SCS predict that Loomis will expand by 1,629 new employees and 779 new housing units by 2036. The MTP/SCS recognizes that this growth will occur as infill development in the Town Center area and places the designation of Center/Corridor Community on this planning area. The MTP/SCS forms the basis for a comparison of cumulative project impacts with regional plans.

4.2.2 Approved, Pending, and Planned Projects

A list of related past, present, and reasonably foreseeable future projects used for certain portions of the cumulative impact analysis includes development projects that have been constructed, are approved for construction, or are pending a decision by the Town of Loomis and neighboring jurisdictions. The related projects identified in Table 4-1 correspond with the numbers that appear on the map in Figure 4-1.

Table 4-1. Approved and Pending Projects

Map Key	Project Name	Location	Dwelling Units	Commercial/Office Area (sq. ft.)
1	Rocklin Crossings	Shopping center I-80/Sierra College Boulevard	NA	83,000
2	Rocklin Commons	Shopping center I-80/Sierra College Boulevard	NA	120,000
3	Garnet Creek	Granite Drive opposite Target	81 single-family dwelling units; 260 apartments	–
4	Granite Dominguez Subdivision	Granite Drive west of Dominguez Road	71 du	–
5	Los Cerros Subdivision	On ridge along Hillside Drive	115 du	–
6	Brighton Subdivision	Northeast corner of Granite Drive and Dominguez Road	72 du	–
7	Rocklin 60	Behind Rocklin Crossings along Schriber Way	179 du	–
8	Croftwood	East of Schriber Way	51 du	–
9	Granite Terrace	Behind Rocklin Library	42 du	–
10	Avalon Subdivision	On Rocklin Road east of Grove Street	76 du	–
11	Sierra Gateway Apartments	Southeast corner of Rocklin Road/Sierra College Boulevard	195 apartments	–
12	Clover Valley Residential	West of Sierra College Boulevard and east of Whitney Oaks	558 du	–
13	Parklands Subdivision	North of Pacific Street and west of Delmar Avenue	142 du	–
14	The Center at Secret Ravine	East of Sierra College Boulevard and south of Rocklin Crossings	–	16,000
15	Rocklin Gateway Apartment	North of Pacific Street and east of Midas Avenue	204 apartments	–
16	Quarry Row Subdivision	Southeast corner of Grove and Pacific Streets	64 du	–
17	Sierra Pine Subdivision	West side of Dominguez Road between Pacific Street and Granite Drive	199 du	-
18	Rocklin Station	West side of Sierra College Boulevard south of the I-80/Sierra College Boulevard interchange	–	33,000
19	Oak Vista Subdivision	Southwestern corner of Makabe Lane and Dias Lane, adjacent on one boundary to the eastern limits of the City of Rocklin	63 du	–
20	Croftwood 2	West side of Barton Road at the terminus of Lakepointe Drive	63 du	–
21	Sierra Villages North (SCB Site)	North Village: Northeast corner of Rocklin Road/Sierra College Boulevard (72 +/- acres)	349 du 14.8-acre park	15.9 acres mixed use
22	Sierra Villages South (Rocklin Road)	South Village: Southeast corner of Rocklin Road/ El Don Drive (36+/- acres)	37 du 16.4-acre park	11.7 acres mixed use
23	Bickford Ranch Phase 1	Four miles north of Interstate 80 and south of State Route 193 (1,927.9-acres)	Full project is 940 single family homes, 950 active-adult homes, Phase 1 is approximately 50 percent of site.	14.7 acres Recreation Center, 500 student elementary school
24	Amazing Facts	Bordered by Sierra College Boulevard on the north, between Nightwatch Drive and Ridge Park Drive, and extends south to Oak Hill Lane	NA	1,650 seat church

Notes: du = dwelling units; I-80 = Interstate 80; NA = not applicable; sq. ft. = square feet
The Villages of Loomis development is not anticipated to be constructed and occupied by the project opening of 2020.
Source: Kittelson & Associates 2019

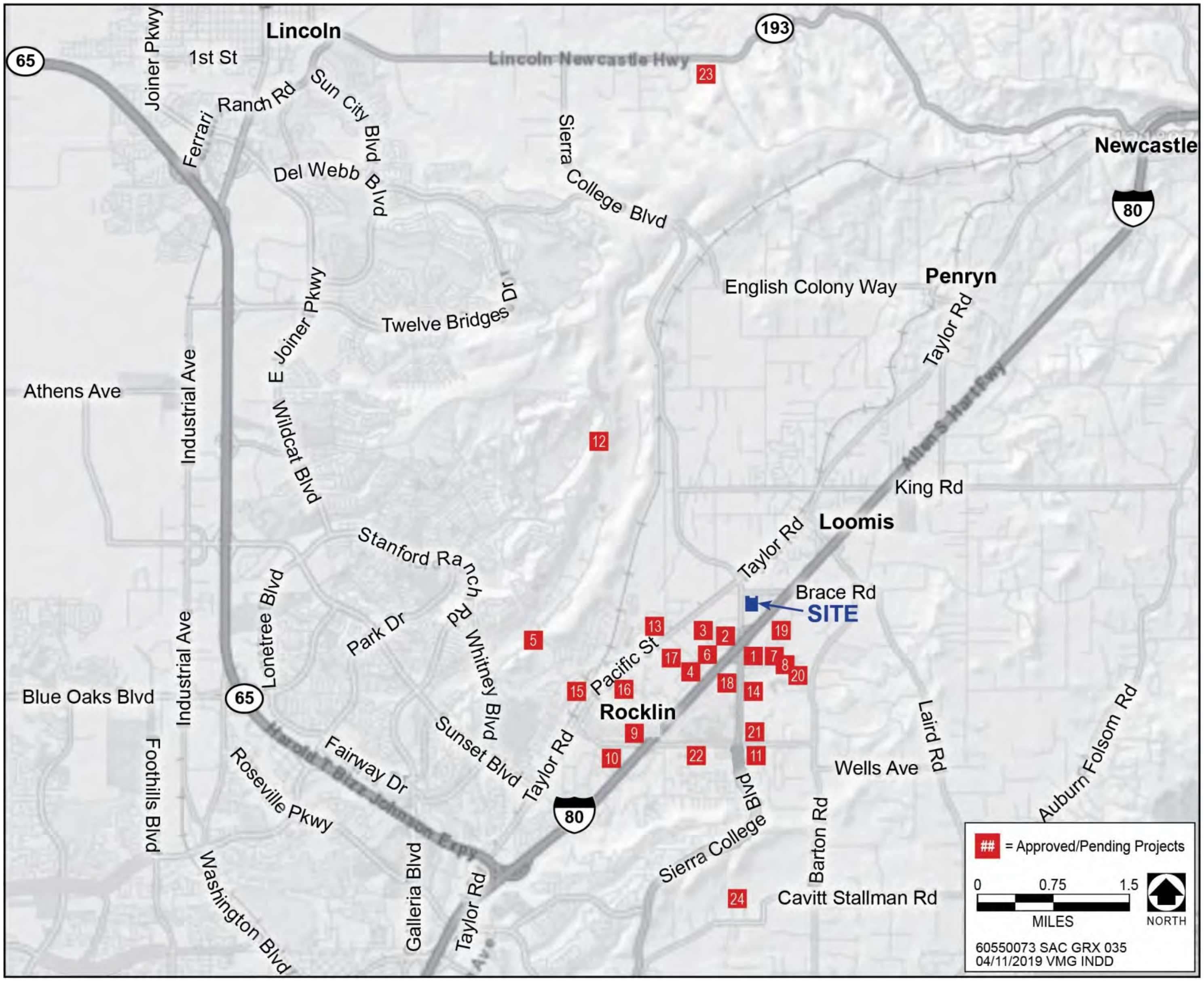


Figure 4-1. Cumulative Projects

4.2.3 Scope of the Cumulative Impact Analysis

The geographic boundary considered in the environmental analysis varies depending on the type of issue considered. For instance, impacts related to air quality would be regional because the emissions from construction and operation of the proposed project would not be restricted to the project site boundaries. Consequently, the cumulative impact analysis considers environmental impacts within the air basin.

The discussion of cumulative traffic impacts also includes a regional component because the analysis must consider land use plans from surrounding agencies, the implementation of which could generate traffic that would travel along roadway segments and through intersections in the Town of Loomis. In other cases, impacts (e.g., unstable soils, exposure to a stationary noise source) would be limited to a specific site. Table 4-2 presents the typical geographic areas associated with the environmental topics addressed in this EIR.

Table 4-2. Geographic Scope of Cumulative Impacts

Issue Area	Geographic Area
Aesthetics	Viewshed of the project site
Air Quality	Sacramento Valley Air Basin
Biological Resources	Town of Loomis and watershed boundaries
Greenhouse Gases and Energy	Global impact with emissions levels and rates established at the statewide level
Noise	Studied roadway segments and adjacent land uses exposed to project-related noise
Transportation and Traffic	Roadways and intersections affected by project-related traffic

Source: Data compiled by AECOM in 2017

4.3 Analysis of Cumulative Impacts

4.3.1 Aesthetics

IMPACT 4.3-1: Cumulative Impacts on Aesthetics. *There are 24 proposed development projects within the Loomis town limits and adjacent jurisdictions. These projects are dispersed across the landscape and are not all visible from a single vantage point. The physical removal or alteration of trees or rock outcroppings, or, the introduction of new structures and lighting where none presently exist, are circumstances that may combine to form cumulative impacts. However, the General Plan Land Use Element places similar uses adjacent to one another and retains a large portion of rural land in parts of the Town located away from the I-80 and Sierra College Boulevard Corridor. Further, all development is subject to design review and must comply with the standards of the Town regulating building height, massing, signage, lighting and landscape setbacks. The application of development standards to future uses in the Town would ensure the visual character of the Town remains, so the project* ***would not contribute toward a significant cumulative*** *effect.*

Cumulative impacts on aesthetics may result when multiple projects are located within the same viewshed or are contiguous to one another and affect mutually shared landscape elements such as topography, hedgerows, woodland, or greenbelts. For example, trees may be physically removed from or altered within the landscape, or new elements or features such as roads and utility transmission lines may be added to the landscape where none presently exist. In the case of the proposed project, cumulative development found within the project's viewshed includes Rocklin Crossings shopping center (project 1), Rocklin Commons shopping center (project 2), and the Garnet Creek residential development (project 3). Rocklin Crossing and Rocklin Commons are existing commercial centers found at the interchange of Sierra College Boulevard with Interstate 80 (I-80), while Garnet Creek is a residential development containing a mix of single-family homes and apartments. All are multi-story structures similar in scale to the project and located at the existing commercial node located at the Sierra College Boulevard and I-80 interchange.

The General Plan guides the pattern of development and intensity of land uses. The Town of Loomis addresses the regulation of land use and density of development through the General Plan's land use designations and zoning code. The General Plan includes a Community Design and Character Element that provides goals, policies, and design guidelines to help retain and enhance the unique character of both the urbanized and predominantly rural areas of Loomis. As noted in the Town's General Plan EIR (Town of Loomis 2001b), development in the Town would incrementally alter the small-town character of the community, converting it to a more urban environment. However, the General Plan places similar types of land uses adjacent to each other and retains a large proportion of rural residential land. These factors were found to limit the effect of ongoing development such that "development would not fundamentally alter the small-town character of the Town" (Town of Loomis 2001b). Therefore, cumulative impacts to the community character, including visual character, are expected to be less than significant, and there is no significant cumulative impact to which the project could contribute.

The project site is located in the Town Center planning area, as the town's primary commercial corridor. As described in Section 3.2, Aesthetics, the area is mostly developed, and development is large-scale commercial, similar to the proposed project. The building height, building mass, and parking field coverage of the proposed project is similar to that of the existing Rocklin Crossings and Rocklin Commons shopping centers within the viewshed of the proposed project site. The height and mass of the project is visually compatible with the Garnet Creek development (260 dwelling unit, multi-story apartment) due to the similarity in building height and lot coverage.

All development is subject to Town design standards that regulate building height, mass, site coverage, and landscape requirements. Compliance with these existing standards ensures that development is planned and constructed in a manner consistent with the visual character of the Town and avoid adverse aesthetic impacts. The proposed project would not create an unavoidable significant visual impact at the project level, and the three cumulative projects are compatible with the scenic character of the area. Project impacts are not cumulatively considerable, and **no significant** cumulative impact is associated with the visual interaction of these projects.

4.3.2 Air Quality

IMPACT 4.3-2: Result in a Cumulatively Considerable Net Increase in a Criteria Pollutant for which the Region is Nonattainment under an Applicable Federal or State Ambient Air Quality Standard. *Existing and new development generate additional emissions of ozone precursors (volatile organic compounds [VOCs] and oxides of nitrogen [NO_X]) and particulate matter, which may adversely affect the ability of the region to achieve attainment with the applicable air quality standards. The project's contribution to this impact* ***would not be cumulatively*** *considerable.*

Because of its nonattainment status relative to the federal and state ozone standards, the geographic scope of the area for the proposed project's cumulative impact analysis includes the areas within the Sacramento Federal Nonattainment Area (SFNA) for ozone. The SFNA includes Sacramento and Yolo Counties, parts of Solano and Sutter Counties, and Placer and El Dorado Counties (except the Lake Tahoe Air Basin). The SFNA is in nonattainment for ozone and particulate matter. Ongoing development and operation of new land uses would generate additional emissions of ozone precursors (VOCs and NO_X) and particulate matter, which may adversely affect the region's ability to achieve attainment with the applicable air quality standards representing a significant cumulative impact.

As discussed in Section 3.3.2, "Regulatory Setting," in Section 3.3 of this EIR, "Air Quality," regional air quality plans have been prepared to identify strategies to achieve attainment of the ambient air quality standards. New development in the SFNA that would result in greater air pollutant emissions than assumed in regional air quality plans could contribute to cumulative air quality impacts. Development of the project site with primarily commercial uses is contemplated in the City's General Plan, and general plans throughout the region are used as the basis of assumptions in regional air quality planning, so air pollutant emissions are accounted for in growth projections that form the basis for attainment plans.

In October 2017, Placer County Air Pollution Control District (PCAPCD) held a public hearing to consider, and ultimately adopted, the *Sacramento Regional 2008 National Ambient Air Quality Standard 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Attainment and Progress Plan). The Attainment and Progress Plan geographically covers the SFNA, which includes all of Sacramento and Yolo counties, and portions of Placer, El Dorado, Solano, and Sutter counties. The project site is located in the portion of Placer County that lies within the SFNA. The Attainment and Progress Plan documents how the region is meeting requirements under the federal Clean Air Act (CAA) in demonstrating reasonable further progress and attainment of the 2008 NAAQS (PCAPCD 2017).

Despite the progress made towards attainment, in accordance with Placer County Air Pollution Control District (PCAPCD) guidance, the contribution of a project with construction emissions of reactive organic gases (ROG), or

NO_X or PM_{10} in excess of 82 pounds per day (lb/day) or with operational emission of ROG or NO_X in excess of 55 lb/day or PM_{10} in excess of 82 lb/day would represent a cumulatively considerable contribution to a significant impact. The project's contribution to the cumulative impact is assessed below.

Construction

As shown in Table 3.3-4, daily emissions generated by any single phase of project construction would not exceed the PCAPCD-recommended thresholds of significance. Additionally, PCAPCD requires that all construction projects implement dust control requirements, in accordance with PCAPCD Rule 228. Because the project construction emissions are below thresholds, project construction related activity would not generate criteria air pollutants at a level that inhibits the ability to achieve attainment of air quality standards. Therefore, the project's contribution is not cumulatively considerable.

Operation

As shown in Table 3.3-5, the project's maximum operational VOC emissions would be 37 lb/day, NO_X emissions would be 37 lb/day, and PM_{10} emissions would be 12 lb/day. None of these emissions would exceed PCACPD's threshold of significance and would not make a cumulatively considerable contribution to a significant cumulative impact.

Direct emissions of $PM_{2.5}$ in the Sacramento metropolitan area decreased between 2000 and 2010 but are projected to increase very slightly through 2035. Similarly, emissions of diesel PM (DPM) decreased from 2000 through 2010 because of reduced exhaust emissions from diesel mobile sources; these emissions are anticipated to continue to decline through 2035 (ARB 2013).

Conclusion

As described in Section 3.3 (Air Quality) of this EIR, emissions generated during construction and operation of the project would not exceed the PCAPCD cumulative thresholds for either daily or operational emissions. Therefore, the project would not impede attainment of the ambient air quality standards and the project contribution is **less than cumulatively considerable**.

IMPACT 4.3-3: Result in Cumulatively Considerable Contribution to Human Health Risk Through Exposure of Sensitive Receptors to Toxic Air Contaminants. *Ongoing development and operation of certain land uses, including fueling stations, would generate emissions of toxic air contaminants. Exposure of sensitive receptors to TACs could represent a health risk. The project's contribution to this impact* ***would not be cumulatively*** *considerable.*

According to Office of Environmental Health Hazard Assessment methodology, health effects from carcinogenic toxic air contaminants are usually described in terms of individual cancer risk for the maximum exposed individual resident and worker. Key factors that influence exposure to hazards include dose, distance from source, and length of exposure. Land uses near the project site include several fueling stations, such as a Chevron station immediately south of the site and an Arco station to the southwest opposite Sierra College Boulevard.

A Health Risk Assessment (HRA) for the proposed project was performed to evaluate toxic air contaminant (TAC) emissions associated with project construction and operations. The HRA relied upon PCAPCD methodology, which is based on guidance provided by the Office of Environmental Health Hazard Assessment. Under this approach, the health effects from carcinogenic toxic air contaminants are described in terms of individual cancer risk, which uses a theoretical scenario in which an individual is exposed to the maximum estimated concentration of TACS over a 30-year period (lifetime). This approach represents a cumulative, worst-case condition, as no single individual would be exposed to all the TACS associated with project operation. As detailed in Tables 3.3-9, 3.3-13, and 3.3-17 in Section 3.3 of this EIR, "Air Quality," the proposed project does not substantially increase concentrations of TACs near sensitive receptors. The study found the level of exposure at the Point of Maximum Impact for the Maximum Exposed Individual and Worker are below the cancer risk of 10 in one million, which is a less-than-significant impact.

Table 3.3-8 summarizes the fueling center emissions used in the HRA. The air quality analysis contained in Section 3.3 of this EIR details compliance with PCAPCD permit requirements, as well as PCAPCD Rules 213 and 214, applicable California Health and Safety Code Sections 41950-41964, the California Code of Regulations Sections 94010-94168 and the ARB Vapor Recovery Executive Orders. Compliance with these regulatory requirements reduces evaporative emissions associated with fuel storage and dispensing. Issuance of an authority to construct permit by the air district is dependent on an affirmative review of the plans to ensure all vapor recovery measures are included and the findings of an HRA that shows the use does not result in exceedance of the cancer risk threshold. The design, installation, and proper maintenance of a vapor recovery system would reduce emissions of benzene (the primary TAC of concern for human health from fuel dispensing facilities) and other TACs. Application of these regulations ensures that the project contribution to a health risk is **not cumulatively considerable**.

IMPACT 4.3-4: Result in Cumulatively Considerable Contribution to Odor Related Impacts. *Ongoing development and operation of bakery and fast food restaurants would generate odors that some may consider to be a nuisance. The project's contribution to this impact* ***would not be cumulatively*** *considerable.*

Land uses near the site include a McDonalds and Carl's Jr. fast food restaurants and food odors from these locations are detectible. While some may find an odor to be a nuisance, food odors are a common sensory experience that are found in typical residential setting. All restaurants must comply with state regulations associated with cooking equipment and controls, including the use of grease filtration and removal systems, exhaust hood systems, blowers to move air into the hood, through air cleaning equipment, and then outdoors. Such equipment would ensure that pollutants associated with smoke and exhaust from cooking surfaces would be captured and filtered prior to release into the atmosphere, which also provides odor control from use of char broilers. Like the existing fast food restaurants, the project itself proposes food service preparation and sales that may generate odors. Application of existing regulations ensures that no significant cumulative odor impact presently occurs so any contribution by the project is **not cumulatively considerable**.

4.3.3 Biological Resources

IMPACT 4.3-5: Cumulative Impacts on Biological Resources. *According to the 2001 Loomis General Plan EIR, buildout of land uses under the Land Use Element of the General Plan would result in a significant cumulative impact on habitat for common and special-status species (Town of Loomis 2001a). The loss of oak woodlands on the project site would represent a* ***cumulatively considerable*** *contribution to the loss of natural habitat.*

Construction of the approved and proposed projects listed in Table 4-1, permitted by the General Plan, would combine with related project impacts to form a significant cumulative impact on natural resources if not mitigated. Each project would be subject to the Town's policies for conservation and protection of natural resources. Those policies include development standards intended to avoid or minimize direct impacts, where feasible, and call for mitigation in the form of restoration or replacement when impacts on such resources cannot be avoided. If each future project were to comply with the General Plan policies pertaining to natural resources, the impacts of each project on its own could be avoided. As described in Chapter VII, "Conservation of Resources," of the General Plan, the majority of the habitat of high ecological value in Loomis is located in areas designated for developed land use types, as opposed to protected open space or parklands (Town of Loomis 2001b). Development throughout the town represents a **significant cumulative** impact.

The project site represents one of the largest undeveloped tracts in the town, and the loss of oak woodland habitat and riparian resources would contribute to the cumulative loss of natural habitats. Construction and operation of the proposed project would result in the loss of habitat that provides foraging and nesting value, and in the loss of sensitive natural communities. The project site also provides habitat for a variety of small mammals, reptiles, and some bird species. In addition, the proposed project would result in the loss of woodland and riparian habitat and associated effects on special-status wildlife species. The impact is **cumulatively considerable**.

Implementing project Mitigation Measures Bio-1 through Bio-4 would reduce and/or provide compensation for the direct impacts on sensitive habitats and special-status species found on the project site, resulting in a less-than-significant project impact. However, the proposed project, in conjunction with buildout of the General Plan, would contribute to the permanent loss of habitat in Loomis. The loss of this habitat would represent a cumulatively considerable contribution to the impact caused by General Plan buildout. Other than providing for reductions and compensation for biological resources that would be affected by the project, as required by the mitigation measures in Section 3.4 of this EIR, "Biological Resources," there is no additional feasible mitigation. Therefore, this cumulative impact would be **significant and unavoidable,** consistent with the findings of the General Plan EIR.

4.3.4 Greenhouse Gases

IMPACT 4.3-6: Cumulative Greenhouse Gas Impacts. *Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute cumulatively to global climate change. It is unlikely that a single project will contribute significantly to climate change, but cumulative emissions from many projects could affect global GHG concentrations and the climate system,* *which is considered a significant cumulative effect. Given that predicted emissions of greenhouse gas from project operation exceed air district thresholds, the project contribution to the significant cumulative effect is **cumulatively considerable**.*

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute cumulatively to global climate change. It is unlikely that a single project will contribute significantly to climate change, but cumulative emissions from many projects could affect global GHG concentrations and the climate system, which is considered a **significant cumulative** effect.

As described in Section 3.5, "Greenhouse Gases," estimated GHG emissions for the proposed project's construction-related emissions would not exceed the PCAPCD bright-line threshold of significance of 10,000 MT CO_2e per year. However, long-term (annual) operational GHG emissions would exceed PCAPCD's de minimis threshold of significance of 1,100 MT CO_2e per year outlined in the PCAPCD's CEQA Air Quality Handbook. Exceedance of the de minimis threshold requires the project to undergo a secondary level of review that considers forecast emissions relative to the project footprint. Using the PCAPCD methodology, the proposed project's operational GHG emissions of 6,178 MT CO_2e per year were calculated relative to project size and expressed in terms of calculated MT CO_2e per year per 1,000 square feet. Compared to PCAPCD's efficiency matrix–defined threshold of 27.3 MT CO_2e per year per 1,000 square feet, the proposed project's annual operational emissions are estimated to be 40 MT CO_2e per year per 1,000 square feet, which exceeds the PCAPCD-recommended threshold. No feasible mitigation could reduce emissions below the PCAPCD-recommended threshold. Therefore, the contribution of GHG emissions generated by the proposed project would be **cumulatively considerable and unavoidable**. See Section 3.5 of this EIR for additional detail regarding the GHG emissions estimates and analysis.

4.3.5 Noise

IMPACT 4.3-7: Cumulative Noise Impacts. *Project operation would generate noise from both stationary and mobile sources that would combine with noise from existing and future land uses operating along the studied roadways and in the vicinity to increase levels above ambient conditions. There is **no significant cumulative** impact.*

Construction

Cumulative construction noise and vibration impacts have the potential to occur when multiple construction projects in the same area are taking place during the same time period. Noise and vibration are a localized occurrence and attenuates rapidly with distance. Therefore, only future cumulative development projects in the direct vicinity of the project site could add to anticipated project-generated transportation and stationary-source noise, thus resulting in cumulative noise impacts. Since there are no planned construction projects within the vicinity of the project site, construction noise attenuates due to distances and existing intervening structures, and since all project-specific construction and would conform to the time-of day restrictions of the City's Municipal Code, cumulative noise impacts during construction of future development would not combine to affect the same sensitive receptors and the project. Construction source noise associated with the proposed project could potentially result in an exceedance of the standards established by the Town's noise regulations if not properly controlled. Noise generated by construction sources would be controlled at the source (by means of limited idling time and use of acoustical shielding for stationary equipment). However, other development projects are not proposed to be constructed adjacent to the project site such that the combined construction noise effects would generate a significant cumulative impact. The project's construction noise would not have a cumulatively considerable contribution to any significant cumulative impact because there are not projects proposed for construction adjacent to the project site, and therefore, there is **no significant cumulative** impact.

Operation

A two-tier approach is used to determine whether mobile source noise from project vehicle trips represents a cumulatively considerable contribution to a significant noise impact. The first step is to predict noise levels experienced along studied roadway segments in the "future with project" condition and compare these levels to existing conditions in order to determine whether those cumulative levels would represent a substantial, permanent increase in noise that exceeds adopted standards. Next, the project's contribution to predicted "future with project" conditions is determined by comparing the "future without project" to the "future with project" conditions for each roadway segment. If the project's contribution to future roadway noise at studied segments is less than 3 dBA, the contribution would not be perceptible and therefore, would not be a cumulatively considerable contribution to the impact.

Table 4-3 summarizes the modeling output for ambient roadway noise levels along studied roadway segments assuming no attenuation from barriers, such as walls and elevation changes. Existing noise levels along studied roadway segments range from a high of 81 dB(A) day-night average noise level (L_{dn}) at 100 feet along I-80 to a low of 59 dB(A) L_{dn} along a segment of Brace Road from Barton Road to Sierra College Boulevard.

Table 4-3. Existing Roadway Noise Levels

Roadway	Roadway Segment	dBA, L_{dn} at 100 feet	
		Weekday	Weekend
I-80	From Horseshoe Bar Road to Sierra College Boulevard	80	81
I-80	From Sierra College Boulevard to Rocklin Road	80	81
Sierra College Boulevard	From King Road to Taylor Road	69	67
Sierra College Boulevard	From Taylor Road to Brace Road	70	68
Sierra College Boulevard	From Brace Road to Granite Drive	68	67
Sierra College Boulevard	From Granite Drive to I-80 ramps	69	68
Sierra College Boulevard	From I-80 ramps to Rocklin Road	72	70
Granite Drive	From Rocklin Road to Sierra College Boulevard	64	64
Taylor Road	From Horseshoe Bar Road to Sierra College Boulevard	66	65
Taylor Road	From Sierra College Boulevard to Delmar Avenue	67	66
Pacific Street	From Delmar Avenue to Rocklin Road	68	66
Brace Road	From Barton Road to Sierra College Boulevard	59	59
Rocklin Road	From Sierra College Boulevard to I-80 ramps	69	67
Rocklin Road	From I-80 ramps to Granite Drive	69	67
Rocklin Road	From Granite Drive to Pacific Street	67	65

Notes: dBA = A-weighted decibels; I-80 = Interstate 80; L_{dn} = day-night average noise level

Source: Modeling conducted by AECOM in 2018

Table 4-4 depicts modeled noise levels along these same roadway segments with the addition of trips generated under "future without project" and "future with project conditions." Based on the noise modeling, cumulative vehicular noise under the short-term future no project conditions shown in Table 4-4 would increase traffic noise from +0 A-weighted decibels (dBA) to +1 dBA L_{dn}, depending on the segment under review. The largest increase is experienced during the weekend along Sierra College Boulevard from Brace Road to Granite Drive, an increase from 70 dB(A) L_{dn} to 71 dB(A) L_{dn}, which would not be perceived by most people. Land uses along this segment of Sierra College Boulevard are zoned for commercial development, which is not considered a noise sensitive use by the Loomis General Plan. Therefore, the cumulative increase in noise levels at this roadway segment would not represent a cumulative impact on noise-sensitive receptors. The project's contribution to noise levels in the short-term cumulative condition ranges from +0 dBA to +1 dBA L_{dn} (multiple segments of Sierra College Boulevard, Taylor Road from Sierra College Boulevard to Delmar Avenue). An increase of 1 dBA or less is not perceptible to most people; thus, the project's contribution to noise levels along studued roadway segments in the cumulative short-term scenario is **not cumulatively considerable**.

Table 4-4. Predicted Traffic Noise Levels, Cumulative Short-Term Conditions

Roadway	Segment	L_{dn} at 100 Feet, dBA					
		Weekday			Weekend		
		Future No Project	Plus Project	Net Change	Future No Project	Plus Project	Net Change
I-80	From Horseshoe Bar Road to Sierra College Boulevard	80	80	0	80	80	0
I-80	From Sierra College Boulevard to Rocklin Road	81	81	0	81	81	0
Sierra College Boulevard	From King Road to Taylor Road	72	72	0	71	71	0
Sierra College Boulevard	From Taylor Road to Brace Road	72	72	0	71	72	1
Sierra College Boulevard	From Brace Road to Granite Drive	71	71	0	70	71	1
Sierra College Boulevard	From Granite Drive to I-80 ramps	71	72	1	71	72	1
Sierra College Boulevard	From I-80 ramps to Rocklin Road	74	74	0	73	73	0
Granite Drive	From Rocklin Road to Sierra College Boulevard	65	65	0	65	65	0
Taylor Road	From Horseshoe Bar Road to Sierra College Boulevard	67	68	1	67	67	0
Taylor Road	From Sierra College Boulevard to Delmar Avenue	68	68	0	67	67	0
Pacific Street	From Delmar Avenue to Rocklin Road	69	69	0	67	68	1
Brace Road	From Barton Road to Sierra College Boulevard	61	61	0	61	61	0
Rocklin Road	From Sierra College Boulevard to I-80 ramps	70	70	0	69	69	0
Rocklin Road	From I-80 ramps to Granite Drive	71	71	0	71	71	0
Rocklin Road	From Granite Drive to Pacific Street	69	69	0	67	67	0

Notes: dBA = A-weighted decibels; I-80 = Interstate 80; L_{dn} = day-night average noise level

Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Source: Modeling conducted by AECOM in 2018

Table 4-5 illustrates future noise levels under long-term conditions. Implementation of long-term cumulative conditions would result in traffic noise level increases ranging from +0 dBA to +1 dBA L_{dn} (compared to existing noise levels without the project). The following segments experience a cumulative increase in noise levels that would be perceptible to most people:

Sierra College Boulvard from King Road to Taylor Road–Exterior noise levels in the cumulative long-term future with project condition are predicted to reach 72 dB(A) L_{dn} at 100 feet from roadway centerline. There are residential uses along this roadway segment that have large set backs from the roadway. Exposure at the exterior façade of the dwelling units would be substantially reduced from the predicted noise levels due to attenuation provided by the distance between receptor and the source and presence of soft terrain.[1] There is **no significant cumulative impact** along this segment.

Sierra College Boulevard from Taylor Road to Brace Road–Exterior noise levels in the cumulative future with project condition are predicted to reach 73 dB(A) L_{dn} at 100 feet from roadway centerline. Land uses along this roadway segment are commercial in nature and are not considered noise sensitive by either the Loomis or City of Rocklin General Plans. There is **no significant cumulative impact** along this segment.

Sierra College Boulevard from Brace Road to Granite Drive–Exterior noise levels in the cumulative future with project condition are predicted to reach 71 dB(A) L_{dn} at 100 feet from roadway centerline. Land uses along this

[1] Highway Noise fundamentals (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980). Sound typically diminishes at a rate of 7 dB(A) for each doubling of distance from the source of the receptor at acoustically soft sites like earth and vegetation which contains absorptive properties.

roadway segment are commercial in nature and are not considered as noise sensitive by either the Loomis or City of Rocklin General Plans. There is **no significant cumulative impact** along this segment.

Brace Road from Barton to Sierra College Boulevard–Exterior noise levels in the cumulative future with project condition are predicted to reach 64 dB(A) L_{dn} at 100 feet from roadway centerline. Land uses along this roadway segment are residential in nature and are considered as noise sensitive by the Town of Loomis General Plan. Predicted noise levels under the cumulative long-term with project condition would fall within the acceptable exterior noise levels for residential uses established by the Town at 65 dB(A) L_{dn}. Therefore, no significant noise impacts would occur along this studied roadway segment in the cumulative long-term with project condition. There is **no significant cumulative impact** along this segment.

Table 4-5. Predicted Traffic Noise Levels, Cumulative Long-Term Conditions

Roadway	Segment	L_{dn} at 100 Feet, dBA					
		Weekday			Weekend		
	Roadway Segment	Future No Project	Plus Project	Net Change	Future No Project	Plus Project	Net Change
I-80	From Horseshoe Bar Road to Sierra College Boulevard	81	81	0	81	81	0
I-80	From Sierra College Boulevard to Rocklin Road	82	82	0	82	82	0
Sierra College Boulevard	From King Road to Taylor Road	72	72	0	70	70	0
Sierra College Boulevard	From Taylor Road to Brace Road	73	73	0	71	71	0
Sierra College Boulevard	From Brace Road to Granite Drive	71	72	1	70	70	0
Sierra College Boulevard	From Granite Drive to I-80 ramps	72	72	0	70	71	1
Sierra College Boulevard	From I-80 ramps to Rocklin Road	75	75	0	73	73	0
Granite Drive	From Rocklin Road to Sierra College Boulevard	65	65	0	65	65	0
Taylor Road	From Horseshoe Bar Road to Sierra College Boulevard	68	68	0	67	67	0
Taylor Road	From Sierra College Boulevard to Delmar Avenue	67	67	0	66	67	1
Pacific Street	From Delmar Avenue to Rocklin Road	70	70	0	68	69	1
Brace Road	From Barton Road to Sierra College Boulevard	64	64	0	63	63	0
Rocklin Road	From Sierra College Boulevard to I-80 ramps	71	71	0	69	69	0
Rocklin Road	From I-80 ramps to Granite Drive	72	72	0	70	71	1
Rocklin Road	From Granite Drive to Pacific Street	69	69	0	67	67	0

Notes: dBA = A-weighted decibels; I-80 = Interstate 80; L_{dn} = day-night average noise level
Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.
Source: Modeling conducted by AECOM in 2018

The proposed project's contribution to the long-term cumulative increase would be no more than 1 dBA, which is not perceptible to the human ear. Therefore, noise levels from project-generated traffic sources would not result in a substantial permanent increase in ambient noise levels (3 dB or greater) under long-term cumulative conditions and most likely would not be perceivable to existing noise-sensitive receptors. Although regional growth could result in a substantial permanent increase in traffic noise along roadway segments, the proposed project's contribution toward this impact **would not be cumulatively considerable**.

Future development would be required to conduct site-specific analyses and mitigation at the time of consideration. In most cases, new development, similar to the proposed project, will be required to include the necessary setbacks, construction materials, sound walls, berms, or other features necessary to ensure that internal and external noise levels meet applicable standards. Application of these requirements as each project is proposed and constructed would ensure that cumulative noise impacts are **less than significant**.

Stationary-source noise associated with the proposed project could potentially result in an exceedance of the standards established by the Town's noise regulations if not properly controlled. Noise generated by stationary sources, including mechanical equipment such as HVAC, loading dock, and similar equipment associated with the project operation would be controlled at the source (by means of mechanical rooms and use of setbacks from sensitive uses). While the project would have a project-level impact related to the routing of delivery trucks, there would not be other trucks operating on the project site operating in the same on-site route that would combine to create a cumulative impact that is different than the project-level impact detailed in Section 3.6 of this EIR. There is **no significant cumulative impact**.

4.3.6 Transportation and Traffic

This section addresses the potential for traffic from the proposed project site to reduce level of service (LOS) at studied intersections or increase vehicular delays that may result in a cumulatively considerable impact on roads and intersections in the future growth scenarios. As described in Section 3.7, "Transportation and Traffic," traffic growth forecasts were implemented to examine both the short-term operating condition (the project approach) and the long-term operating condition (the plans and policies approach) for study intersections and the freeway mainline under future short-term (project based) and longer-term growth horizons. Table 3.7-7 (short-term baseline forecast), Table 3.7-8 (short-term baseline freeway mainline forecast), Table 3.7-9 (long-term baseline growth forecast, weekday a.m./p.m. and weekend midday peak hours), and Table 3.7-10 (long-term baseline growth forecast, freeway mainline) provide a summary of the operating condition of intersections and roadway segments in the future without-project condition. Project traffic was added to these predicted traffic growth forecasts to evaluate the potential for cumulative impacts, as discussed below.

IMPACT 4.3-8: Cumulative Impacts of Short-Term plus Project Intersection Operations. *Adding project-generated traffic to cumulative traffic generated by approved and pending projects would cause the LOS at studied intersections to degrade below adopted standards, requiring the need for restriping, re-phasing, and optimization of the cycle length at study area intersections. The project's contribution to this impact is* ***cumulatively considerable*** *at certain study intersections.*

Project Driveway Access Option 1A

Figure 22 of the transportation impact analysis (Kittelson & Associates 2019) shows the Cumulative Short-Term plus Project traffic volumes for Project Driveway Access Option 1A during the weekday a.m. and p.m. peak hours, while Figure 23 of the transportation impact analysis (Kittelson & Associates 2019) shows the Cumulative Short-Term plus Project traffic volumes during the weekend midday peak hour for Project Driveway Access Option 1A.

Cumulative Short-Term No-Project and Plus Project delays and LOS for study intersections during the weekday a.m. and p.m. peak hours are depicted in Table 4-6 for Project Driveway Access Option 1A. Table 4-7 shows the baseline Cumulative Short-Term No-Project and Plus Project delays and LOS for the study intersections during weekend midday peak hour for Project Driveway Access Option 1A. Please note that the delays at some study intersections may be lower than under Existing or Existing plus Project conditions because of signal timing optimization and/or recirculation of traffic with the addition of approved/pending projects. Appendix B of the transportation impact analysis (Kittelson & Associates 2019) includes the LOS worksheets.

As shown in Tables 4-6 and 4-7, regional growth would result in a significant impact at the following intersections, causing them to operate at unacceptable LOS in the Cumulative Short-Term plus Project condition:

- Taylor Road & King Road (PM)
- Horseshoe Bar Road & I-80 Eastbound Ramp (AM and PM)
- Sierra College Boulevard & Taylor Road (PM and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 Westbound Ramps (PM and MD)
- Sierra College Boulevard & Rocklin Road (AM, PM, and MD)
- Pacific Street & Dominguez Road/Delmar Avenue (AM, PM, and MD)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (PM and MD)
- Sierra College Boulevard & SR-193 (AM, PM, and MD)
- Sierra College Boulevard & English Colony Way (PM and MD)
- Sierra College Boulevard & Delmar Avenue (AM, PM, and MD)
- Taylor Road & English Colony Way (MD)

Table 4-6. Cumulative Short-Term plus Project—Intersection LOS Analysis, Weekday A.M./P.M. Peak Hour– Project Driveway Access Option 1A

ID	Intersection	Traffic Control Type	LOS Operating Goal	Weekday A.M.					Weekday P.M.				
				Cumulative Short-Term		Cumulative Short Term Plus Project		Change in Delay (sec)	Cumulative Short-Term		Cumulative Short Term Plus Project		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Rd/ King Rd	Signal	D	38.9	D	39.5	D	0.6	**59.8**	**E**	**62.0**	**E**	2.2
2	Taylor Rd/ Horseshoe Bar Rd	Signal	D	23.3	C	23.6	C	0.3	30.0	C	31.6	C	1.6
3	Horseshoe Bar Rd/ I-80 Westbound Ramp	Signal	D	13.7	B	13.7	B	0.0	14.0	B	14.0	B	0.0
4	Horseshoe Bar Rd/ I-80 Eastbound Ramp[1]	TWSC	D	**70.2**	**F**	**70.2**	**F**	0.0	**68.2**	**F**	**68.2**	**F**	0.0
5	Barton Rd/Brace Rd	TWSC	C	11.8	B	11.9	B	0.1	12.9	B	13.1	B	0.2
6	Sierra College Blvd/ Taylor Rd	Signal	C	29.5	C	30.3	C	0.8	**40.5**	**D**	**44.1**	**D**	3.6
7	Sierra College Blvd/ Brace Rd	Signal	D	10.7	B	14.1	B	3.4	18.3	B	16.9	B	-1.4
8	Sierra College Blvd/ Granite Dr	Signal	C	**35.9**	**D**	36.7	D	0.8	**58.2**	**E**	**105.1**	F	46.9
9	Sierra College Blvd/ I-80 WB Ramps	Signal	E	34.3	C	41.9	D	7.6	66.5	E	**96.6**	**F**	30.1
10	Sierra College Blvd/ I-80 EB Ramps	Signal	E	23.9	C	24.2	C	0.3	43.6	D	45.2	D	1.6
11	Sierra College Blvd/ Schriber Way	Signal	C	15.3	B	15.3	B	0.0	17.0	B	17.1	B	0.1
12	Sierra College Blvd/ Bass Pro Dr-Dominguez Rd	Signal	C	7.2	A	7.3	A	0.1	12.2	B	12.4	B	0.2
13	Sierra College Blvd/ Stadium Dwy	Signal	C	7.2	A	7.2	A	0.0	7.1	A	7.2	A	0.1
14	Sierra College Blvd/ Rocklin Rd	Signal	C	**99.6**	**F**	**99.7**	**F**	0.1	**90.0**	**F**	**92.4**	**F**	2.4
15	Pacific St/Dominguez Rd-Delmar Ave	Signal	C	**43.6**	**D**	**44.0**	**D**	0.4	**67.3**	**E**	**68.3**	**E**	1.0
16	Pacific St/ Rocklin Rd	Signal	C	**88.7**	**F**	**89.0**	**F**	0.3	**78.9**	**E**	**80.0**	**E**	1.1
17	Granite Dr/ Rocklin Rd	Signal	C	27.6	C	27.7	C	0.1	**43.7**	**D**	**45.2**	**D**	1.5
18	I-80 WB Ramps/ Rocklin Rd	Signal	D	23.6	C	23.6	C	0.0	53.7	D	53.7	D	0.0
19	I-80 Eastbound Ramps/ Rocklin Rd	Signal	D	35.5	D	35.5	D	0.0	44.6	D	44.6	D	0.0
20	Aguilar Rd/ Rocklin Rd	Signal	C	11.3	B	11.4	B	0.1	9.4	A	9.5	A	0.1
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	C	0.2	A	0.2	A	0.0	17.6	C	18.3	C	0.7
22	Granite Dr/ Dominguez Rd	TWSC	C	14.0	B	14.1	B	0.1	21.5	C	22.1	C	0.6
23	El Don Dr/ Rocklin Rd	Signal	C	34.7	C	34.8	C	0.1	33.9	C	34.0	C	0.1
24	Sierra College Boulevard/ Project Driveway	Signal	C	DNE		6.6	A	-	DNE		13.5	B	-
25	Brace Road/ Project Driveway	TWSC	C	DNE		0.0	A	-	DNE		10.1	B	-
26	Sierra College Blvd/ SR-193	AWSC	D	**41.8**	**E**	**43.3**	**E**	1.5	**79.4**	**F**	**83.1**	**F**	3.7
27	Sierra College Blvd/ English Colony Way	TWSC	C	14.0	B	14.9	B	0.9	**78.8**	**F**	**97.7**	**F**	18.9

Table 4-6. Cumulative Short-Term plus Project—Intersection LOS Analysis, Weekday A.M./P.M. Peak Hour– Project Driveway Access Option 1A

ID	Intersection	Traffic Control Type	LOS Operating Goal	Weekday A.M.					Weekday P.M.				
				Cumulative Short-Term		Cumulative Short Term Plus Project		Change in Delay (sec)	Cumulative Short-Term		Cumulative Short Term Plus Project		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
28	Sierra College Blvd/ Delmar Avenue[2]	TWSC	C	**103.3**	**F**	**108.4**	**F**	5.1	**328.6**	**F**	**388.4**	**F**	59.8
29	Taylor Rd/English Colony Way	AWSC	C	23.6	C	23.9	C	0.3	16.0	C	16.2	C	0.2
30	Taylor Rd/Penryn Road (North)	TWSC	C	14.6	B	14.6	B	0.0	10.5	B	10.5	B	0.0
31	Taylor Rd/Penryn Road (South)	TWSC	C	**347.2**	**F**	**354.9**	**F**	7.7	**25.7**	**D**	**27.3**	**D**	1.6
32	Taylor Rd/Del Oro High School North Lot[1]	TWSC	C	**40.0**	**E**	**40.8**	**E**	0.8	14.0	B	14.2	B	0.2
33	Taylor Rd/Del Oro High School Drop-Off[1]	TWSC	C	**358.0**	**F**	**365.5**	**F**	7.5	17.4	C	17.7	C	0.3
34	Taylor Rd/Del Oro High School South Lot[1]	TWSC	C	**48.0**	**E**	**48.5**	**E**	0.5	18.7	C	18.9	C	0.2
35	Taylor Rd/ Rippey Road	TWSC	C	14.3	B	14.3	B	0.0	12.3	B	12.4	B	0.1
36	Taylor Rd/ Webb Street[1]	TWSC	C	**25.2**	**D**	**25.9**	**D**	0.7	**59.1**	**F**	**66.4**	**F**	7.3
37	Sierra College Boulevard/ Project Driveway East	TWSC	C	DNE		10.4	B	–	DNE		11.2	B	–

Notes:

DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds; TWSC = two-way stop control—delay reported reflects the critical movement; AWSC: All-way stop control – The average intersection delay is reported; WB = westbound

[1] An impact is significant in situations when the intersection is already operating at unacceptable LOS and the Project adds trips to the intersection exceeding 5% of the total traffic already at the intersection. At these locations, the project does not contribute 5% or more of the volumes.

[2] Intersection does not meet signal warrants for impacts condition, therefore per the Placer County guidelines, this intersection is not significantly impacted. Traffic signal warrants provided in Appendix J.

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2019

Table 4-7. Cumulative Short-Term plus Project—Intersection LOS Analysis, Weekend Midday Peak Hour–Project Driveway Access Option 1A

ID	Intersection	Traffic Control Type	LOS Operating Goal	Cumulative Short-Term		Cumulative Short Term Plus Project		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Rd/King Rd	Signal	D	42.5	D	48.8	D	6.3
2	Taylor Rd/Horseshoe Bar Rd	Signal	D	20.1	C	22.0	C	1.9
3	Horseshoe Bar Rd/I-80 Westbound Ramp	Signal	D	13.4	B	13.4	B	0.0
4	Horseshoe Bar Rd/I-80 Eastbound Ramp	TWSC	D	28.7	D	28.7	D	0.0
5	Barton Rd/Brace Rd	TWSC	C	17.0	C	18.0	C	1.0
6	Sierra College Blvd/Taylor Rd	Signal	C	31.7	C	**38.9**	**D**	7.2
7	Sierra College Blvd/Brace Rd	Signal	D	15.1	B	17.4	B	2.3
8	Sierra College Blvd/Granite Dr	Signal	C	**39.9**	**D**	**75.1**	**E**	35.2
9	Sierra College Blvd/I-80 WB Ramps	Signal	E	76.5	E	**126.6**	**F**	50.1
10	Sierra College Blvd/I-80 EB Ramps	Signal	E	55.5	E	43.1	D	-12.4[4]
11	Sierra College Blvd/Schriber Way	Signal	C	20.8	C	21.0	C	0.2
12	Sierra College Blvd/Bass Pro Dr-Dominguez Rd	Signal	C	13.3	B	13.5	B	0.2
13	Sierra College Blvd/Stadium Dwy	Signal	C	5.7	A	6.0	A	0.3
14	Sierra College Blvd/Rocklin Rd	Signal	C	**60.1**	**E**	**64.4**	**E**	4.3
15	Pacific St/Dominguez Rd-Delmar Ave	Signal	C	32.1	C	**35.4**	**D**	3.3
16	Pacific St/Rocklin Rd	Signal	C	**48.7**	**D**	**50.6**	**D**	1.9
17	Granite Dr/Rocklin Rd	Signal	C	32.4	C	**35.2**	**D**	2.8
18	I-80 Westbound Ramps/Rocklin Rd	Signal	D	24.9	C	24.9	C	0.0
19	I-80 Eastbound Ramps/Rocklin Rd	Signal	D	25.3	C	25.3	C	0.0
20	Aguilar Rd/Rocklin Rd	Signal	C	8.6	A	8.7	A	0.1
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	C	0.1	A	0.1	A	0.0
22	Granite Dr/Dominguez Rd	TWSC	C	19.5	C	20.4	C	0.9
23	El Don Dr/Rocklin Rd	Signal	C	15.4	B	15.7	B	0.3
24	Sierra College Boulevard/Project Driveway	Signal	C	DNE		16.0	B	-
25	Brace Road/Project Driveway	TWSC	C	DNE		9.9	A	-
26	Sierra College Blvd/SR-193	AWSC	D	**48.0**	**E**	**54.0**	**F**	6.0
27	Sierra College Blvd/English Colony Way	TWSC	C	**25.5**	**D**	**30.3**	**D**	4.8
28	Sierra College Blvd/Delmar Avenue[2]	TWSC	C	**145.2**	**F**	**205.3**	**F**	60.1
29	Taylor Rd/English Colony Way	AWSC	C	24.8	C	**27.5**	**D**	2.7
30	Taylor Rd/Penryn Road (North)	TWSC	C	10.9	B	11.0	B	0.1
31	Taylor Rd/Penryn Road (South)	TWSC	C	17.7	C	18.9	C	1.2
32	Taylor Rd/Del Oro High School North Lot	TWSC	C	19.5	C	20.5	C	1.0
33	Taylor Rd/Del Oro High School Drop-Off[1]	TWSC	C	**42.3**	**E**	**48.2**	**E**	5.9
34	Taylor Rd/Del Oro High School South Lot	TWSC	C	23.1	C	24.2	C	1.1
35	Taylor Rd/Rippey Road	TWSC	C	14.4	B	15.0	C	0.6
36	Taylor Rd/Webb Street	TWSC	C	**8006.9**	**F**	**ERR[3]**	**F**	-
37	Sierra College Boulevard/Project Driveway East	TWSC	C	DNE		11.1	B	-

Notes:

DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds; AWSC: All-way stop control – The average intersection delay is reported; TWSC = two-way stop control = the delay reported reflects the critical movement; WB = westbound.

1 An impact is significant in situations when the intersection is already operating at unacceptable LOS and the Project adds trips to the intersection exceeding 5% of the total traffic already at the intersection. At these locations, the project does not contribute 5% or more of the volumes.

2 Intersection does not meet signal warrants for impacts condition, therefore per the Placer County guidelines, this intersection is not significantly impacted. Traffic signal warrants provided in Appendix J.

3 Due to the high volumes, HCM2010 was unable to report approach delay.

4 Timing was held constant between No Project and Project conditions. Volume increases at certain movements adds more weight to the average intersection delay calculation, lowering the overall intersection delay

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2019

- Taylor Road & Penryn Road (South) (AM and PM)
- Taylor Road & Del Oro High School North Lot (AM)
- Taylor Road & Del Oro High School Drop Off (AM and MD)
- Taylor Road & Del Oro High School South Lot (AM)
- Taylor Road & Webb Street (AM, PM, and MD)

Based on the impact criteria defined earlier, the project would have a cumulatively considerable contribution to impacts at the following intersections:

- Sierra College Boulevard & Taylor Road (MD)
- Sierra College Boulevard & Granite Drive (PM and MD)
- Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- Pacific Street & Dominguez Road/Delmar Avenue (MD)
- Granite Drive & Rocklin Road (MD)
- Sierra College Boulevard & SR-193 (PM and MD)
- Sierra College Boulevard & English Colony Way (PM and MD)
- Taylor Road & English Colony Way (MD)
- Taylor Road & Penryn Road (South) (AM)
- Taylor Road & Webb Street (MD)

Project Driveway Access Options 1B & 1C

Project Driveway Access Options 1B and 1C would affect Cumulative Short Term plus Project traffic volumes at study intersections 7, 8, 21, 24, 25, and 37 due to the driveway trip routing. All other study intersections would have the same Cumulative Short Term plus Project traffic volumes under Project Driveway Access Options 1B and 1C, as they would under Project Driveway Access Option 1A.

Figure 24 of the transportation impact analysis (Kittelson & Associates 2019) shows the Cumulative Short Term plus Project traffic condition during the weekday AM and PM peak hours for all three Project Driveway Access Options at those study intersections affected by the options. Figure 25 shows the Cumulative Short Term plus Project Alternative traffic condition during the weekend midday peak hour for all three Project Driveway Access Options at those study intersections affected by the options.

Alternative driveway configurations would affect operations at a limited number of study intersections. Table 4-8 shows the Cumulative Short Term and Plus Project delays and LOS for those affected intersections during weekday AM and PM peak hours. Table 4-9 shows the baseline Cumulative Short Term and Plus Project delays and LOS for the affected study intersections during the weekend midday peak hour. For Project Driveway Access Options 1B and 1C, Figure 24 of the transportation impact analysis (Kittelson & Associates 2019) shows the Cumulative Short Term plus Project traffic condition during the weekday AM and PM peak hours and Figure 25 of the transportation impact analysis (Kittelson & Associates 2019) shows the Cumulative Short Term plus Project traffic condition during the weekend midday peak hour. In addition to the intersections impacted by Project Driveway Access Option 1A that would also be significantly impacted by Project Driveway Access Options 1B and 1C, the following study intersection would be significantly impacted by the proposed project for Project Driveway Access Options 1B and 1C:

Weekday PM Peak Hour (Options 1B and 1C)

- 8 Sierra College Blvd/Granite Dr

Weekend Midday Peak Hour (Options 1B and 1C)

- 8 Sierra College Blvd/Granite Dr

The proposed project would contribute to an impact at the study locations listed above by increasing delay or dropping the LOS to below acceptable levels. The project’s contribution would be cumulatively **considerable,** and mitigation is needed to improve the operating conditions. Table 4-10 presents the intersection mitigation measures under Cumulative Short Term plus Project Conditions for Options 1A, 1B, and 1C.

Table 4-8. Cumulative Short Term Plus Project - Intersection LOS Analysis, Weekday AM/PM Peak Hour – Project Driveway Access Options 1B & 1C

ID	Intersection	Traffic Control Type	Weekday AM					Weekday PM				
			Short Term		Plus Project		Change in Delay (sec)	Short Term		Plus Project		Change in Delay (sec)
			Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
Driveway Option 1B												
7	Sierra College Blvd/Brace Rd	Signal	10.7	B	15.0	B	4.3	18.3	B	40.5	D	22.2
8	Sierra College Blvd/Granite Dr	Signal	**35.9**	**D**	**39.3**	**D**	3.4	**58.2**	**E**	**83.0**	**F**	24.8
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	0.2	A	0.2	A	0.0	17.6	C	18.3	C	0.7
24	Sierra College Blvd/Project Driveway	Signal	DNE		6.6	A	-	DNE		13.3	B	-
25	Brace Road/Project Driveway	TWSC	DNE		0.0	A	-	DNE		10.1	B	-
37	Brace Road/Project Driveway East	TWSC	DNE					DNE				
Driveway Option 1C												
7	Sierra College Blvd/Brace Rd	Signal	10.7	B	14.1	B	3.4	18.3	B	16.9	B	-1.4
8	Sierra College Blvd/Granite Dr	Signal	**35.9**	**D**	**39.3**	**D**	3.4	**58.2**	**E**	**83.0**	**F**	24.8
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	0.2	A	0.2	A	0.0	17.6	C	18.2	C	0.6
24	Sierra College Blvd/Project Driveway	Signal	DNE		6.6	A	-	DNE		13.1	B	-
25	Brace Road/Project Driveway	TWSC	DNE		0.0	A	-	DNE		10.1	B	-
37	Brace Road/Project Driveway East	TWSC	DNE		10.4	B	-	DNE		11.2	B	-

Notes:
AWSC: All-way stop control – The average intersection delay is reported.
TWSC: Two-way stop control - delay reported reflects the critical movement.
DNE: Intersection does not exist under no Project conditions.
Boldface type indicates intersections performing below acceptable LOS. Refer to Table 1 for applicable operating standards.
Source: Kittelson & Associates, Inc. 2019

Table 4-9. Cumulative Short Term Plus Project - Intersection LOS Analysis, Weekend Midday Peak Hour – Project Driveway Access Options 1B & 1C

ID	Intersection	Traffic Control Type	Short Term		Plus Project		Change in Delay (sec)
			Delay (sec)	LOS	Delay (sec)	LOS	
Driveway Option 1B							
7	Sierra College Blvd/Brace Rd	Signal	15.1	B	31.1	C	16
8	Sierra College Blvd/Granite Dr	Signal	**39.9**	**D**	**60.1**	**E**	20.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	0.1	A	0.1	A	0.0
24	Sierra College Boulevard/Project Driveway	Signal	DNE		16.4	B	-
25	Brace Road/Project Driveway	TWSC	DNE		10.0	B	-
37	Brace Road/Project Driveway East	TWSC	DNE				
Driveway Option 1C							
7	Sierra College Blvd/Brace Rd	Signal	15.1	B	17.4	B	2.3
8	Sierra College Blvd/Granite Dr	Signal	**39.9**	**D**	**60.1**	**E**	20.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	0.1	A	0.1	A	0.0
24	Sierra College Boulevard/Project Driveway	Signal	DNE		15.7	B	-
25	Brace Road/Project Driveway	TWSC	DNE		9.9	A	-
37	Brace Road/Project Driveway East	TWSC	DNE		11.1	B	-

Notes:
AWSC: All-way stop control – The average intersection delay is reported.
TWSC: Two-way stop control - The delay reported reflects the critical movement.
DNE: Intersection does not exist under no Project conditions.
Boldface type indicates intersections performing below acceptable LOS. Refer to Table 1 for applicable operating standards.
Source: Kittelson & Associates, Inc. 2019.

Table 4-10. Cumulative Short Term plus Project – Mitigation Measures

ID	Intersection	Option(s) Requiring Mitigation	Jurisdiction	Impact Type	Current Traffic Control	Mitigation Measure	Specific Actions Recommended	Effects of Mitigation
2	Taylor Road& Horseshoe Bar Road	Options 1A, 1B, 1C	Loomis	Queue	Signal	TR MM 1: Modify signal timing	Optimize cycle length and splits.	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection
6	Sierra College Boulevard & Taylor Road	Options 1A, 1B, 1C	Loomis	LOS/Queue	Signal	TR MM 1: Modify signal timing TR MM 3: Modify signal phasing TR MM 7: Add storage to turn pockets	Provide eastbound right turn overlap phasing and optimize cycle length and splits. Modify median to provide additional storage for northbound and westbound left turn lanes (Project to provide fair share funding for modification to be implemented with the Town's Sierra College Boulevard roadway widening project between Taylor Road and Brace Road).	Provides right turn with green arrow allowing more vehicles to travel through the intersection. Creates longer turn pockets to hold more vehicles.
7	Sierra College Boulevard & Brace Road	Option 1B	Loomis	Queue	Signal	TR MM 1: Modify signal timing TR MM 4: Restripe Intersection	Restripe the westbound right lane to a shared westbound left-right lane. Optimize cycle length and splits.	Provides additional left turn lane, allowing more vehicles to turn left during each signal phase
8	Sierra College Boulevard & Granite Drive	Option 1A	Rocklin	LOS/Queue	Signal	TR MM 2: Provide signal coordination TR MM 4: Restripe Intersection	Restripe northbound right turn lane to shared through-right lane. Optimize cycle length with optimized splits based on current demand.	Provides additional through lane, allowing more vehicles to travel through the intersection. Provides additional left turn lane, allowing more vehicles to turn left during each signal phase
8	Sierra College Boulevard & Granite Drive	Options 1B, 1C	Rocklin	LOS/ Queue	Signal	TR MM 2: Provide signal coordination TR MM 4: Restripe Intersection	Restripe the southbound right turn lane to a shared through-right lane. Restripe westbound through lane to left turn and restripe westbound right turn lane to a shared through-right lane. Provide eastbound right turn overlap phasing. Coordinate signal timing with I-80 ramps.	Provides additional through lane, allowing more vehicles to travel through the intersection. Provides additional left turn lane, allowing more vehicles to turn left during each signal
9	Sierra College Boulevard & I-80 WB Ramps	Options 1A, 1B, 1C	Caltrans	LOS/Queue	Signal	TR MM 1: Modify signal timing TR MM 5: Add exclusive turn lanes	Provide an additional northbound left turn lane. Restripe westbound through- right lane to through lane and provide an additional westbound right turn lane. Optimize coordinated cycle.*	Provides additional left turn lane, allowing more northbound vehicles to turn left during each signal phase. New right- turn lane allows for separation of through and right turn traffic, increasing capacity
15	Pacific St & Dominguez Rd-Delmar Ave	Options 1A, 1B, 1C	Rocklin	LOS	Signal	TR MM 1: Modify signal timing	Optimize cycle length and splits.	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection

Table 4-10. Cumulative Short Term plus Project – Mitigation Measures

ID	Intersection	Option(s) Requiring Mitigation	Jurisdiction	Impact Type	Current Traffic Control	Mitigation Measure	Specific Actions Recommended	Effects of Mitigation
17	Granite Drive &Rocklin Road	Options 1A, 1B, 1C	Rocklin	LOS/Queue	Signal	TR MM 1: Modify signal timing	Optimize cycle length and splits.	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection
24	Sierra College Boulevard & Project Driveway	Option 1A	Loomis	Queue	Signal	TR MM 1: Modify signal timing	Provide cycle length optimized for queues with optimized splits based on current demand.	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection
26	Sierra College Boulevard & SR-193	Options 1A, 1B, 1C	Placer	LOS/Queue	TWSC	TR MM 6: Provide a traffic signal	Install a traffic signal.[1]	Provides protected time (stops major street) to facilitate minor street movements
27	Sierra College Boulevard & English	Options 1A, 1B, 1C	Placer	LOS	TWSC	TR MM 6: Provide a traffic signal	Install a traffic signal.[1]	Provides protected time (stops major street to facilitate minor street movements
29	Taylor Road& English Colony Way	Options 1A, 1B, 1C	Placer	LOS	TWSC	TR MM 6: Provide a traffic signal.	Install a traffic signal.[1]	Provides protected time (stops major street) to facilitate minor street movements
31	Taylor Road& Penryn Road (South)	Options 1A, 1B, 1C	Placer	LOS	TWSC	TR MM 6: Provide a traffic signal.	Install a traffic signal. [1]	Provides protected time (stops major street) to facilitate minor street movements
36	Taylor Road& Webb Street	Options 1A, 1B, 1C	Loomis	LOS	TWSC	TR MM 4: Restripe Intersection	Eliminate 3 parking spaces on the north side of Webb Street and provide a 50 foot westbound right turn pocket.	Provides right turn lane, allowing these vehicles to move through intersection without waiting behind left/through vehicles

Notes:

[1] Traffic signal warrants met for impacted condition and provided in Appendix J of the transportation impact analysis.

* Mitigation measure is considered infeasible to do limited right-of-way.

Source: Kittelson & Associates, Inc. 2019

Significance after Mitigation

To determine the effectivness of mitigation an intersection analysis was conducted by applying the mitigation measures identified in Table 65 of the transportation impact analysis (Kittelson & Associates 2019). Table 4-11 presents the LOS results in comparison to no Project conditions. The mitigation measures would reduce the LOS impacts to less than cumulatively considerable levels at some of the impacted locations; however, **significant and cumulatively considerable** impacts remain as shown. Some impacts are deemed to be significant and unavoidable impacts because the respective intersections are located beyond the Town of Loomis (lead agency) jurisdiction.

Table 4-11. Cumulative Short Term - Intersection LOS Analysis, Mitigation Results

ID	Intersection	Jurisdiction	Scenario	Short Term Delay (sec)	Short Term LOS	Mitigated Delay (sec)	Mitigated LOS	Change in Delay (sec)	Impact with mitigation?
Project Driveway Access Option 1A									
6	Sierra College Boulevard& Taylor Road	Loomis	MD	31.7	C	33.4	C	1.7	Less than cumulatively considerable
8	Sierra College Boulevard& Granite Drive	Rocklin	PM	58.2	E	36.7	D	-25.1	Significant and Cumulatively considerable*
			MD	39.9	D	42.0	d	2.1	Significant and Cumulatively considerable*
9	Sierra College Boulevard&I-80 Westbound Ramps	Caltrans	PM	66.5	E	75.1	E	6.6	Significant and Cumulatively considerable*
			MD	76.5	E	70.9	E	-5.6	Significant and Cumulatively considerable*
15	Pacific St & Dominguez Rd-Delmar Ave	Rocklin	MD	32.1	C	31.8	C	-0.3	Significant and Cumulatively considerable*
17	Granite Drive & Rocklin Road	Rocklin	MD	32.4	C	33.0	C	0.6	Significant and Cumulatively considerable*
26	Sierra College Boulevard& SR-193	Placer	PM	79.4	F	15.2	B	-64.2	Significant and Cumulatively considerable*
			MD	48.0	E	23.4	C	-24.6	Significant and Cumulatively considerable*
27	Sierra College Boulevard & English Colony Way	Placer	PM	78.8	F	8.4	A	-70.4	Significant and Cumulatively considerable*
			MD	25.5	D	5.0	A	-20.5	Significant and Cumulatively considerable*
29	Taylor Road & English Colony Way	Placer	MD	24.8	C	8.6	A	-16.2	Significant and Cumulatively considerable*
31	Taylor Road & Penryn Road (South)	Placer	AM	347.2	F	10.0	A	-337.2	Significant and Cumulatively considerable*
36	Taylor Road & Webb Street	Loomis	MD	8006.9	F	52.9[1]	F	-7,954.0	Less than cumulatively considerable
				9141.2[1]	F	52.9[1]	F	-9,088.3	
Project Driveway Access Option 1B									
6	Sierra College Boulevard & Taylor Road	Loomis	MD	31.7	C	Same results as Option 1A			
8	Sierra College Boulevard & Granite Drive	Rocklin	PM	58.2	E	47.2	D	-11.0	Significant unavoidable*
			MD	39.9	D	31.6	C	-8.3	Significant unavoidable*
9		Caltrans	PM	66.5	E	54.6	D	-11.9	Significant unavoidable*

Table 4-11. Cumulative Short Term - Intersection LOS Analysis, Mitigation Results

ID	Intersection	Jurisdiction	Scenario	Short Term Delay (sec)	Short Term LOS	Mitigated Delay (sec)	Mitigated LOS	Change in Delay (sec)	Impact with mitigation?
	Sierra College Boulevard & I-80 Westbound Ramps		MD	76.5	E	69.9	E	-6.6	Significant unavoidable*
15	Pacific St & Dominguez Rd-Delmar Ave	Rocklin	MD	32.1	C	Same results as Option 1A			
17	Granite Drive & Rocklin Road	Rocklin	MD	32.4	C	Same results as Option 1A			
26	Sierra College Boulevard & SR-193	Placer	PM	79.4	F	Same results as Option 1A			
			MD	48.0	E	Same results as Option 1A			
27	Sierra College Boulevard & English Colony Way	Placer	PM	78.8	F	Same results as Option 1A			
			MD	25.5	D	Same results as Option 1A			
29	Taylor Road & English Colony Way	Placer	MD	24.8	C	Same results as Option 1A			
31	Taylor Road & Penryn Road (South)	Placer	AM	347.2	F	Same results as Option 1A			
36	Taylor Road & Webb Street	Loomis	MD	8006.9	F	Same results as Option 1A			
				9141.2[1]	F				
			Project Driveway Access Option 1C						
6	Sierra College Boulevard & Taylor Road	Loomis	MD	31.7	C	Same results as Option 1A			
8	Sierra College Boulevard & Granite Drive	Rocklin	PM	58.2	E	Same results as Option 1B			
			MD	39.9	D	Same results as Option 1B			
9	Sierra College Boulevard & I-80 Westbound Ramps	Caltrans	PM	66.5	E	Same results as Option 1B			
			MD	76.5	E	Same results as Option 1B			
15	Pacific St & Dominguez Rd-Delmar Ave	Rocklin	MD	32.1	C	Same results as Option 1A			
17	Granite Drive & Rocklin Road	Rocklin	MD	32.4	C	Same results as Option 1A			
26	Sierra College Boulevard & SR-193	Placer	PM	79.4	F	Same results as Option 1A			
			MD	48.0	E	Same results as Option 1A			
27	Sierra College Boulevard & English Colony Way	Placer	PM	78.8	F	Same results as Option 1A			
			MD	25.5	D	Same results as Option 1A			
29	Taylor Road & English Colony Way	Placer	MD	24.8	C	Same results as Option 1A			
31	Taylor Road & Penryn Road (South)	Placer	AM	347.2	F	Same results as Option 1A			
36	Taylor Road & Webb Street	Loomis	MD	8006.9	F	Same results as Option 1A			

Notes:

*Though the mitigation measure improves the intersection operation to less than significant levels, the mitigation measures are outside of the lead agency jurisdiction's ability to determine feasibility and implement.

[1] Analysis run in HCS Software as the Synchro software was unable to assess the mitigation measure. The Short-Term Baseline condition was also analyzed in HCS to provide a comparison.

Source: Kittelson & Associates, Inc. 2019

IMPACT 4.3-9: Cumulative Impacts of Short-Term plus Project I-80 Mainline Operations. *Adding project-generated traffic to cumulative short-term traffic would not cause the LOS on the I-80 mainline in the study area to degrade below the applicable thresholds. The project's contribution is **not cumulatively considerable**.*

Cumulative Short-Term traffic volumes for the weekday a.m. and p.m. peak hours were added to project-generated traffic to arrive at the Short-Term plus Project total traffic volumes. Appendix E of the transportation impact analysis

(Kittelson & Associates 2019) includes the freeway mainline LOS worksheets. Table 4-12 through Table 4-14 outline the forecasted Short-Term and Cumulative Short-Term plus Project mainline volume, density, and associated LOS for each roadway segment, and apply to all Project Driveway Access Options. As shown, all study segments operate at acceptable LOS D or better regardless of the Project Driveway Access Option considered. Therefore, the project would not result in a cumulatively considerable contribution to a significant impact on the freeway mainline Cumulative Short-Term plus Project conditions. The Project would have a **less than cumulatively considerable impact** on I-80 mainline operations.

Table 4-12. Cumulative Short-Term—I-80 Mainline LOS Analysis, Weekday A.M. Peak Hour

ID	Segment	Direction	Cumulative Short-Term			Cumulative Short-Term plus Project			Change in Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	3,288	20.1	C	3,310	20.2	C	0.1
		WB	4,134	26.0	C	4,157	26.1	D	0.1
2	I-80 west of Sierra College Boulevard	EB	3,216	19.7	C	3,223	19.7	C	0.0
		WB	3,923	24.4	C	3,930	24.5	C	0.1

Notes: EB = eastbound; I-80 = Interstate 80; ID = identification number of study roadway segment; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2019

Table 4-13. Cumulative Short-Term—I-80 Mainline LOS Analysis, Weekday P.M. Peak Hour

ID	Segment	Direction	Cumulative Short-Term			Cumulative Short-Term plus Project			Change in Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	4,564	29.0	D	4,635	29.6	D	0.6
		WB	4,068	25.5	C	4,135	26.0	C	0.5
2	I-80 west of Sierra College Boulevard	EB	4,419	27.8	D	4,338	27.9	D	0.1
		WB	4,016	25.1	C	4,036	25.2	C	0.1

Notes: EB = eastbound; I-80 = Interstate 80; ID = identification number of study roadway segment; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2019

Table 4-14. Cumulative Short-Term—I-80 Mainline LOS Analysis, Weekday MD Peak Hour

ID	Segment	Direction	Cumulative Short-Term			Cumulative Short-Term plus Project			Change In Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	4,187	23.8	C	4,317	24.6	C	0.8
		WB	4,243	23.6	C	4,380	24.4	C	0.8
2	I-80 west of Sierra College Boulevard	EB	4,392	25.1	C	4,431	25.3	C	0.2
		WB	4,198	23.3	C	4,236	23.5	C	0.2

Notes: EB = eastbound; I-80 = Interstate 80; ID = identification number of study roadway segment; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2019

IMPACT 4.3-10: Cumulative Impacts of Long-Term plus Project Intersection Operations. *Adding project-generated traffic to cumulative long-term traffic would cause the LOS to degrade below the applicable thresholds and would result in the need for restriping, re-phasing, and optimization of the cycle length at study area intersections. The project's contributions to these impacts are cumulatively considerable.*

Project Driveway Access Option 1A

Figures 28 and 29 of the transportation impact analysis (Kittelson & Associates 2019) show the Cumulative Long-Term future without and plus Project traffic volumes for Project Driveway Access Option 1A during the weekday a.m. and p.m. peak hours and during the weekend midday peak hour, respectively. To determine the impact of proposed project traffic on the baseline roadway network, the project analysis assumed that study intersection signal timings would be unchanged from those under no project conditions.

Table 4-15 and Table 4-16 show the baseline Cumulative Long-Term No-Project and Plus Project delays and LOS for the study intersections during weekday a.m. and p.m. peak hours and during the weekend midday peak hour, respectively. Appendix B of the transportation impact analysis (Kittelson & Associates 2019) includes the LOS worksheets.

As shown in Tables 4-15 and 4-16, the following intersections operate at unacceptable LOS in the Cumulative Long Term Plus Project condition representing a **significant cumulative impact**:

- Taylor Road & King Road (AM and PM)
- Horseshoe Bar Road & I-80 Eastbound Ramp (AM, PM, and MD)
- Barton Road & Brace Road (MD)
- Sierra College Boulevard & Taylor Road (AM, PM, and MD)
- Sierra College Boulevard & Brace Road (PM)
- Sierra College Boulevard & Granite Drive (AM and PM)
- Sierra College Boulevard & Schriber Way (AM)
- Sierra College Boulevard & Bass Pro Drive/Dominguez Road (AM, PM, and MD)
- Sierra College Boulevard & Rocklin Road (AM, PM, and MD)
- Pacific Street & Dominguez Road/Delmar Avenue (AM, PM, and MD)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- I-80 Westbound Ramps & Rocklin Road (PM)
- I-80 Eastbound Ramps & Rocklin Road (AM)
- Granite Drive & Dominguez Road (AM, PM, and MD)
- El Don Drive & Rocklin Road (PM)
- Sierra College Boulevard & SR-193 (PM and MD)
- Sierra College Boulevard & English Colony Way (PM)
- Taylor Road & English Colony Way (AM and MD)
- Taylor Road & Del Oro High School North Lot (AM)
- Taylor Road & Del Oro High School Drop Off (AM and MD)
- Taylor Road & Del Oro High School South Lot (AM)
- Taylor Road & Rippey Road (AM)
- Taylor Road & Webb Street (AM and MD)

Based on the impact criteria defined earlier, the following intersections would be significantly impacted by the proposed project:

- Sierra College Boulevard & Taylor Road (MD)
- Sierra College Boulevard & Granite Drive (PM)
- Sierra College Boulevard & Bass Pro Drive/Dominguez Road (MD)
- Sierra College Boulevard & SR-193 (MD)
- Taylor Road & Webb Street (MD)

Table 4-15. Cumulative Conditions—Long-Term Traffic Conditions, Weekday A.M. and P.M. Peak Hours– Project Driveway Access Option 1A

ID	Intersection	Traffic Control Type	LOS Operating Goal	Weekday A.M.					Weekday P.M.				
				Cumulative Long-Term		Plus Project		Change in Delay (sec)	Cumulative Long-Term		Plus Project		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Road/King Road	Signal	D	**85.8**	**F**	**86.6**	**F**	0.8	**72.8**	**E**	**75.6**	**E**	2.8
2	Taylor Road/Horseshoe Bar Road	Signal	D	28.7	C	29.4	C	0.7	45.4	D	47.7	D	2.3
3	Horseshoe Bar Road/ I-80 WB ramp	Signal	D	13.1	B	13.1	B	0.0	15.5	B	15.5	B	0.0
4	Horseshoe Bar Road/ I-80 EB ramp	TWSC	D	**213.9**	**F**	**213.9**	**F**	0.0	**978.6**	**F**	**978.6**	**F**	0.0
5	Barton Road/Brace Road	TWSC	C	15.8	C	16.0	C	0.2	23.6	C	24.4	C	0.8
6	Sierra College Boulevard/Taylor Road	Signal	C	**67.3**	**E**	**69.0**	**E**	1.7	**51.9**	**D**	**55.9**	**E**	4.0
7	Sierra College Boulevard/Brace Road	Signal	D	12.9	B	17.1	B	4.2	**137.4**	**F**	**76.5**	**F**	-60.9
8	Sierra College Boulevard/Granite Drive	Signal	C	**36.4**	**D**	**37.6**	**D**	1.2	**68.5**	**E**	**118.0**	**F**	49.5
9	Sierra College Boulevard/I-80 WB ramps	Signal	E	37.1	D	37.4	D	0.3	46.1	D	70.0	E	23.9
10	Sierra College Boulevard/I-80 EB ramps	Signal	E	39.7	D	47.5	D	7.8	48.6	D	52.0	D	3.4
11	Sierra College Boulevard/Schriber Way	Signal	C	**37.6**	**D**	38.6	D	1.0	16.1	B	16.2	B	0.1
12	Sierra College Boulevard/Bass Pro Drive–Dominguez Road	Signal	C	**122.3**	**F**	**123.4**	**F**	1.1	**102.4**	**F**	**106.9**	**F**	4.5
13	Sierra College Boulevard/Stadium driveway	Signal	C	26.7	C	27.1	C	0.4	19.3	B	20.5	C	1.2
14	Sierra College Boulevard/Rocklin Road	Signal	C	**66.1**	**E**	**66.7**	**E**	0.6	**172.8**	**F**	**175.7**	**F**	2.9
15	Pacific Street/Dominguez Road–Delmar Avenue	Signal	C	**444.3**	**F**	**445.7**	**F**	1.4	**755.8**	**F**	**751.2**	**F**	-4.6
16	Pacific Street/Rocklin Road	Signal	C	**129.7**	**F**	**129.9**	**F**	0.2	**104.9**	**F**	**105.9**	**F**	1.0
17	Granite Drive/Rocklin Road	Signal	C	**37.1**	**D**	**37.7**	**D**	0.6	**43.9**	**D**	**45.7**	**D**	1.8
18	I-80 WB ramps/Rocklin Road	Signal	D	36.3	D	36.3	D	0.0	**57.7**	**E**	**57.7**	**E**	0.0
19	I-80 EB ramps/Rocklin Road	Signal	D	**66.3**	**E**	**66.3**	**E**	0.0	45.8	D	45.8	D	0.0
20	Aguilar Road/Rocklin Road	Signal	C	19.5	B	19.6	B	0.1	13.8	B	13.8	B	0.0
21	Sierra College Boulevard/driveway south of Brace Road	TWSC	C	1.2	A	1.2	A	0.0	23.5	C	24.5	C	1.1
22	Granite Drive/Dominguez Road	Signal	C	**36.7**	**D**	**36.7**	**D**	0.0	**54.4**	**D**	**55.3**	**E**	0.9
23	El Don Drive/Rocklin Road	Signal	C	33.2	C	33.3	C	0.1	**59.6**	**E**	**59.6**	**E**	0.0
24	Sierra College Boulevard/Project Driveway	Signal	C	**ERR**[1]	**F**	17.7	B	-	**6299.3**	**F**	31.7	C	-6197.6

Table 4-15. Cumulative Conditions—Long-Term Traffic Conditions, Weekday A.M. and P.M. Peak Hours– Project Driveway Access Option 1A

ID	Intersection	Traffic Control Type	LOS Operating Goal	Weekday A.M.					Weekday P.M.				
				Cumulative Long-Term		Plus Project		Change in Delay (sec)	Cumulative Long-Term		Plus Project		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
25	Brace Road/Project Driveway	TWSC	DNE	0.0	A	-	DNE		DNE		13.9	B	-
26	Sierra College Blvd/SR-193	Signal	D	46.6	D	47.1	D	0.5	**133.1**	**F**	**135.5**	**F**	2.4
27	Sierra College Blvd/ English Colony Way	Signal	C	15.8	B	16.0	B	0.2	**57.5**	**E**	**59.0**	**E**	1.5
28	Sierra College Blvd/ Delmar Avenue2	Signal	C	14.5	B	14.6	B	0.1	8.0	A	8.6	A	0.6
29	Taylor Rd/English Colony Way	Signal	C	**40.7**	**D**	**41.1**	**D**	0.4	30.1	C	30.2	C	0.1
30	Taylor Rd/Penryn Road (North)	TWSC	C	23.3	C	23.4	C	0.1	10.6	B	10.7	B	0.1
31	Taylor Rd/Penryn Road (South)	Signal	C	19.1	B	19.2	B	0.1	22.6	C	22.8	C	0.2
32	Taylor Rd/Del Oro High School North Lot1	TWSC	C	**765.0**	**F**	**765.0**	**F**	0.0	14.7	B	15.0	C	0.3
33	Taylor Rd/Del Oro High School Drop-Off1	TWSC	C	**1584.5**	**F**	**1610.3**	**F**	25.8	15.8	C	16.1	C	0.3
34	Taylor Rd/Del Oro High School South Lot1	TWSC	C	**187.1**	**F**	**187.2**	**F**	0.1	17.3	C	17.6	C	0.3
35	Taylor Rd/Rippey Road	TWSC	C	**25.9**	**D**	**26.2**	**D**	0.3	11.2	B	11.3	B	0.1
36	Taylor Rd/ Webb Street	TWSC	C	**4103.8**	**F**	**4103.8**	**F**	0.0	21.0	C	21.9	C	0.9
37	Brace Road/Project Driveway East	TWSC	C	DNE		10.9	B	-	DNE		14.6	B	-

Notes:

DNE = intersection does not exist under no project conditions; EB = eastbound; I-80= Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds; TWSC = two-way stop control—delay reported reflects the critical movement; WB = westbound

Boldface type indicates intersections performing below acceptable LOS.

Source: Kittelson & Associates 2019

Table 4-16. Cumulative Conditions—Long-Term Traffic Condition, Weekend Midday Peak– Project Driveway Access Option 1A

ID	Intersection	Traffic Control Type	LOS Operating Goal	Cumulative Long-Term		Plus Project		Change in Delay (sec)
				Delay (sec)	LOS	Delay (sec)	LOS	
1	Taylor Rd/King Rd	Signal	D	29.5	C	32.9	C	3.4
2	Taylor Rd/Horseshoe Bar Rd	Signal	D	24.7	C	27.2	C	2.5
3	Horseshoe Bar Rd/I-80 Westbound Ramp	Signal	D	14.6	B	14.6	B	0.0
4	Horseshoe Bar Rd/I-80 Eastbound Ramp[1]	TWSC	D	**621.0**	**F**	**621.0**	**F**	0.0
5	Barton Rd/Brace Rd1	TWSC	C	**43.1**	**E**	**48.4**	**E**	5.3
6	Sierra College Blvd/Taylor Rd	Signal	C	33.2	C	**43.4**	**D**	10.2
7	Sierra College Blvd/Brace Rd	Signal	D	20.3	C	20.1	C	-0.2
8	Sierra College Blvd/Granite Dr	Signal	C	28.3	C	33.9	C	5.6
9	Sierra College Blvd/I-80 WB Ramps	Signal	E	42.2	D	62.2	E	20.0
10	Sierra College Blvd/I-80 EB Ramps	Signal	E	36.4	D	39.0	D	2.6
11	Sierra College Blvd/Schriber Way	Signal	C	16.0	B	16.1	B	0.1
12	Sierra College Blvd/Bass Pro Dr-Dominguez Rd	Signal	C	**74.0**	**E**	**79.2**	**E**	5.2
13	Sierra College Blvd/Stadium Dwy	Signal	C	7.4	A	7.7	A	0.3
14	Sierra College Blvd/Rocklin Rd	Signal	C	**50.9**	**D**	**54.2**	**D**	3.3
15	Pacific St/Dominguez Rd-Delmar Ave	Signal	C	**56.4**	**E**	**60.4**	**E**	4.0
16	Pacific St/Rocklin Rd	Signal	C	**35.3**	**D**	**36.8**	**D**	1.5
17	Granite Dr/Rocklin Rd	Signal	C	**35.3**	**D**	**39.5**	**D**	4.2
18	I-80 Westbound Ramps/Rocklin Rd	Signal	D	23.2	C	23.2	C	0.0
19	I-80 Eastbound Ramps/Rocklin Rd	Signal	D	18.8	B	18.8	B	0.0
20	Aguilar Rd/Rocklin Rd	Signal	C	11.1	B	11.2	B	0.1
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	C	0.1	A	0.1	A	0.0
22	Granite Dr/Dominguez Rd	Signal	C	**73.9**	**E**	**76.9**	**E**	3.0
23	El Don Dr/Rocklin Rd	Signal	C	12.6	B	12.9	B	0.3
24	Sierra College Boulevard/Project Driveway	Signal	C	**898.5**	**F**	29.8	C	-868.7
25	Brace Road/Project Driveway	TWSC	C	DNE		12.0	B	–
26	Sierra College Blvd/SR-193	Signal	D	**186.1**	**F**	**192.6**	**F**	6.5
27	Sierra College Blvd/English Colony Way	Signal	C	18.9	B	19.7	B	0.8
28	Sierra College Blvd/Delmar Avenue[2]	Signal	C	3.3	A	3.4	A	0.1
29	Taylor Rd/English Colony Way	Signal	C	**48.8**	**D**	**50.0**	**D**	1.2
30	Taylor Rd/Penryn Road (North)	TWSC	C	11.3	B	11.4	B	0.1
31	Taylor Rd/Penryn Road (South)	Signal	C	17.1	B	17.0	B	-0.1
32	Taylor Rd/Del Oro High School North Lot	TWSC	C	20.7	C	22.1	C	1.4
33	Taylor Rd/Del Oro High School Drop-Off[1]	TWSC	C	**29.5**	**D**	**32.6**	**D**	3.1
34	Taylor Rd/Del Oro High School South Lot	TWSC	C	20.8	C	21.8	C	1.0
35	Taylor Rd/Rippey Road	TWSC	C	11.2	B	11.5	B	0.3
36	Taylor Rd/Webb Street	TWSC	C	**435.6**	**F**	**721.9**	**F**	286.3
37	Brace Road/Project Driveway East	TWSC	C	DNE		12.9	B	-

Notes: DNE = intersection does not exist under no project conditions; EB = eastbound; I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds; TWSC = two-way stop control—the delay reported reflects the critical movement; WB = westbound

Boldface type indicates intersections performing below acceptable LOS.

[1] An impact is significant in situations when the intersection is already operating at unacceptable LOS and the Project adds trips to the intersection exceeding 5% of the total traffic already at the intersection. At these locations, the project does not contribute 5% or more of the volumes.

Source: Kittelson & Associates 2019

The proposed project would contribute to an impact at the study locations listed above, by increasing delay or dropping the LOS to below acceptable levels. The proposed project's contribution to traffic volumes at these locations would be **cumulatively considerable** and mitigation is needed to improve the operating conditions.

Project Driveway Access Options 1B & 1C

Project Driveway Access Options 1B and 1C would affect Cumulative Short Term plus Project traffic volumes at study intersections 7, 8, 21, 24, 25, and 37 due to the driveway routing. All other study intersections would have the same Cumulative Short Term plus Project traffic volumes under Project Driveway Access Options 1B and 1C as they would under Project Driveway Access Option 1A. Figures 30 and 31 of the transportation impact analysis (Kittelson & Associates 2019) show the Cumulative Long-Term future without and plus Project traffic volumes for Project Driveway Access Option 1B & 1C during the weekday a.m. and p.m. peak hours and during the weekend midday peak hour, respectively. To determine the impact of proposed project traffic on the baseline roadway network, the project analysis assumed that study intersection signal timings would be unchanged from those under no project conditions.

Table 4-17 shows the baseline Cumulative Long Term and Plus Project delays and LOS for these affected study intersections during the weekday AM and PM peak hours. Table 4-18 shows the baseline Cumulative Long Term and Plus Project delays and LOS for the study intersections during the weekend midday peak hour. As shown in the two tables, none of the six affected study intersections affected by site trip routing to the Project driveways are significantly impacted by the proposed Project for Project Driveway Access Options 1B and 1C.

Table 4-17. Cumulative Long Term Plus Project - Intersection LOS Analysis, Weekday AM/PM Peak Hour – Project Driveway Access Options 1B & 1C

ID	Intersection	Traffic Control Type	Weekday AM					Weekday PM				
			Long Term		Plus Project		Change in Delay (sec)	Long Term		Plus Project		Change in Delay (sec)
			Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
Driveway Option 1B												
7	Sierra College Blvd/Brace Rd	Signal	12.9	B	48.0	D	35.1	**137.4**	**F**	**87.9**	**F**	-49.5
8	Sierra College Blvd/Granite Dr	Signal	**36.4**	**D**	**38.8**	**D**	2.4	**68.5**	**E**	**55.3**	**E**	-13.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	1.2	A	1.2	A	0.0	23.5	C	24.6	C	1.1
24	Sierra College Blvd/Project Driveway	Signal	**ERR[1]**	F	17.4	B	-	**6299.3**	**F**	31.3	C	-6,198.0
25	Brace Road/Project Driveway	TWSC	DNE		0.0	A	-	DNE		13.9	B	-
37	Brace Road/Project Driveway East	TWSC	DNE					DNE				
Driveway Option 1C												
7	Sierra College Blvd/Brace Rd	Signal	12.9	B	17.1	B	4.2	**137.4**	**F**	**76.5**	**F**	-60.9
8	Sierra College Blvd/Granite Dr	Signal	**36.4**	**D**	**38.8**	**D**	2.4	**68.5**	**E**	**55.3**	**E**	-13.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	1.2	A	1.2	A	0.0	23.5	C	24.5	C	1.0
24	Sierra College Blvd/Project Driveway	Signal	**ERR[1]**	**F**	17.3	B	-	**6299.3**	**F**	30.6	C	-6,225.7
25	Brace Road/Project Driveway	TWSC	DNE		0.0	A	-	DNE		13.9	B	-
37	Brace Road/Project Driveway East	TWSC	DNE		10.9	B	-	DNE		14.6	B	-

Notes:

AWSC: All-way stop control – The average intersection delay is reported.

TWSC: Two-way stop control - delay reported reflects the critical movement.

DNE: Intersection does not exist under no Project conditions.

Boldface type indicates intersections performing below acceptable LOS. Refer to Table 1 for applicable operating standards.

[1] Due to the high volumes, HCM2010 was unable to report approach delay

Source: Kittelson & Associates, Inc. 2019

Table 4-18. Cumulative Long Term Plus Project - Intersection LOS Analysis, Weekend Midday Peak Hour – Project Driveway Access Options 1B & 1C

ID	Intersection	Traffic Control Type	Long Term		Plus Project		Change in Delay (sec)
			Delay (sec)	LOS	Delay (sec)	LOS	
Driveway Option 1B							
7	Sierra College Blvd/Brace Rd	Signal	20.3	C	29.4	C	9.1
8	Sierra College Blvd/Granite Dr	Signal	28.3	C	29.5	C	1.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	0.1	A	0.1	A	0.0
24	Sierra College Boulevard/Project Driveway	Signal	**898.5**	F	29.6	C	-868.9
25	Brace Road/Project Driveway	TWSC	DNE		12.0	B	-
37	Brace Road/Project Driveway East	TWSC	DNE				
Driveway Option 1C							
7	Sierra College Blvd/Brace Rd	Signal	20.3	C	19.8	B	-0.5
8	Sierra College Blvd/Granite Dr	Signal	28.3	C	29.5	C	1.2
21	Sierra College Blvd/Dwy South of Brace Rd	TWSC	0.1	A	0.1	A	0.0
24	Sierra College Boulevard/Project Driveway	Signal	**898.5**	F	28.3	C	-870.2
25	Brace Road/Project Driveway	TWSC	DNE		12.0	B	-
37	Brace Road/Project Driveway East	TWSC	DNE		12.9	B	-

Notes:

AWSC: All-way stop control – The average intersection delay is reported.

TWSC: Two-way stop control - The delay reported reflects the critical movement.

DNE: Intersection does not exist under no Project conditions.

Boldface type indicates intersections performing below acceptable LOS. Refer to Table 1 for applicable operating standards.

Source: Kittelson & Associates, Inc. 2019

The proposed project would contribute to an impact at the study locations listed above, by increasing delay or dropping the LOS to below acceptable levels. The proposed project's contribution to traffic volumes at these locations would be **cumulatively considerable** and mitigation is needed to improve the operating conditions. The following mitigation measures were evaluated to reduce the Project impacts to less than cumulatively considerable levels. Initial evaluation of potential timing and phasing mitigation measures were not sufficient to address impacts. Geometric mitigation measures such as second through lanes and dual left turn lanes would be required to reduce impacts to less than cumulatively considerable levels.

Table 4-19 presents the intersection mitigation measures under Cumulative Long Term plus Project Conditions.

Table 4-19. Cumulative Long Term plus Project – Mitigation Measures

ID	Intersection	Project Option(s) Requiring Mitigation	Jurisdiction	Impact Type	Current Traffic Control	Mitigation Measure	Specific Actions Recommended	Effects of Mitigation
1	Taylor Road& King Road	Options 1A, 1B, 1C	Loomis	Queue	Signal	TR MM 1: Modify signal timing	Optimize cycle length and splits.	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection
2	Taylor Road& Horseshoe Bar Road	Options 1A, 1B, 1C	Loomis	Queue	Signal	TR MM 1: Modify signal timing	Optimize cycle length and splits.	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection
6	Sierra College Boulevard & Taylor Rd	Options 1A, 1B, 1C	Loomis	LOS/ Queue	Signal	TR MM 1: Modify signal timing TR MM 3: Modify signal phasing TR MM 7: Add storage to turn pockets	Provide eastbound right turn overlap phasing and optimize cycle length and splits. Modify median to provide additional storage for northbound and westbound left turn lanes (Project to provide fair-share funding for modification to be implemented with the Town's Sierra College Boulevard roadway widening project between Taylor Road and Brace Road)	Provides right turn with green arrow allowing more vehicles to travel through the intersection. Creates longer turn pockets to hold more vehicles.
7	Sierra College Boulevard & Brace Road	Option 1B	Loomis	Queue	Signal	TR MM 1: Modify signal timing TR MM 4: Restripe Intersection	Restripe the westbound right lane to a shared westbound left-right lane. Optimize cycle length and splits.	Provides additional left turn lane, allowing more vehicles to turn left during each signal phase
8	Sierra College Boulevard &Granite Drive	Option 1A	Rocklin	LOS/ Queue	Signal	TR MM 2: Provide signal coordination TR MM 4: Restripe Intersection	Restripe northbound right turn lane to a shared through-right lane. Restripe eastbound right turn to shared through-right lane, restripe eastbound through lane to second left turn lane. Coordinate signal timing with I-80 ramps.	Provides additional through lane, allowing more vehicles to travel through the intersection. Provides additional left turn lane, allowing more vehicles to turn left during each signal phase
8	Sierra College Boulevard & Granite Drive	Options 1B, 1C	Rocklin	Queue	Signal	TR MM 2: Provide signal coordination TR MM 4: Restripe Intersection	Restripe westbound through lane to left turn and restripe westbound right turn lane to a shared through-right lane. Provide eastbound right turn overlap phasing. Optimize cycle length and splits. Coordinate signal timing with I-80 ramps.	Provides additional left turn lane, allowing more vehicles to turn left during each signal phase
9	Sierra College Boulevard & I-80 WB Ramps	Option 1A	Caltrans	Queue	Signal	TR MM 1: Modify signal timing TR MM 5: Add exclusive turn lanes.	Provide an additional northbound left turn lane. Optimize coordinated cycle lengths.*	Provides additional left turn lane, allowing more vehicles to turn left during each signal phase
9	Sierra College Boulevard & I-80 WB Ramps	Option 1B, 1C	Caltrans	Queue	Signal	TR MM 1: Modify signal timing; TR MM 5: Add exclusive turn lanes.	Provide an additional northbound left turn lane. Optimize coordinated cycle lengths.	Provides additional left turn lane, allowing more vehicles to turn left during each signal phase

Table 4-19. Cumulative Long Term plus Project – Mitigation Measures

ID	Intersection	Project Option(s) Requiring Mitigation	Jurisdiction	Impact Type	Current Traffic Control	Mitigation Measure	Specific Actions Recommended	Effects of Mitigation
12	Sierra College Boulevard/ Bass Pro Dr-Dominguez Road	Options 1B, 1C	Rocklin	LOS	Signal	TR MM 1: Modify signal timing	Optimize cycle length and splits.	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection
17	Granite Drive& Rocklin Road	Options 1A, 1B, 1C	Rocklin	Queue	Signal	TR MM 1: Modify signal timing	Optimize cycle length and splits.	Assigns green time to the highest demand movements allowing more vehicles to travel through the intersection
24	Sierra College Boulevard & Project Dwy	Options 1A	Loomis	Queue	Signal	TR MM 2: Provide signal coordination	Coordinate signal timing with Granite Drive and I-80 ramps.	Provides better progression through corridor
24	Sierra College Boulevard & Project Dwy	Options 1B, 1C	Loomis	Queue	Signal	TR MM 7: Add storage to turn pockets	Modify median to provide additional storage for southbound left turn lane (Project to implement with Sierra College Boulevard roadway widening along Project frontage).	Creates longer turn pockets to hold more vehicles
26	Sierra College Boulevard & SR-193	Option 1A	Placer	LOS	Signal	TR MM 1: Modify signal timing TR MM 5: Add exclusive turn lanes	Provide an additional northbound left turn lane and optimize cycle lengths and splits.	Provides additional left turn lane, allowing more vehicles to turn left during each signal phase
36	Taylor Road& Webb Street	Options 1A,1B, 1C	Loomis	LOS	TWSC	TR MM 4: Restripe Intersection	Eliminate 3 parking spaces on the north side of Webb Street and provide a 50-foot westbound right turn pocket.	Provides right turn lane, allowing these vehicles to move through intersection without waiting behind left/through vehicles

Notes: * Though the mitigation measure improves the intersection operation to less than significant levels, the mitigation measures are outside of the lead agency jurisdiction's ability to determine feasibility and implement.

Queuing analysis results at intersection impacted by changes at Sierra College Boulevard & Granite Drive intersection to the north that impact coordinated traffic signal timing and thus impact queuing.

Source: Kittelson & Associates, Inc. 2019

Significance after Mitigation

The proposed mitigation measures were applied to the study intersections to evaluate LOS and queuing effects. Table 4-20 presents the LOS results in comparison to no Project conditions. The mitigation measures would reduce the LOS impacts to less than cumulatively considerable levels at some of the impacted locations; however, significant and unavoidable impacts remain, as shown. Some impacts are deemed to be **significant and unavoidable** impacts because the respective intersections are located beyond the Town of Loomis (lead agency) jurisdiction.

Table 4-20. Cumulative Long Term - Intersection LOS Analysis, Mitigation Results

ID	Intersection	Jurisdiction	Scenario	Long Term		Mitigated		Change in Delay (sec)	Impact with mitigation?
				Delay (sec)	LOS	Delay (sec)	LOS		
			Project Driveway Access Option 1A						
6	Sierra College Boulevard & Taylor Rd	Loomis	MD	33.2	C	35.0	C	1.8	Less than significant
8	Sierra College Boulevard & Granite Drive	Rocklin	PM	68.5	E	57.8	E	-10.7	Significant unavoidable*
12	Sierra College Boulevard/ Bass Pro Dr-Dominguez Road	Rocklin	MD	74.0	E	76.5	E	2.5	Significant unavoidable*
26	Sierra College Boulevard & SR-193	Placer	MD	186.1	F	71.1	E	-115.0	Significant unavoidable*
36	Taylor Road & Webb Street	Loomis	MD	435.6	F	428.9	F	-6.7	Less than significant
			Project Driveway Access Option 1B						
6	Sierra College Boulevard & Taylor Rd	Loomis	MD	33.2	C	Same results as Option 1A			
12	Sierra College Boulevard/ Bass Pro Dr-Dominguez Road	Rocklin	MD	74.0	E	Same results as Option 1A			
26	Sierra College Boulevard & SR-193	Placer	MD	186.1	F	Same results as Option 1A			
36	Taylor Road & Webb Street	Loomis	MD	435.6	F	Same results as Option 1A			
			Project Driveway Access Option 1C						
6	Sierra College Boulevard & Taylor Rd	Loomis	MD	33.2	C	Same results as Option 1A			
12	Sierra College Boulevard/ Bass Pro Dr-Dominguez Road	Rocklin	MD	74.0	E	Same results as Option 1A			
26	Sierra College Boulevard & SR-193	Placer	MD	186.1	F	Same results as Option 1A			
36	Taylor Road & Webb Street	Loomis	MD	435.6	F	Same results as Option 1A			

Notes: I-80 = Interstate 80; ID = identification number of study intersection; LOS = level of service; sec = seconds.

* Though the mitigation measure improves the intersection operation to less than significant levels, the mitigation measures are outside of the lead agency jurisdiction's ability to determine feasibility and implement.

Source: Kittelson & Associates 2019

IMPACT 4.3-11: Cumulative Impacts of Long-Term plus Project I-80 Mainline Operations. *Adding project-generated traffic to cumulative long-term traffic would not cause the LOS on the I-80 mainline in the study area to degrade below acceptable levels of service except for I-80 east and west of Sierra College Boulevard during the p.m. peak hour. These two freeway segments operate at LOS E in the future without project condition. However, because the baseline measure of effectiveness (MOE) of LOS E is maintained in the future with project condition, the project's contribution under the long term plus project condition is not cumulatively considerable. The impact would be* ***less than cumulatively considerable.***

Cumulative long-term traffic volumes for the weekday a.m. and p.m. peak hours were added to the project-generated traffic to arrive at the Long-Term Cumulative plus Project traffic volumes. Appendix E of the transportation impact analysis (Kittelson & Associates 2019) includes the freeway mainline LOS worksheets. Tables 4-21 through 4-23 outline mainline volume, density, and associated LOS for the study segments in the Cumulative Long-Term and Cumulative Long-Term plus Project conditions. As shown, all study segments would operate at acceptable LOS D or better with project traffic for all Project Driveway Access Options considered except for I-80 east of Sierra College Boulevard and I-80 west of Sierra College Boulevard. However, Caltrans' baseline measure of effectiveness (MOE) of LOS E is maintained, so the project contribution to the freeway mainline would not significantly affect operating conditions in the cumulative long term plus project condition. Therefore, the impact on the freeway mainline under Cumulative Long-Term plus Project conditions would be **less than cumulatively considerable**.

Table 4-21. Cumulative Long-Term—I-80 Mainline LOS Analysis, Weekday A.M. Peak Hour

ID	Segment	Direction	Long Term			Long Term Plus Project			Change in Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	4,780	30.09	D	4,802	31.1	D	0.2
		WB	4,700	30.7	D	4,723	30.9	D	0.2
2	I-80 west of Sierra College Boulevard	EB	5,000	33.0	D	5,007	33.1	D	0.1
		WB	4,290	27.1	D	4,267	27.2	D	0.1

Notes:

EB = eastbound; I-80 = Interstate 80; ID = identification number of study segment; LOS = level of service; WB = westbound * Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2019

Table 4-22. Cumulative Long-Term—I-80 Mainline LOS Analysis, Weekday P.M. Peak Hour

ID	Segment	Direction	Long Term			Long Term Plus Project			Change in Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	5,060	30.9	D	5,131	31.5	D	0.6
		WB	5,440	35.8	E	5,507	36.6	E	0.8
2	I-80 west of Sierra College Boulevard	EB	4,440	26.1	D	4,459	26.2	D	0.1
		WB	5,50	37.1	E	5,570	37.3	E	0.2

Notes:

EB = eastbound; I-80 = Interstate 80; ID = identification number of study segment; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates, Inc. 2019

Table 4-23. Cumulative Long-Term—I-80 Mainline LOS Analysis, Weekend Midday Peak Hour

ID	Segment	Direction	Long Term			Long Term Plus Project			Change in Density
			Volume	Density*	LOS	Volume	Density*	LOS	
1	I-80 east of Sierra College Boulevard	EB	5,340	32.4	D	5,470	33.7	D	1.3
		WB	5,030	28.9	D	5,167	30.0	D	1.1
2	I-80 west of Sierra College Boulevard	EB	5,350	32.5	D	5,389	32.9	D	0.4
		WB	5,050	29.0	D	5,088	29.3	D	0.3

Notes:

EB = eastbound; I-80 = Interstate 80; ID = identification number of study segment; LOS = level of service; WB = westbound

* Density means passenger cars per mile per lane.

Source: Kittelson & Associates 2019

IMPACT 4.3-12: Potential for Creation of Substantial Traffic-Related Hazards under Cumulative Short-Term plus Project Conditions. *The proposed Costco Wholesale warehouse trips would increase queues at study area intersections in the cumulative short-term condition, resulting in the potential for conflicting movements to cause a hazardous traffic condition. Improvements needed in the cumulative short-term plus project condition would include re-phasing and optimization of cycle length at study area intersections. The impact would be* ***cumulatively considerable****.*

Appendix C of the transportation impact analysis (Kittelson & Associates 2019) includes the queuing worksheets for the weekday a.m., p.m., and weekend midday peak hours.

Project Driveway Access Option 1A

As shown, forecast Cumulative Short-Term plus Project 95th percentile queues are projected to extend beyond the available storage lengths at the following intersections.

- Taylor Road & King Road (AM, PM, and MD)
- Taylor Road & Horseshoe Bar Road (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Westbound Ramp (AM, PM, and MD)
- Sierra College Boulevard & Taylor Road (AM, PM, and MD)
- Sierra College Boulevard & Brace Road (PM and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 WB Ramps (AM, PM and MD)
- Sierra College Boulevard & I-80 EB Ramps (PM and MD)
- Sierra College Boulevard & Schriber Way (AM, PM, and MD)
- Sierra College Boulevard & Rocklin Road (AM, PM, and MD)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- I-80 Westbound Ramps & Rocklin Road (PM and MD)
- I-80 Eastbound Ramps & Rocklin Road (AM, PM, and MD)
- Aguilar Road & Rocklin Road (AM)
- El Don Drive & Rocklin Road (AM)
- Sierra College Boulevard & Project Driveway (MD)
- Sierra College Boulevard & SR-193 (MD)
- Taylor Road & English Colony Way (AM and MD)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)

In addition, the queues reported at the above locations would affect operations at the upstream locations, as shown:

- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The northbound left-turn at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- The northbound through at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- The southbound through at Sierra College Boulevard & I-80 WB Ramps would affect operations at Sierra College Boulevard & Granite Drive (AM, PM and MD)
- The southbound through at Sierra College Boulevard & Schriber Way would affect operations at Sierra College Boulevard & I-80 EB Ramps (AM, PM, and MD)
- The westbound left at I-80 Westbound Ramps & Rocklin Road would affect operations at I-80 Eastbound Ramps & Rocklin Road (PM)
- The westbound through at I-80 Eastbound Ramps & Rocklin Road would affect operations at Aguilar Road & Rocklin Road (AM and PM)

- The eastbound through at Aguilar Road & Rocklin Road would affect operations at I-80 Eastbound Ramps & Rocklin Road (AM)

A significant impact occurs under Cumulative Short-Term plus Project conditions at the following intersections:

- Taylor Road & Horseshoe Bar Road (MD)
- Sierra College Boulevard & Taylor Road (PM and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 WB Ramps (AM, PM, and MD)
- Granite Drive & Rocklin Road (MD)
- Sierra College Boulevard & Project Driveway (MD)
- Sierra College Boulevard & SR-193 (MD)

Please note that the queues at some study intersections may be lower when compared to existing conditions due to signal timing optimization and/or recirculation of traffic due to the addition of approved/pending projects.

Project Driveway Access Options 1B & 1C

Project Driveway Access Options 1B and 1C would affect operations of study intersections 7, 8, 21, 24, 25, and 37 due to driveway trip routing. All other study intersections would operate the same under Project Driveway Access Options 1B and 1C as they would under Project Driveway Access Option 1A. One or more 95th percentile queues would extend beyond the available storage lengths at the following intersections (for those intersections affected by the driveway options) under Cumulative Short-Term plus Project conditions:

- Sierra College Boulevard & Brace Road (PM and MD)[2]
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)

In addition, the queues reported at the above locations would affect operations at the upstream locations, as shown:

- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The northbound left-turn at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- The northbound through at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM and MD)
- The southbound through at Sierra College Boulevard & I-80 WB Ramps would affect operations at Sierra College Boulevard & Granite Drive (AM, PM and MD)

In addition to the locations impacted by Project Driveway Access Option 1A, the Project contributes 5% of the total traffic for the movement), an intersection queue significant impact occurs at the following affected study area intersections:

- Sierra College Boulevard & Brace Road (PM and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)

Mitigation measures were identified in Table 65 of the transportation impact analysis (Kittelson & Associates 2019). Table 4-24 outlines the queueing results. The mitigation measures would reduce the LOS and queue impacts to less than significant levels at some of the impacted locations; however, **significant and unavoidable** impacts remain, as shown. Some impacts are deemed to be significant and unavoidable impacts because the respective intersections are located beyond the Town of Loomis (lead agency) jurisdiction.

[2] Weekday PM and Weekend Midday peak hour impacted for Project Driveway Access Option 1B only.

Table 4-24. Cumulative Short-Term plus Project—Intersection Queuing Analysis, Signal Coordination Mitigation Results

ID	Intersection	Juris-diction	Peak Hour	Move-ment	Storage (feet)	No Project Queue (feet)	Mitigated Queue (feet)	Impact with mitigation?
				Project Driveway Access Option 1A				
2	Taylor Road & Horseshoe Bar Road	Loomis	MD	NBT	400	449	475	Significant unavoidable[1]
				SBT	380	367	423	Significant unavoidable[1]
6	Sierra College Boulevard & Taylor Rd	Loomis	PM	NBL	210	218	217	Less than significant[2]
			MD	NBL	210	206	254	Less than significant[2]
				WBL	215	269	290	Less than significant[2]
8	Sierra College Boulevard & Granite Drive	Rocklin	AM	SBT	495	474	282	Significant unavoidable*
			PM	NBT	370	618	417	Significant unavoidable*
				SBT	495	817	806	Significant unavoidable*
			MD	NBT	370	432	326	Significant unavoidable*
				SBT	495	655	537	Significant unavoidable*
				EBL	185	236	234	Significant unavoidable*
9	Sierra College Boulevard & I-80 Westbound Ramps	Caltrans	AM	SBT	370	428	167	Significant unavoidable*[3]
			PM	SBT	370	868	749	Significant unavoidable*[3]
			MD	SBT	370	782	781	Significant unavoidable*[3]
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	353	351	Significant unavoidable*
24	Sierra College Boulevard & Project Driveway	Loomis	MD	SBL	190	-	181	Less than significant
26	Sierra College Boulevard & SR-193	Placer	MD	NBR	40	43	30	Significant unavoidable*
				Project Driveway Access Option 1B				
2	Taylor Road & Horseshoe Bar Road	Loomis	MD	NBT	400	Same results as Option 1A		
				SBT	380	Same results as Option 1A		
6	Sierra College Boulevard & Taylor Rd	Loomis	PM	NBL	210	Same results as Option 1A		
			MD	NBL	210	Same results as Option 1A		
				WBL	215	Same results as Option 1A		
7	Sierra College Boulevard & Brace Road	Loomis	PM	SBL	170	148	148	Less than significant
			MD	WBL	100	140	100	Less than significant
8	Sierra College Boulevard & Granite Drive	Rocklin	AM	SBT	495	474	358	Significant unavoidable*
				WBL	160	216	101	Significant unavoidable*
			PM	NBT	370	618	217	Significant unavoidable*

Table 4-24. Cumulative Short-Term plus Project—Intersection Queuing Analysis, Signal Coordination Mitigation Results

ID	Intersection	Juris-diction	Peak Hour	Move-ment	Storage (feet)	No Project Queue (feet)	Mitigated Queue (feet)	Impact with mitigation?
				SBT	495	817	578	Significant unavoidable*
				WBL	160	163	102	Significant unavoidable*
			MD	NBT	370	432	259	Significant unavoidable*
				SBT	495	655	576	Significant unavoidable*
				EBL	185	236	228	Significant unavoidable*
				WBL	160	199	115	Significant unavoidable*
9	Sierra College Boulevard & I-80 Westbound Ramps	Caltrans	AM	SBT	370	428	143	Significant unavoidable*[3]
			PM	SBT	370	868	832	Significant unavoidable*[3]
			MD	SBT	370	782	782	Significant unavoidable*[3]
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	Same results as Option 1A		
				Project Driveway Access Option 1C				
2	Taylor Road & Horseshoe Bar Road	Loomis	MD	NBT	400	Same results as Option 1A		
				SBT	380	Same results as Option 1A		
6	Sierra College Boulevard & Taylor Rd	Loomis	PM	NBL	210	Same results as Option 1A		
			MD	NBL	210	Same results as Option 1A		
				WBL	215	Same results as Option 1A		
8	Sierra College Boulevard & Granite Drive	Rocklin	AM	SBT	495	Same results as Option 1B		
				WBL	160	Same results as Option 1B		
			PM	NBT	370	Same results as Option 1B		
				SBT	495	Same results as Option 1B		
				WBL	160	Same results as Option 1B		
			MD	NBT	370	Same results as Option 1B		
				SBT	495	Same results as Option 1B		
				EBL	185	Same results as Option 1B		
				WBL	160	Same results as Option 1B		
9	Sierra College Boulevard & I-80 Westbound Ramps	Caltrans	AM	SBT	370	Same results as Option 1B		
			PM	SBT	370	Same results as Option 1B		
			MD	SBT	370	Same results as Option 1B		
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	Same results as Option 1A		

Notes: NB: northbound, SB: southbound, EB: eastbound, WD: westbound, L: left turn lane, T: through lane, R: right turn lane

*Though the mitigation measure improves the intersection operation to less than significant levels, the mitigation measures are outside of the lead agency jurisdiction's ability to determine feasibility and implement.

[1] The proposed mitigation does not reduce queues to No Project Conditions and additional geometric improvements are not feasible due to site constraints.

[2] Less than significant with 254 feet of storage provided for NBL and 290 feet of storage provided for WBL as mitigation measure.

[3] Note queuing analysis results at intersection impacted by changes at Sierra College Boulevard & Granite Drive intersection to the north that impact coordinated traffic signal timing and thus impact queuing.

Source: Kittelson & Associates, Inc. 2019

IMPACT 4.3-13: Potential for Creation of Substantial Traffic-Related Hazards under Cumulative Long-Term plus Project Conditions. *The proposed Costco Wholesale warehouse trips would increase queues at study area intersections, resulting in a potential for conflicting movements to cause a hazardous traffic condition, and would result in the need for re-phasing and optimization of the cycle length at study area intersections. This cumulative impact would be* ***cumulatively considerable****.*

Appendix C of the transportation impact analysis (Kittelson & Associates 2019) also includes the queuing worksheets Cumulative Long-Term plus Project Conditions for the weekday a.m., p.m. and weekend midday peak hours.

Project Driveway Access Option 1A

As shown, Cumulative Long-Term plus Project forecast 95th percentile queues are projected to extend beyond the available storage lengths at the following intersections under cumulative Long-Term plus Project Conditions.

- Taylor Road & King Road (AM, PM, and MD)
- Taylor Road & Horseshoe Bar Road (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Westbound Ramp (AM, PM, and MD)
- Horseshoe Bar Road & I-80 Eastbound Ramp (PM and MD)
- Sierra College Boulevard & Taylor Road (AM, PM, and MD)
- Sierra College Boulevard & Brace Road (AM, PM, and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 WB Ramps (AM, PM, and MD)
- Sierra College Boulevard & I-80 EB Ramps (AM, PM, and MD)
- Sierra College Boulevard & Schriber Way (AM, PM, and MD)
- Sierra College Boulevard & Bass Pro Drive/Dominguez Road (AM, PM, and MD)
- Sierra College Boulevard & Stadium Dwy (AM and PM)
- Sierra College Boulevard & Rocklin Road (AM, PM, and MD)
- Pacific Street & Dominguez Road/Delmar Avenue (AM and PM)
- Pacific Street & Rocklin Road (AM, PM, and MD)
- Granite Drive & Rocklin Road (AM, PM, and MD)
- I-80 Westbound Ramps & Rocklin Road (AM, PM, and MD)
- I-80 Eastbound Ramps & Rocklin Road (AM and PM)
- Aguilar Road & Rocklin Road (AM)
- Granite Drive & Dominguez Road (AM, PM, and MD)
- El Don Drive & Rocklin Road (AM and PM)
- Sierra College Boulevard & Project Driveway (AM, PM, and MD)
- Sierra College Boulevard & SR-193 (AM, PM, and MD)
- Sierra College Boulevard & English Colony Way (AM, PM, and MD)
- Sierra College Boulevard & Delmar Avenue (AM)
- Taylor Road & English Colony Way (AM, PM, and MD)
- Taylor Road & Penryn Road (south) (AM, PM, and MD)
- Taylor Road & Del Oro High School North Lot (AM)
- Taylor Road & Del Oro High School Drop Off (AM)
- Taylor Road & Del Oro High School South Lot (AM)

In addition, the queues reported at the above locations would affect operations at the upstream locations, as shown:

- The westbound through at Horseshoe Bar Road & I-80 Eastbound Ramp would back up to the I-80 Eastbound mainline (PM and MD)
- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)

- The southbound left-turn at Sierra College Boulevard & Brace Road would affect operations at Sierra College Boulevard & Taylor Road (PM)
- The northbound left-turn at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (AM)
- The northbound through at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM)
- The southbound through at Sierra College Boulevard & I-80 WB Ramps would affect operations at Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- The southbound through at Sierra College Boulevard & Schriber Way would affect operations at Sierra College Boulevard & I-80 EB Ramps (AM and PM)
- The southbound through at Sierra College Boulevard & Bass Pro Drive/Dominguez Road would affect operations at Sierra College Boulevard & Schriber Way (AM and PM)
- The westbound left-turn at I-80 Westbound Ramps & Rocklin Road would affect operations at I-80 Eastbound Ramps & Rocklin Road (PM)
- The westbound through at I-80 Eastbound Ramps & Rocklin Road would affect operations at Aguilar Road & Rocklin Road (PM)
- The northbound through at Sierra College Boulevard & Project Driveway would affect operations at Sierra College Boulevard & Granite Drive (PM).

Based on the intersection queuing significant impact criteria presented in Section 2 (Project traffic causes queue overflow or if queues overflow under no Project, the Project contributes 5% of the total traffic for the movement), an intersection queue **cumulatively considerable** impact occurs at the following intersections under Cumulative Long-Term plus Project conditions:

- Taylor Road & King Road (MD)
- Taylor Road & Horseshoe Bar Road (MD)
- Sierra College Boulevard & Taylor Road (PM and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 WB Ramps (AM, PM, and MD)
- Granite Drive & Rocklin Road (MD)
- Sierra College Boulevard & Project Driveway (MD):

Project Driveway Access Options 1B & 1C

Options 1B and 1C would affect operations of study intersections 7, 8, 21, 24, 25, and 37 due to rerouting of trips at project driveways. Appendix C of the transportation impact analysis provides the summary table for the weekday AM, PM and weekend midday peak hours. Appendix G of the transportation impact analysis includes the Project contribution tables. One or more 95th percentile queues would extend beyond the available storage lengths at the following intersections under Cumulative Long-Term plus Project conditions:

- Sierra College Boulevard & Brace Road (AM, PM, and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & Project Driveway (AM, PM, and MD)

In addition, the queues reported at the above locations would affect operations at the upstream locations as shown:

- The northbound through at Sierra College Boulevard & Taylor Road would affect operations at Sierra College Boulevard & Brace Road (PM)
- The southbound left-turn at Sierra College Boulevard & Brace Road would affect operations at Sierra College Boulevard & Taylor Road (PM)
- The northbound left-turn at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (AM)
- The northbound through at Sierra College Boulevard & Granite Drive would affect operations at Sierra College Boulevard & I-80 WB Ramps (PM)

- The northbound through at Sierra College Boulevard & Project Driveway would affect operations at Sierra College Boulevard & Granite Drive (PM)

Based on the intersection queuing significant impact criteria presented in Section 2 (Project traffic causes queue overflow or if queues overflow under no Project, the Project contributes 5% of the total traffic for the movement), an intersection queue significant impact occurs at the following intersections:

- Taylor Road & King Road (MD)
- Taylor Road & Horseshoe Bar Road (MD)
- Sierra College Boulevard & Brace Road (PM[3] and MD)
- Sierra College Boulevard & Granite Drive (AM, PM, and MD)
- Sierra College Boulevard & I-80 WB Ramps (AM, PM, and MD)
- Granite Drive & Rocklin Road (MD)
- Sierra College Boulevard & Project Driveway (MD)

Therefore, the proposed Costco Wholesale warehouse trips would cause a **cumulatively considerable** impact because increased delay would cause a queuing impact at the above intersections. Please note that the queues at some study intersections may be lower than under existing conditions because of signal timing optimization and/or recirculation of traffic with the addition of approved/pending projects. Table 68 of the transportation impact analysis (Kittelson & Associates 2019), presents the intersection mitigation measures under Cumulative Long Term plus Project Conditions.

Significance after Mitigation

The proposed mitigation measures shown in Table 68 of the transportation impact analysis (Kittelson & Associates 2019), were applied to the study intersections to evaluate queuing effects (Table 4-25). The mitigation measures would reduce the queue impacts to less than cumulatively considerable levels at some of the impacted locations, including Intersections 1, 2, 6, and 24 for Project Driveway Access Option 1A and 1, 2, 6, 7, and 24 for Option 1B, and 1, 2, 6, and 24 for Option 1C (see Table 70 from the transportation impact analysis). However, **significant and unavoidable** impacts remain, as shown. Impacts are deemed to be significant and unavoidable because the respective intersections are located beyond the Town of Loomis (lead agency) jurisdiction.

[3] Weekday PM peak hour impacted for Project Driveway Access Option 1B only.

Table 4-22. Cumulative Long-Term plus Project – Mitigation Measures

ID	Intersection	Jurisdiction	Peak Hour	Movement	Storage (feet)	No Project Queue (feet)	Mitigated Queue (feet)	Impact with mitigation?
Project Driveway Access Option 1A								
1	Taylor Road & King Road	Loomis	MD	WBL	95	110	110	Less than cumulatively considerable
2	Taylor Road & Horseshoe Bar Road	Loomis	MD	NBT	400	504	494	Less than cumulatively considerable
6	Sierra College Boulevard& Taylor Rd	Loomis	PM	NBL	210	217	214	Less than cumulatively considerable
			MD	NBL	210	205	203	Less than cumulatively considerable
				WBL	215	256	288	Less than cumulatively considerable[1]
8	Sierra College Boulevard& Granite Drive	Rocklin	AM	NBT	365	285	205	Cumulatively considerable and unavoidable[2]
				SBT	495	586	571	Cumulatively considerable and unavoidable*
			PM	NBT	365	1078	616	Cumulatively considerable and unavoidable*
				SBT	495	487	466	Cumulatively considerable and unavoidable[2]
			MD	NBT	365	384	318	Cumulatively considerable and unavoidable*
				SBT	495	260	416	Cumulatively considerable and unavoidable*
				EBL	185	301	199	Cumulatively considerable and unavoidable*
9	Sierra College Boulevard&I-80 WB Ramps	Caltrans	AM	SBT	370	803	863	Cumulatively considerable and unavoidable[2]
			PM	SBT	370	874	750	Cumulatively considerable and unavoidable*
			MD	SBT	370	595	166	Cumulatively considerable and unavoidable*
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	419	395	Cumulatively considerable and unavoidable*
24	Sierra College Boulevard & Project Driveway	Loomis	PM	SBL	190	-	123	Less than cumulatively considerable
			MD	SBL	190	-	182	Less than cumulatively considerable
Project Driveway Access Option 1B								
1	Taylor Road & King Road	Loomis	MD	WBL	95	Same results as Project Driveway Access Option 1A		
2	Taylor Road & Horseshoe Bar Road	Loomis	MD	NBT	400	Same results as Project Driveway Access Option 1A		
6		Loomis	PM	NBL	210	Same results as Project Driveway Access Option 1A		
			MD	NBL	210	Same results as Project Driveway Access Option 1A		

Table 4-22. Cumulative Long-Term plus Project – Mitigation Measures

ID	Intersection	Jurisdiction	Peak Hour	Movement	Storage (feet)	No Project Queue (feet)	Mitigated Queue (feet)	Impact with mitigation?
	Sierra College Boulevard & Taylor Road			WBL	215	Same results as Project Driveway Access Option 1A		
7	Sierra College Boulevard & Brace Road	Loomis	PM	WBL	100	149	149	Less than cumulatively considerable
			MD	SBL	170	264	262	Less than cumulatively considerable
				WBL	100	115	109	Less than cumulatively considerable
8	Sierra College Boulevard & Granite Drive	Rocklin	AM	SBT	495	586	606	Cumulatively considerable and unavoidable[2]
				WBL	160	263	135	Cumulatively considerable and unavoidable*
			PM	NBT	365	1078	823	Cumulatively considerable and unavoidable*
				SBT	495	487	694	Cumulatively considerable and unavoidable[2]
				WBL	160	162	119	Cumulatively considerable and unavoidable*
			MD	NBT	365	384	384	Cumulatively considerable and unavoidable*
				WBL	160	138	96	Cumulatively considerable and unavoidable*
9	Sierra College Boulevard & I-80 WB Ramps	Caltrans	AM	SBT	370	803	849	Cumulatively considerable and unavoidable[2,3]
			PM	SBT	370	874	974	Cumulatively considerable and unavoidable[2,3]
			MD	SBT	370	595	712	Cumulatively considerable and unavoidable[2,3]
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	Same results as Project Driveway Access Option 1A		
24	Sierra College Boulevard & Project Driveway	Loomis	MD	SBL	190	-	207	Less than cumulatively considerable
	Project Driveway Access Option 1C							
1	Taylor Road & King Road	Loomis	MD	WBL	95	Same results as Project Driveway Access Option 1A		
2	Taylor Road & Horseshoe Bar Road	Loomis	MD	NBT	400	Same results as Project Driveway Access Option 1A		
6	Sierra College Boulevard & Taylor Road	Loomis	PM	NBL	210	Same results as Project Driveway Access Option 1A		
			MD	NBL	210	Same results as Project Driveway Access Option 1A		
				WBL	215	Same results as Project Driveway Access Option 1A		
8	Sierra College Boulevard & Granite Drive	Rocklin	AM	SBT	495	Same results as Project Driveway Access Option 1B		
				WBL	160	Same results as Project Driveway Access Option 1B		
			PM	NBT	365	Same results as Project Driveway Access Option 1B		
				SBT	495	Same results as Project Driveway Access Option 1B		
				WBL	160	Same results as Project Driveway Access Option 1B		

Table 4-22. Cumulative Long-Term plus Project – Mitigation Measures

ID	Intersection	Jurisdiction	Peak Hour	Movement	Storage (feet)	No Project Queue (feet)	Mitigated Queue (feet)	Impact with mitigation?
			MD	NBT	365	Same results as Project Driveway Access Option 1B		
				WBL	160	Same results as Project Driveway Access Option 1B		
9	Sierra College Boulevard & I-80 WB Ramps	Caltrans	AM	SBT	370	Same results as Project Driveway Access Option 1B		
			PM	SBT	370	Same results as Project Driveway Access Option 1B		
			MD	SBT	370	Same results as Project Driveway Access Option 1B		
17	Granite Drive & Rocklin Road	Rocklin	MD	EBL	225	Same results as Project Driveway Access Option 1A		
24	Sierra College Boulevard & Project Driveway	Loomis	MD	SBL	190	Same results as Project Driveway Access Option 1A		

NB: northbound, SB: southbound, EB: eastbound, WD: westbound, L: left turn lane, T: through lane, R: right turn lane

*Though the mitigation measure improves the intersection operation to less than significant levels, the mitigation measures are outside of the lead agency jurisdiction's ability to determine feasibility and implement.

[1] Less than cumulatively considerable with 356 feet of storage provided for WBL as mitigation measure.

[2] The impact could not be mitigated to less than cumulatively considerable levels. A fourth southbound through lane may be needed to accommodate traffic volumes

[3] Note queuing analysis results at intersection impacted by changes at Sierra College Boulevard & Granite Drive intersection to the north that impact coordinated traffic signal timing and thus impact queuing.

[4] Less than cumulatively considerable with 207 feet of storage provided for SBL.

Source: Kittelson & Associates, Inc. 2019

Impact 4.3-14: Cumulative Decrease in Capacity of Freeway Ramps. *The proposed project would incrementally increase vehicles using the I-80 WB freeway ramp. The impact created by vehicle queuing at the ramp would be* ***less than cumulatively considerable****.*

Ramp metering analysis was requested by Caltrans during the scoping process to determine whether queues from the future ramp meter at the I-80 Westbound slip ramp from southbound Sierra College Boulevard would exceed storage and affect operations along the arterial. The following analysis addresses this request.

Cumulative Short-Term plus Project

Table 4-26 shows the calculated queues in feet and the minimum metering rate in vehicles per hour. The generated queues are accommodated within the available 1,200-foot long storage area. The impact is **less than cumulatively considerable**.

Table 4-23. Cumulative Short-Term Conditions, I-80 Westbound Slip Ramp Meter Analysis

Peak Hour	Short Term		Short Term Plus Project	
	Meter Rate (Vehicles/Hour)	Calculated Queue (Feet)	Meter Rate (Vehicles/Hour)	Calculated Queue (Feet)
AM	240	11	240	55
PM	300	134	240	316
MD	300	0	300	86

Source: Kittelson & Associates 2019

Cumulative Long-Term plus Project

Table 4-27 shows the calculated queues in feet and the minimum metering rate in vehicles per hour. The generated queues are accommodated within the available 1,200-foot long storage area under the cumulative long-term condition. The impact is **less than cumulatively considerable**.

Table 4-24. Cumulative Long-Term Conditions, I-80 Westbound Slip Ramp Meter Analysis

Peak Hour	Long Term		Long Term Plus Project	
	Meter Rate (Vehicles/Hour)	Calculated Queue (Feet)	Meter Rate (Vehicles/Hour)	Calculated Queue (Feet)
AM	240	0	240	0
PM	450	473	450	954
Mid	450	134	450	563

Source: Kittelson & Associates 2019

IMPACT 4.3-15: Cumulative Decrease in Performance or Safety of Public Transit, Bicycle, or Pedestrian Facilities. *The proposed project is expected to minimally increase transit ridership in the study area. The project would minimally increase pedestrian and bicycle traffic in the study area off-site. This cumulative impact with respect to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities would be* ***less than cumulatively considerable****.*

Cumulative Short-Term plus Project

The proposed Project would provide pedestrian facilities on-site linking with public facilities along the site frontages on Sierra College Boulevard and Brace Road to provide connectivity with existing facilities. Pedestrian crosswalks would be provided at proposed new signalized Costco site access intersection on Sierra College Boulevard. The project would reconstruct the Type II bicycle facility on Sierra College Boulevard northbound along the site frontage, including providing separate northbound right-turn lanes at the proposed signalized project access and at Brace Road. In addition, the project would provide bicycle parking on site for both members and employees.

Due to the nature of products and services provided, the project would minimally increase pedestrian and bicycle traffic in the study area. Sidewalk connections would be provided along the project site frontage with the proposed development along Sierra College Boulevard. The project would not be in conflict with applicable Town pedestrian and bicycle plans for any of the Project Driveway Access Options considered. The Project would have a **less than cumulatively considerable** impact on pedestrian and bicycle facilities.

Due to the nature of products and services provided by the project and limited transit connectivity provided adjacent to the site, the project would minimally increase transit ridership in the study area. The nearest stop is approximately 0.6 mile from the project site for routes with one-hour and two-hour headways. Due to the distance to the stop, relatively long headways, and employee shift times, it is unlikely that a significant number of employee trips would be added to the transit network. The project would not be in conflict with applicable Placer County Transit plans or encroach on any lines or stops. The project would have a **less than cumulatively considerable** impact on transit services and a new transit stop is not warranted at the project site.

Project impacts on traffic flow could affect travel time for transit vehicles. Traffic flow impacts are addressed in the intersection evaluation sections of this study.

Cumulative Long-Term plus Project

The proposed project would provide pedestrian facilities on-site linking with public facilities along the site frontages on Sierra College Boulevard and Brace Road to provide connectivity with existing facilities. The project would reconstruct the Type II bicycle facility on Sierra College Boulevard northbound along the site frontage, including providing separate northbound right-turn lanes at the proposed signalized project access and at Brace Road. In addition, the project would provide bicycle parking on site for both members and employees.

Due to the nature of products and services provided, the project would minimally increase pedestrian and bicycle traffic in the study area. Sidewalk connections would be provided along the project site frontage with the proposed development along Sierra College Boulevard. The project would not be in conflict with applicable Town pedestrian and bicycle plans for any of the Project Driveway Access Options considered. The project would have a **less than cumulatively considerable impact** related to pedestrian and bicycle facilities.

Due to the nature of products and services provided by the Project and limited transit connectivity provided adjacent to the site, the Project would minimally increase transit ridership in the study area. The nearest stop is approximately 0.6 mile from the Project site for routes with one-hour and two-hour headways. Due to the distance to the stop, relatively long headways, and employee shift times, it is unlikely that a significant number of employee trips would be added to the transit network. The project would not be in conflict with applicable Placer County Transit plans or encroach on any lines or stops. The project would have a **less than cumulatively considerable impact** on transit services and a new transit stop is not warranted at the project site.

Project impacts on traffic flow could affect travel time for transit vehicles. Traffic flow impacts are addressed in the intersection evaluation sections of this study.

4.3.7 Energy

Impact 4.3-16: Cumulative Energy Impacts. *The proposed project would incorporate several processes and design elements specifically selected with the goal of reducing the proposed project's overall energy requirements from construction through operations. The buildings would meet or exceed the energy performance standards found in CCR Title 24, including the Building Energy Efficiency Standards in the California Green Building Standards Code (CCR Title 24, Part 11). The proposed project does not interfere with any applicable renewable energy or energy efficiency plans. The impact is* ***less than cumulatively considerable****.*

Energy would be consumed through all phases of project construction and operations. Energy-requiring activities range from equipment operation, to building operations and lighting of the parking lot, to transportation during all phases of the proposed project. Similarly, the proposed project would incorporate several processes and design elements specifically selected with the goal of reducing the proposed project's overall energy requirements from construction through operations. In addition, implementing existing air quality regulations (see Section 3.3, "Air Quality") would further reduce fuel consumption during construction and implementing Mitigation Measure GHG-1 would further reduce transportation-related energy requirements during operations. To maximize energy efficiency in all practicable ways relevant to the proposed project, the buildings would also meet or exceed the energy performance standards found in CCR Title 24, including the Building Energy Efficiency Standards in the California Green Building Standards Code (CCR Title 24, Part 11). The project does not interfere with any applicable renewable energy or energy efficiency plans. The impact is **less than cumulatively considerable**.

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5. Other CEQA Requirements

In accordance with Section 15126 of the State CEQA Guidelines, all aspects of a project should be considered when evaluating its impacts on the environment, including planning, acquisition, development, and operation. As part of the analyses, this chapter of the DEIR identifies the following three components that are referred to collectively as other CEQA considerations:

- growth-inducing impacts of the proposed project (Section 5.1),
- significant irreversible environmental changes if the proposed project is implemented (Section 5.2), and
- effects found not to be significant (Section 5.3).

5.1 Growth-Inducing Impacts

Section 15126.2(d) of the State CEQA Guidelines requires that an EIR describe potential ways in which the proposed project could foster economic or population growth, either directly through the construction of additional housing or indirectly by removing obstacles to growth through improvements to infrastructure or economic stimulation. CEQA emphasizes that growth in an area should not be considered as beneficial, detrimental, or of little significance.

5.1.1 Population Growth

The proposed project is a commercial use that does not include housing units. Therefore, the project would not directly increase population in the project area and is not likely to generate indirect growth by encouraging individuals outside of Loomis to migrate in search of employment opportunities. Project operation would generate 170 full-time positions, while Placer County's existing labor force is approximately 186,900 persons, according to the California Employment Development Department (EDD 2019). Placer County's unemployment rate stood at 2.8 percent in October 2019 based on data from the California Employment Development Department (EDD 2019). Using this information, the available labor force in the County is estimated to be 4,900 persons, enough to meet the demand for full-time positions to operate the project without in-migration of people from outside the region. Project operation would not result in any indirect growth impacts.

5.1.2 Removal of Obstacles to Growth

Growth in an area may result from the removal of physical impediments or restrictions to growth. In this context, physical growth impediments may include nonexistent or inadequate access to an area or the lack of essential public services such as water or sewer service. The following analysis discusses each of these impediments and evaluates the effects of the proposed project relative to the criterion.

5.1.2.1 Roads

An existing roadway network serves the project site and provides good regional access to I-80. The proposed project does not require construction of new roads that would provide access to an area previously inaccessible to motor vehicles. However, due to concerns regarding traffic, alternative site access plans have been developed (Project Driveway Access Options 1B and 1C) and include the extension of the existing Granite Road south of the project.

5.1.2.2 Utilities

All required municipal services are available to the project site from backbone systems located in the surrounding road rights-of-way. On-site utility systems would be sized and constructed to meet the demand of the proposed project only and would not extend to vacant land that could promote growth of vacant parcels. Existing utility service providers can accommodate demand for service that would be created by operation of the proposed project, as discussed below in Section 5.3, "Effects Found Not to Be Significant."

5.1.3 Economic Growth

The project site is designated for commercial use by the *Town of Loomis General Plan* (General Plan), and project operation would increase economic activity relative to existing conditions, consistent with the General Plan's land use goals to increase economic activity through sales of goods and services. Specifically, increased economic activity is consistent with Goal 9 of the General Plan's Land Use Element, which states:

> 9. To improve the Town's commercial base to increase municipal revenues and provide a wider range of goods and services for local residents, in addition to encouraging some commercial uses near the freeway and in the downtown that can attract or serve patrons from outside the community.

5.2 Significant Irreversible Environmental Changes

Section 15126.2(c) of the State CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the proposed project. Generally, a project would result in significant irreversible environmental changes if:

- the primary and secondary impacts would generally commit future generations to similar uses;
- the project would involve a large commitment of nonrenewable resources;
- the project would involve uses in which irreversible damage would result from any potential environmental accidents associated with the project; or
- the proposed consumption of resources is not justified (i.e., the project would involve the wasteful use of energy).

The proposed project would commit the site to a developed use because it is economically infeasible to restore the site to its pre-development open space conditions after the project has been implemented.

The types and level of development associated with the proposed project would consume limited, slowly renewable, and nonrenewable resources. This consumption would occur during construction of the proposed project and would continue throughout its operational lifetime. Development of the proposed project would require a commitment of resources that would include building materials, fuel and operational materials/resources, and the transportation of goods and people to and from the project site.

The commitment of resources required for the type and level of proposed development would limit the availability of these resources for future generations for other uses. However, this resource consumption would be consistent with growth and anticipated change in Loomis and the Placer County region. The proposed project includes a variety of best management practices (BMPs) that would avoid wasteful use of energy and encourage recycling and reuse of materials. As identified in Section 2.3.3.4 of this EIR, the proposed project would incorporate the following operational energy conservation practices and features used by Costco into the building and parking field design:

- Using light-emitting diode (LED) lamps provides a higher level of perceived brightness with less energy than other lamps such as the high-pressure sodium type.
- Use of pre-manufactured building components, including structural framing and metal panels, helps to minimize waste during construction.
- Pre-manufactured metal wall panels with insulation carry a higher energy efficiency rating (R-Value) and greater solar reflectivity to help conserve energy consumed to heat and cool the structure.
- Costco uses a reflective “cool roof” material to produce lower heat absorption, thereby lowering energy requirements during the summer when the heating, ventilation, and air conditioning (HVAC) system is running hard.
- HVAC comfort systems are controlled by a computerized building management system to maximize efficiency.
- HVAC units are high-efficiency directed duct units.
- Parking lot lights are controlled by the project's energy management system.

With application of these operational features, construction and operation of the proposed project would not represent a wasteful consumption of resources.

5.3 Effects Found Not to Be Significant

Section 15060(d) of the State CEQA Guidelines allows a lead agency to begin the EIR process immediately after deeming an application complete and determining that a project is subject to CEQA if the project would clearly require an EIR. Consistent with this guidance, the Town elected to skip preparation of an initial study for the proposed project and begin work directly on the EIR by releasing a notice of preparation (NOP). In the absence of an initial study, the Town provides the reasons described below for determining which effects would be scoped out from further review in the DEIR.

5.3.1 Resource Topics with No Impacts

5.3.1.1 Agriculture and Forestry Resources

According to the Placer County Important Farmland map, published by the California Department of Conservation's Division of Land Resource Protection, the project site is designated as Grazing Land, land that is used for residential, industrial, commercial, institutional, and public utility structures and for other developed purposes (DOC 2016a). Appendix G of the State CEQA Guidelines states that conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to nonagricultural use establishes a significant environmental effect for the conversion of agricultural land. Grazing Land is not considered Important Farmland under CEQA (California Public Resources Code [PRC], Sections 21060.1 and 21095; State CEQA Guidelines, Appendix G).

The project site is not zoned for agricultural use or under a Williamson Act contract (DOC 2016). The site also is not cultivated or adjacent to cultivated farmland. Therefore, the proposed project would not convert Important Farmland or active agricultural land to nonagricultural uses, conflict with zoning for agricultural uses, or conflict with existing Williamson Act contracts. **No impact** on agricultural resources would occur and this issue is not evaluated further in this EIR.

The project site is not zoned as forestland, timberland, or a Timberland Production Zone. Appendix G of the State CEQA Guidelines further defines forestland as land that can support 10% native tree cover and woodland vegetation of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resource (timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation) and other public benefits (PRC Section 12220[g]). The project site contains oak woodland and other trees; however, these trees would not be considered forestland as defined by PRC Section 12220(g) (see Section 3.4, "Biological Resources," for further discussion). **No impact** on forestry resources would occur and this issue is not evaluated further in this EIR.

5.3.1.2 Mineral Resources

Appendix G of the State CEQA Guidelines states that a project would have a significant impact if it would result in the loss of availability of a known mineral resource of value to the state or locally important mineral resource recovery site. No mineral resources are identified in the General Plan as being present on or near the project site. Neither the General Plan nor any other relevant land use plans (the *Placer County General Plan*, Surface Mining and Reclamation Act of 1975 Mineral Land Classification Map) designate any sites for mineral resource recovery. Because no mineral resources are present in Loomis, **no impact** would occur related to the potential loss of availability of a known mineral resource that would be of value to the region/state or a locally important mineral resource. Therefore, this issue is not evaluated further in this EIR.

5.3.1.3 Population and Housing

Appendix G of the State CEQA Guidelines states that a project would have a significant impact if it would induce substantial unplanned population growth in an area or displace substantial number of existing housing. The proposed project does not propose population growth and is not a linear feature that would divide an existing community. No residences are located on the project site; therefore, the proposed project would not result in the displacement of substantial numbers of people or occupied housing units that would necessitate the construction of replacement housing elsewhere.

Sufficient labor force is available in the area to meet the employment opportunities provided by the project. Project operation would require an average daily workforce of approximately 170 full-time employees. The source of the labor force is unknown at this time, but workers likely would come from the local labor pool. As of September 2019, the unemployment rate for Placer County was estimated at 2.6 percent, with the total number of unemployed persons looking for a job estimated at 6,400 (EDD 2019). Using this information, the available labor force of the region is sufficient to meet the demand for full-time positions to operate the project without in-migration of people that may increase demand for housing units.

As discussed in Section 5.3.1.2, the proposed project would construct parking spaces, onsite circulation and landscaped areas on parcels 045-042-23, 045-042-011, 045-042-012, designated and zoned Residential High Density/R-H and Residential Medium High Density/RM-H, respectively, and parcels 045-042-034 and 045-042-036, which are partially designated and zoned Residential Medium High Density/RM-5, the majority of the remainder of the parcels designated and zoned General Commercial/CG. Parking and landscaping are allowed uses in residential designations/zones. The proposed use of residentially-designated/zoned land would not reduce the potential for residential units, as multi-family residential units are allowed within the CG commercial zone at a density of two to ten units per acre in a mixed use project. Development of the project site would reduce the amount of vacant land available to accommodate future housing needs identified in the Regional Housing Needs Assessment. However, this would not result in the displacement of existing people or housing, and it would not prevent the Town from having adequate inventory of vacant parcels to accommodate the Regional Housing Needs Assessment goals.

Population, housing, and employment growth, in and of itself, is not an environmental impact. However, increased population, employment, and housing can result in indirect impacts. Examples include increased travel demand that requires additional roadways and other transportation infrastructure, with associated air pollutant emissions and traffic noise; and impacts related to expansion of public facilities and utilities as needed to serve new growth. Specific impacts on other resources and issue areas are addressed in each technical section of this EIR as appropriate. These technical sections provide a detailed analysis of other relevant physical environmental effects that could result from the proposed project. In summary, **no impact** would occur related to unplanned population growth or displacement of housing or people, and this issue is not evaluated further in this EIR.

5.3.1.4 Wildfire

Appendix G of the State CEQA Guidelines states that a project would have a significant impact if it was located in or near a high fire hazard severity zone and would; 1) substantially impair an emergency response or evacuation plan, 2) exacerbate wildfire risk by placement of use in a manner that would expose project occupants to pollutant concentrations from uncontrolled wildfire, or 3) require installation of infrastructure that exacerbates fire risk. The CAL FIRE map “Fire Hazard Severity Zones in LRA” for Placer County identifies the project site and surrounding area as a Non–Very High Fire Hazard Severity Zone, which indicates that the risk of wildland fire hazards is not considered high or very high (CAL FIRE 2008). Because the project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones, **no impact** related to wildfires would occur. This issue is not discussed further in this EIR.

5.3.2 Resource Topics with Less-Than-Significant Impacts and Impacts Mitigated to a Level of Less than Significant

5.3.2.1 Cultural Resources, including Tribal Cultural Resources

Appendix G of the State CEQA Guidelines states that a project would have a significant impact if it would cause a substantial adverse change in the significance of either an historic or archeological resource, or disturbs human remains including those interred outside a formal cemetery. A cultural resources inventory was prepared to document on-site resources and determine the potential for project-related impacts.[1] The inventory included an examination of data collected from earlier efforts, contact with the Native American Heritage Commission (NAHC), and an archaeological examination of the project area. See Appendix F for a copy of the cultural resources inventory of the project site.

The Town of Loomis distributed the NOP on May 15, 2017, to tribal organizations that had requested to be informed of CEQA projects under Assembly Bill (AB) 52. AECOM also contacted the NAHC to request a records search of the Sacred Lands file to identify recognized tribes culturally and traditionally affiliated with the project area. The United Auburn Indian Community responded to this consultation request and a representative from the tribe was present during field investigations at the project site. No tribal cultural resources were identified on or adjacent to the project

[1] Cultural resources are defined as buildings, sites, districts, structures, burials, or objects having historical, architectural, archaeological, or cultural importance.

site during this consultation. Therefore, **no impact** on known tribal cultural resources would occur and this issue is not evaluated further in this EIR.

The literature search and field inventory of the project area identified one historic cultural resource site, consisting of house foundations, a historic road, and a trash scatter, and two isolated ground stone fragments. Neither the house nor the road is associated with important people or events. The foundation and road remnants have no distinctive characteristics of construction, nor do they represent the work of an important or creative individual. There is no evidence of artifacts with potential data value at the location of the house foundation, and the trash scatter does not have large numbers of artifacts or significant artifacts that could yield information important in history. Thus, these resources are not significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California and are not considered historic for purposes of CEQA.

Two isolated groundstones were found in a recently disturbed heavy-equipment track on the property. No evidence of midden soil, bedrock milling features, or other artifacts was noted. Groundstone #1, a possible chopper or mano fragment, measures 11.5 centimeters (cm) long by 11.5 cm wide by 5.5 cm thick. Groundstone #2, which appears to be an unshaped mano, measures 14.6 cm long by 8.1 cm wide by 4.2 cm thick. Because they lack context or association with other evidence of prehistoric cultural activity, these artifacts are not eligible for listing in the California Register of Historic Resources and are not considered a unique archaeological resource as defined in PRC Section 21083.2.

Because no historical or unique archaeological resources are located on the project site, no impact would occur with project construction and operation. However, it is possible for previously undiscovered cultural resources to be exposed during project construction activity. In the absence of proper evaluation and management, the project could disturb previously unknown artifacts, potentially resulting in damage to one or more historical resources or unique archaeological resources. This impact would be potentially significant but would be **less than significant with implementation of Mitigation Measure CUL-1**. Therefore, this issue is not evaluated further in this EIR.

No evidence of prehistoric or early historic interments was found during background research and field surveys; however, this does not preclude the existence of buried subsurface human remains on the project site. Prehistoric archaeological sites, including some that contain human remains, have been identified in other areas of Placer County. The likelihood that currently unknown archaeological resources in the project area could be inadvertently exposed cannot be dismissed. The inadvertent exposure of previously unidentified human remains, including those interred outside of formal cemeteries, during site development would be a potentially significant impact.

California law recognizes the need to protect historic-era and Native American human burials, skeletal remains, and items associated with Native American interments from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are contained in Sections 7050.5 and 7052 of the California Health and Safety Code and PRC Section 5097. All development must comply with the Health and Safety Code, which states that if any human remains are uncovered, all construction must stop, and the county coroner must be notified. If the remains are determined to be Native American, California law dictates appropriate follow-up actions. Compliance with the Health and Safety Code would avoid disturbing a previously unknown resource by requiring contractor to cease in order to prevent disturbance and contact the appropriate representatives to ensure the remains are appropriately protected**.** The project would have a **less than significant** impact assuming compliance with existing regulations.

Mitigation Measure CUL-1: Avoid Damage to Subsurface Archaeological Deposits.

If any prehistoric or historic-era subsurface archaeological features or deposits, including locally darkened soil (“midden”) that could conceal cultural deposits, are discovered during construction-related earthmoving activities, all ground-disturbing activity within 100 feet of the resources shall be halted until a professional archaeologist can evaluate the significance of the find in accordance with National Register of Historic Places (NRHP) and CRHR criteria. The Town of Loomis shall be notified.

If a qualified archaeologist determines the find to be significant by the archaeologist (i.e., because the find constitutes either a historical resource or a unique archaeological resource), representatives of the Town will meet with the archaeologist to determine the appropriate course of action, in accordance with applicable State requirements. If necessary, a Treatment Plan will be prepared by an archeologist, outlining recovery of the resource, analysis, and reporting of the find. The Treatment Plan will be submitted to the Town for review and approval prior to resuming construction. The Treatment Plan could include planning construction to avoid the site, deeding the site into a conservation easement, capping or covering the archeological site with soil before building on the site, or incorporating open space into the site plan to preserve artifacts in place, or collection and recordation of the artifacts. All significant cultural materials recovered shall be subject to scientific analysis and professional museum curation, and a report shall be prepared by the qualified archaeologist according to current professional standards.

If the archaeologist determines that some or all of the affected property qualifies as a Native American cultural place, including a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine (PRC Section 5097.9) or a Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources pursuant to PRC Section 5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site (PRC Section 5097.993), the archaeologist shall recommend and the Town of Loomis will adopt potentially feasible measures that would preserve the integrity of or minimize impacts on the site, including any or a combination of the following:

- avoidance, preservation, and/or enhancement of all or a portion of the Native American cultural place;
- an agreement with any such tribal or cultural resource organization to maintain the confidentiality of the location of the site to minimize the danger of vandalism to the site or other damage to its integrity; or
- other measures, short of full or partial avoidance or preservation, intended to minimize impacts on the Native American cultural place consistent with the proposed design and footprint of the development project for which the requested grading permit has been approved.

5.3.2.2 Geology and Soils

5.3.2.2.1 Seismic Ground Shaking

Appendix G of the State CEQA Guidelines states that a project would have a significant impact if it directly or indirectly causes potential for a substantial adverse effect involving rupture of known fault, strong ground shaking, ground failure such as liquefaction, landslides or the loss of top soil from erosion. A preliminary geotechnical study prepared by Kleinfelder (see Appendix G) found that the project site is not located within or near an Alquist-Priolo Earthquake Fault Zone. However, active faults in the broader region could subject Loomis to strong seismic ground shaking. The closest active fault to the project site is the Foothills Fault System, about 8 miles to the east. Of the multiple fault segments in the Foothills Fault System, the Deadman, Maidu, Spenceville, and Rescue faults are closest to the project site (Kleinfelder 2017a). An earthquake within the Foothills Fault System could cause ground movement on the project site, and the potential exists for moderate to severe seismic ground shaking to occur. Thus, development of the proposed project would potentially expose people and property to ground shaking associated with earthquake activity.

The proposed project would be required to follow the seismic standards of the most recent version of the California Building Standards Code, which requires implementation of measures to ensure that structures can withstand the maximum expected ground shaking without catastrophic failure. Measures may include stabilizing the ground, selecting appropriate foundation types and depths, selecting appropriate structural systems to accommodate anticipated displacements, or using any combination of these measures. The code also regulates grading activities; construction on expansive soils, areas subject to liquefaction, and other unstable soils; and excavation of foundations and retaining walls. Further, the California Building Standards Code requires preparation of a preliminary soil report, engineering geologic report, geotechnical report, and supplemental ground-response report.

A geotechnical study prepared for the proposed project recommends foundation and retaining wall designs based on site-specific seismic design parameters in compliance with the California Building Standards Code (Kleinfelder 2017a). With incorporation of the standards from the California Building Standards Code and the recommendations identified in the geotechnical study, the impact of the proposed project related to potential to expose people or structures to adverse effects of strong seismic ground shaking would be **less than significant**, and this issue is not evaluated further in this EIR.

5.3.2.2.2 Soil Erosion

Construction of the proposed project would result in temporary and short-term erosion impacts. The project would involve installing utilities, paving, and erecting the warehouse and fueling station on approximately 18 acres of land. Construction-related vegetation removal, demolition, grading, staging, trenching, and excavation would result in the temporary and short-term disturbance of soil and would expose disturbed areas to storm events during the initial 2 months of construction. According to the preliminary grading plan (see Figure 2-9 in Chapter 2, “Project Description”), the average cut and fill would range from 1 to 10 feet across most of the site. Excavations for deep utilities and the loading dock may exceed 4 feet and installation of the underground storage tanks for the fueling facility would require excavation up to 20 feet deep. Earthwork would be balanced on-site, with the earth material cut during overexcavation used as fill to establish building pads. Because of the volume of material that would be moved within the project site, the potential exists for soil erosion, which could lead to sedimentation of on-site and nearby waterways, as well as deposition of soil on neighboring properties and public rights-of-way.

Chapter 15.28.23, “Grading Standards, Erosion and Sediment Control,” of the City of Rocklin Municipal Code and Chapter 12.04, “Grading, Erosion, and Sediment Control,” of the Loomis Municipal Code require that an erosion and sediment control plan be prepared before a grading permit is issued for development of the proposed project (City of Rocklin 2006; Town of Loomis 2017a). The grading permit application for the project site must include an erosion and sediment control plan that stipulates implementation of BMPs to control erosion during grading (see “Hydrology and Water Quality,” below). Erosion and sediment control plans must comply with the Town’s stormwater management plan, the California Stormwater Quality Association BMP Handbook, and requirements of other responsible agencies. Therefore, short-term construction-related erosion impacts would be **less than significant** and this issue is not evaluated further in this EIR.

5.3.2.2.3 Unstable Soils

A combination of factors contributes to the potential for seismically induced liquefaction and lateral spreading, such as the intensity of ground shaking, soil type and density, depth to groundwater, and proximity to watercourses. Based on a review of geologic maps and U.S. Natural Resources Conservation Service (NRCS) soil data, it is unlikely that soils on the project site would be subject to liquefaction in the event of an earthquake; on-site soils have a low clay content, and the groundwater table is approximately 50 feet below the ground surface or deeper (Kleinfelder 2017a; NRCS 2017). Therefore, **no impact** would occur related to the potential for liquefaction and lateral spreading, and this issue is not evaluated further in this EIR.

Subsidence related to human activity can result from withdrawal of subsurface fluids, particularly pumping water from subsurface water tables for residential, commercial, and agricultural uses. The project site is not located in an area of known ground subsidence caused by the withdrawal of subsurface fluids (Kleinfelder 2017a). Therefore, **no impact** related to subsidence would occur and this issue is not evaluated further in this EIR.

The project site and surrounding area are relatively flat to gently sloping. Therefore, **no impact** related to landslides would occur and this issue is not evaluated further in this EIR.

Overall, the site is generally considered geologically stable for development, provided that the geotechnical engineering recommendations and design criteria in the geotechnical study are incorporated into design considerations and improvement plans. The geotechnical study incorporates geotechnical design recommendations based on the standards presented in the California Building Standards Code and provides construction recommendations for site preparation, excavations, fill material, compaction, and trench backfilling (Kleinfelder 2017a). Therefore, impacts of the proposed project associated with an unstable geologic unit would be **less than significant** and this issue is not evaluated further in this EIR.

5.3.2.2.4 Expansive Soils

Expansive soils shrink and swell as a result of moisture change. In time, these volume changes can cause damage to building foundations, underground utilities, and other subsurface facilities and infrastructure that are not designed and constructed appropriately to resist damage associated with changing soil conditions. Volume changes of expansive soils also can result in the consolidation of soft clays after lowering of the water table or the placement of fill. Placing buildings or constructing infrastructure on or in unstable soils can result in structural failure.

Soils on the entire project site are composed of Andregg coarse sandy loam, 2% to 9% slopes (NRCS 2017). NRCS data indicate that this soil profile has a low shrink-swell potential, meaning that the soil has a low clay content and is unlikely to undergo substantial volume changes with increases or decreases in soil moisture content. Therefore, **no impact** related to expansive soils would occur and this issue is not evaluated further in this EIR.

5.3.2.2.5 Septic Systems

The proposed project would connect to the South Placer Municipal Utility District (SPMUD) sewer system. Therefore, **no impact** would occur related to soils incapable of adequately supporting the use of septic tanks, and this issue is not evaluated further in the EIR.

5.3.2.2.6 Paleontological Resources

A review of the Geologic Map of the San Francisco–San Jose Quadrangle (Wagner et al. 1991) indicates that the entire project site is underlain by the Upper Jurassic/Lower Cretaceous (approximately 128 million years ago) granitic rock classified as quartz diorite and mapped as the Penryn Pluton. Plutonic rocks are formed by cooling magma before reaching the earth's surface, and the bedrock has no potential to contain fossils. Therefore, **no impact** would occur related to potential damage to unique paleontological resources, and this issue is not evaluated further in the EIR.

5.3.2.3 Hazards and Hazardous Materials

Appendix G of the State CEQA Guidelines states that a project would have a significant impact if it would; 1) create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, 2) create a reasonably foreseeable risk of upset or accident conditions, emit hazardous emissions or, 3) be located on the list of hazardous materials sites.

5.3.2.3.1 Routine Transport, Use, or Disposal of Hazardous Materials

Project construction would involve storing and using small amounts of hazardous materials (e.g., asphalt, fuel, lubricants, paint, and other substances) and transporting such materials on roadways such as Sierra College Boulevard, Granite Drive (for Options 1B and 1C), and regional highways such as I-80. Regulations governing hazardous-materials transport are included in California Code of Regulations (CCR) Title 22 and the California Vehicle Code (CCR Title 13), and transportation of hazardous materials on area roadways is regulated by the California Highway Patrol and the California Department of Transportation.

Operation of the proposed project would involve the storage and use of hazardous materials including gasoline, diesel fuel, degreasers, lubricants, and common cleaning agents. As described below, the proposed project would be required to obtain permits and comply with appropriate regulatory agency standards designed to avoid releases of hazardous wastes.

The project applicant and its construction contractor(s) would be required to comply with the California Environmental Protection Agency's Unified Program.[2] Regulated activities would be managed by the Placer County Environmental Health Department (Environmental Health), the designated Certified Unified Program Agency for Placer County, in accordance with the regulations included in the Unified Program (e.g., Hazardous Materials Release Response Plans and Inventories [Business Plans], California Accidental Release Prevention Program, Underground Storage Tank [UST] Program, Aboveground Petroleum Storage Act Program, California Uniform Fire Code, and Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs). Such compliance would reduce the potential for an accidental release of hazardous materials during construction and operation of the proposed project. Each of these regulations is specifically designed to protect the public health through improved procedures for handling hazardous materials, better technology in the equipment used to transport these materials, and a more coordinated and quicker response to emergencies.

Any business that stores an acutely hazardous substance, or that stores 55 gallons and/or 500 pounds of a hazardous substance or 200 cubic feet of combustible gas, must file an emergency response plan and hazardous materials storage and containment plan with Placer County Environmental Health in compliance with the California Hazardous Materials Release Response Plans and Inventory Law (also known as the Business Plan Act). The plan includes an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for training employees in safety and emergency response procedures (California Health and Safety Code, Section 25500 et seq.).

The proposed project includes the development of a fueling station, which would store gasoline in underground storage tanks. Leaking USTs can pollute the soil, contaminate groundwater, and pose risks of fire or explosion. The project applicant would obtain a permit for installation of USTs from Placer County Environmental Health. The USTs

[2] The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs.

would be designed, installed, and monitored following all applicable regulations set forth by Placer County Environmental Health.

With incorporation of and compliance with existing regulations, impacts related to the creation of significant hazards to the public through routine, transport, use, disposal, of hazardous materials during construction and operation of the proposed project would be **less than significant**. This issue is not evaluated further in the EIR.

5.3.2.3.2 Human Health Hazards from Exposure to Existing Hazardous Materials

Kleinfelder prepared a Phase I environmental site assessment (ESA) and Phase II ESA for the project site (see Appendix H). The Phase I ESA included a review of local, state, and federal environmental record sources, historical sources, and aerial photographs; a summary of site reconnaissance; a summary of interviews conducted with persons knowledgeable about current and past site use; and physical setting sources. The Phase II conducted soil sampling and laboratory testing to determine the nature and extend of on site soil contamination. The following discussion summarizes the findings of the Phase I and II ESA (Kleinfelder 2017b, 2018).

Site reconnaissance was conducted on September 19, 2016, to determine current site conditions and check for the storage, use, production, or disposal of hazardous or potentially hazardous materials. No contaminated municipal groundwater wells, septic systems, active or inactive landfills, productive oil or gas wells, stressed vegetation, discolored or stained soil or concrete, or registered USTs or aboveground storage tanks were observed on the project site. One domestic groundwater well was observed east of Starlight Lane near the eastern boundary of the project site. In addition, piles of wood, wooden pallets, fencing, dirt, brush, and other debris were observed adjacent to the gate in the southeastern portion of the project site. No hazardous materials were observed in the debris pile.

Kleinfelder searched the State Water Resources Control Board's (SWRCB's) GeoTracker Web site and the California Department of Toxic Substances Control's (DTSC's) EnviroStor Web site to identify toxic releases, hazardous waste, or other violations that could affect the project site. No GeoTracker or EnviroStor listings were reported to be associated with the project site. The project site is not listed on a hazardous waste and substances site list (Cortese List) pursuant to Government Code Section 65962.

Kleinfelder identified the following recognized environmental conditions (RECs)[3] in its Phase I ESA:

- The former orchard on the project site and associated structures may have been used for storage of equipment and/or chemicals. Orchards typically use smudge pots that use petroleum hydrocarbons to reduce the potential for freezing. The orchard also may have been routinely treated with pesticides (such as lead arsenate) and other chemicals, which could remain in the project site's soils. According to Placer County Environmental Health, lead and arsenic are commonly found at former orchards in Placer County.
- A gasoline station with USTs has operated since approximately 1999 on the adjacent property south of the project site at 4211 Sierra College Boulevard. The gasoline station property is believed to be hydrogeologically cross-gradient to potentially up-gradient relative to the project site. Although no releases have been reported at the gasoline station, its operation for almost two decades increases the likelihood that undetected spills or leakage have occurred during operations, resulting in impacts on the shallow groundwater.

A rectangular feature was visible in aerial photographs near the south end of Starlight Lane, extending in an east-west direction toward the eastern project site boundary. The use of this feature is unclear and an area of disturbed ground was noted in the general vicinity during the site reconnaissance. The Phase I ESA concluded that this feature is not a REC but warrants further investigation before construction begins.

Kleinfelder prepared a Supplemental Phase II ESA to address potential contamination from RECs identified in its Phase I ESA (Kleinfelder 2017) (Appendix H2). Soil, groundwater, and soil vapor samples were tested for organochloride pesticides, arsenic, lead, volatile organic compounds (VOCs), and total petroleum hydrocarbons (TPH). Kleinfelder compared the sample results to San Francisco Bay Regional Water Quality Control Board

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3 American Society of Testing and Materials Standard Practice E 1527-05 defines "recognized environmental conditions" as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a part release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property."

(RWQCB) Tier 1 Environmental Screening Levels (ESLs) and DTSC's California Human Health Screening Levels (CHHSLs).[4] Kleinfelder concluded the following:

Arsenic and lead are present in shallow soils at the project site at concentrations that exceed their respective ESLs. In addition, arsenic concentrations at many of the sample sites exceed the CHHSL limits for commercial/industrial soil. Regulatory agencies including the DTSC and US EPA have acknowledged arsenic background concentrations of soils in California commonly exceed established arsenic human-health risk-based screening levels. It is possible that the arsenic concentrations present in the 0.5-foot and 3-foot bgs soil samples represent Site background concentrations for soil at those depths. The reported arsenic concentrations do not exceed the total thresholds limit concentration (TTLC) for a California hazardous waste, and none warranted testing of the samples for soluble arsenic.

Lead was present at a concentration at or above its reporting limit in 74 of the 91 samples (including each sample from 0.5 foot bgs and 18 samples from 3 feet bgs), with reported concentrations ranging from 2.6 mg/kg to 160 mg/kg. Lead concentrations of 11 shallow soil samples exceed the soil "Tier 1" lead ESL (80 mg/kg) and the lead residential soil DTSC-SL (also 80 mg/kg), but are below the DTSC-SL for commercial/industrial soil of 320 mg/kg. Each reported lead concentration is below the lead RSLs for residential and industrial soil (400 mg/kg and 800 mg/kg, respectively.

- Groundwater sampling results indicate that TPH and VOCs were not present above ESLs or CHHSL limits and no further action is required.
- Soil vapor sampling results indicated that VOCs were not present at concentrations at or above its reporting limits and no further action is required.
- Organochlorine pesticides, VOCs, and TPH concentrations in soil samples did not exceed their respective ESL or CHHSL limits and no further action is required.
- Except for cobolt concentrations of the various other metals present in the soil samples were below their respective human health risk-based screening levels.

Based on the analytical results summarized above, arsenic and lead are present in shallow soil at the Site at concentrations that exceed their respective soil Tier 1 ESLs and residential soil DTSC-SLs. In addition, arsenic concentrations of many of the samples exceed the DTSC-SL for commercial/industrial soil.

During ground preparation and construction activities, construction workers could come in contact with and be exposed to arsenic that are present in soils. This impact would be **less than significant with** implementation of Mitigation Measure HAZ-1 because previously undiscovered and known hazardous substances would be removed and properly disposed of by a licensed contractor in accordance with federal, state, and local regulations, which are specifically designed to protect the public from human health hazards**.**

Mitigation Measure HAZ-1: Retain a Licensed Professional to Investigate Known or Unknown Hazards and Hazardous Materials and Implement Required Measures, as Necessary.

To reduce health hazards associated with potential exposure to hazardous substances, the project applicant and/or construction contractor(s) shall implement the following measures before the start of and during ground-disturbing activities:

- Retain a licensed contractor to remove the domestic well in accordance with applicable local, state, and federal regulations, including Placer County Environmental Health.
- Prepare and implement an analytical waste profile for off-site transportation and disposal of arsnic contanimated soilsTransportation and disposal of soils shall be in accordance with the regulations of Placer County Environmental Health; DTSC; or other appropriate federal, state, or local regulatory agencies.
- Notify the appropriate federal, state, and local agencies if evidence of previously undiscovered soil or groundwater contamination is encountered during construction activities. All construction activites shall be halted in the area of contamination and any contaminated areas shall be remediated in accordance

[4] The "Tier 1" Environmental Screening Levels were designed to protect properties with unrestricted land and water use, addressing media including soil, groundwater, and soil vapor, along with a range of concerns including direct exposure human health risks, impact on drinking water, vapor intrusion, and impact on aquatic life.

with recommendations made by Placer County Environmental Health; DTSC; or other appropriate federal, state, or local regulatory agencies.

5.3.2.3.3 Handling of Hazardous Materials near Schools

The closest school to the project site is H. Clark Powers Elementary School, approximately 1.5 miles to the north. Therefore, the proposed project would have **no impact** related to the use of hazardous materials within one-quarter mile of a school. This issue is not evaluated further in the EIR.

5.3.2.3.4 Airport Hazards

The project site is not within an existing airport land use plan. The project site is approximately 10 miles southeast of Lincoln Regional Airport. In addition, no private airstrips exist within 2 miles of the project site. Therefore, the proposed project would have **no impact** related to airport safety hazards. This issue is not evaluated further in the EIR.

5.3.2.3.5 Emergency Response

Implementation of the proposed project would not interfere with any adopted emergency response or evacuation plans. The proposed project would be reviewed by the South Placer Fire District to ensure that the project would provide sufficient street width, circulation, and project access for fire and emergency response units consistent with the California Fire Code (see Section 5.3.9.1, “Fire Protection Services,” below). Finally, the circulation plans for the proposed project, subject to review and approval of the Town of Loomis Public Works Department, would ensure that sufficient ingress and egress is available to ensure public safety in the event of an emergency (see Section 3.7, “Transportation and Traffic,” for further discussion). Therefore, **no impact** related to interference with emergency response would occur and this issue is not evaluated further in the EIR.

5.3.2.4 Hydrology and Water Quality

Appendix G of the State CEQA Guidelines states that a project would have a significant impact if it would violate a water quality standard or waste discharge requirement that degrades surface or groundwater quality, substantially decrease groundwater recharge, alter existing drainage patterns in a manner resulting in downstream erosion or flooding, release pollutants during inundation in flood or conflict with a sustainable groundwater management plan.

5.3.2.4.1 Violation of Water Quality Standards or Degradation of Water Quality

Construction of the proposed project under any Project Driveway Access Option would entail earthmoving activities that result in vegetation removal, grading, staging, trenching, and foundation excavation. All of these activities would expose soils to erosive forces and could transport sediment into local drainages. Although the project site is level, the potential exists for erosion to occur during and after construction, particularly during the rainy season. Intense rainfall and associated stormwater runoff could result in short periods of sheet erosion in areas of exposed or stockpiled soils. If uncontrolled, these soil materials could cause sedimentation and block drainage channels.

Nonstormwater discharges could result from activities such as construction dewatering, or from discharge or accidental spills of hazardous substances such as fuels, oils, petroleum hydrocarbons, concrete, paints, solvents, cleaners, or other construction materials. This contaminated runoff could enter on-site drainage channels, including Secret Ravine, and could ultimately drain off-site to downstream water bodies, including Dry Creek.[5] Therefore, uncontrolled, project-related construction activities could violate water quality standards or cause direct harm to aquatic organisms.

Perched groundwater was observed on the project site 1–10 feet below site grade. The geotechnical study determined that this perched groundwater is a result of heavy rainfall and is seasonal in nature, and that the depth depends on the amount of regional precipitation (Kleinfelder 2017a). Dewatering the project site could be necessary when construction activities occur after periods of rainfall. Although such water is generally considered relatively pollutant-free, it would likely contain sediments, particularly remnants of mud from excavations. Discharge of these sediments and the release of pollutants associated with the sediments could reach the underlying groundwater aquifer.

Operation of the proposed project would introduce sediments and other contaminants typically associated with urban development into stormwater runoff, potentially resulting in the degradation of downstream surface water quality.

[5] The project site is located approximately 600 feet east of Secret Ravine, a primary drainage that accepts runoff from nearby properties. Secret Ravine originates in the northeastern-most portion of the Dry Creek watershed and flows southwest in a narrow valley nearly parallel to I-80 before draining into Dry Creek. The upper reaches of Secret Ravine are all intermittent drainageways while the lower reaches are intermittent and perennial.

Approximately 86 percent of the project site would be covered by impervious surface in the form of buildings and a parking field. This conversion to urban uses would substantially increase the impervious surface area, which in turn would introduce fuel, oils, greases, fertilizers, sediments, and other urban pollutants into the stormwater runoff.

Stomwater runoff would sheet flow across the parking field, where it would be collected by curbs and swales before ultimately reaching a series of infiltration trenches along the perimeter of the property (see Figure 2-10 in Chapter 2, “Project Description”). Runoff would percolate through sand/filter soil and collect in catch basins inside the trenches before discharging into the drainage system, where it would be conveyed to one of three locations along Sierra College Boulevard. Infiltration trenches are designed and sized to meet the regulatory standards of the Phase I Municipal Separate Storm Sewer System permit issued by the Central Valley RWQCB. Specifically, all runoff generated during the 8th-percentile, 24-hour storm event on impervious surfaces constructed as part of the project would be treated before being released from the project site. Chapter 15.28.23, “Grading Standards, Erosion and Sediment Control,” of the City of Rocklin Municipal Code and Chapter 12.04, “Grading, Erosion, and Sediment Control,” of the Loomis Municipal Code requires preparation of an erosion and sediment control plan before issuance of a grading permit for development of the proposed project (City of Rocklin 2006; Town of Loomis 2017a). In addition, Chapter 14.36, “Subdivision Design Standards,” of the Loomis Municipal Code specifies that storm drain systems must be designed based on the *Placer County Stormwater Management Manual* (Town of Loomis 2017b). Specifically, project designs must ensure that post-development stormwater runoff is reduced to 90 percent of the pre-development runoff rate for the 10-year and 100-year storm events (PCFCWCD 1994).

The project applicant would be required to submit a notice of intent and prepare a storm water pollution prevention plan (SWPPP) for review by the Central Valley RWQCB to receive coverage for project activities under the SWRCB’s National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities. The applicant would prepare and implement an erosion and sediment control plan consistent with Chapter 12.04 of the Loomis Municipal Code, Chapter 15.28.23 of the Rocklin Municipal Code and a final drainage plan consistent with Chapter 14.36 of the Loomis Municipal Code, and a SWPPP. These plans would contain BMPs specifically designed to prevent erosion and protect water quality and ensure that storm drains attenuate peak flows during storm events. BMPs and techniques to reduce soil erosion and siltation include, but are not limited to, temporary soil stabilization measures, sedimentation ponds, inlet protection, perforated riser pipes, check dams, and silt fences.

The project must also address operational impacts on water quality through preparation and implementation of a post-development stormwater management plan. The plan would incorporate nonstormwater management controls, permanent postconstruction BMPs, and inspection and maintenance responsibilities. BMPs may include spill prevention and contingency measures, including measures to prevent or clean up spills of hazardous waste and of hazardous materials used for equipment operation, and emergency procedures for responding to spills, personnel training requirements, and procedures that would be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP. Therefore, the impact of project construction and operation related to potential degradation of water quality, including both surface water and groundwater, or violation of any water quality standards or waste discharge requirements would be **less than significant**. These issues are not discussed further in this EIR.

5.3.2.4.2 Alteration of Drainage Patterns

Grading and development of the project site would change the existing drainage patterns, thereby increasing the potential for on-site erosion and sedimentation and increasing the amount of surface runoff by adding impervious surfaces. When complete, approximately 86 percent of the project site would be covered by impervious surfaces in the form of buildings and a parking field. Adding these impervious surfaces would incrementally reduce the amount of natural soil surface available for the infiltration of rainfall and runoff. As a result, the frequency, volume, and flow rate of stormwater runoff would increase, potentially resulting in downstream flooding or potentially contributing to runoff exceeding the capacity of the Town’s drainage system.

As stated above, Chapter 12.04, “Grading, Erosion, and Sediment Control,” of the Loomis Municipal Code requires that a final drainage plan be prepared before issuance of a grading permit for development of the proposed project; and Chapter 14.36, “Subdivision Design Standards,” of the Loomis Municipal Code specifies that storm drain systems must be designed based on the *Placer County Stormwater Management Manual* (Town of Loomis 2017a, 2017b).

The project applicant would prepare and submit final drainage plans to the Town of Loomis’s Public Works Department consistent with requirements of Chapter 14.36 of the Loomis Municipal Code. The drainage plan would demonstrate how on-site runoff would be appropriately contained and conveyed through the project site before being discharged into the off-site drainage systems. An accurate calculation of pre- and post-project runoff scenarios, would be included in the drainage plans that accurately evaluates potential changes to runoff, including increased surface runoff, and demonstrates that stormwater runoff rates at each point of discharge from the project site are reduced to 90% of the pre-development runoff rate for the 10-year and 100-year storm events pursuant to the *Placer County Stormwater Management Manual* Site design measures, The drainage plan would be reviewed to ensure protection from flooding and reduce downstream flooding. Impacts are less than significant and this topic is not studied further in the EIR.

5.3.2.4.3 Groundwater Supplies and Recharge

Potable water supplies would be provided to the proposed project by Placer County Water Agency (PCWA). The majority of water supplies are provided by the American, Bear, and Yuba rivers. However, PCWA anticipates that groundwater would be used to meet demand during dry hydrologic conditions if surface water supplies become limited (PCWA 2016). As discussed in Section 5.3.11, “Utilities and Service Systems,” PCWA’s urban water management plan (UWMP) has determined that the water supplies for the proposed project would be sufficient to meet project demands through 2035 in normal, single-dry, and multiple-dry years (PCWA 2016). The forecast demand for water during the demand scenarios is based on growth projections that take into account buildout of uses in the service area. Because the project site is designated for commercial uses and the proposed project is consistent with the development intensity permitted on the property, the water demand that would be created by project operation has been accounted for in demand projections. Therefore, the additional water supply demand generated by the proposed project would not substantially deplete groundwater supplies.

Groundwater recharge commonly occurs along natural stream channels where sand and gravel deposits are present. Other sources of recharge include deep percolation from applied surface water and precipitation. NRCS soil survey data indicate that nearly the entire project site consists of soils that have a moderate infiltration rate when thoroughly wet and a moderate rate of water transmission (NRCS 2017). Thus, soils on the project site generally have a moderate capacity for groundwater recharge.

The geotechnical study prepared for the proposed project determined that the upper 10–20 feet of on-site soils consist primarily of silty sand overlying bedrock and the depth to groundwater on the project site is more than 50 feet below the ground surface (Kleinfelder 2017a). Seasonal perched groundwater was observed within these sandy soils above the bedrock. On-site soil conditions prevent this perched groundwater from infiltrating into the groundwater aquifer. Therefore, little if any precipitation is expected to infiltrate to the groundwater aquifer under undeveloped conditions, with the remaining water running off or consumed through evapotranspiration.

Development of the proposed project would create approximately 83% impervious surfaces on the project site, which could impede groundwater percolation. However, current soil conditions on the project site limit groundwater recharge; therefore, impervious surfaces would not affect infiltration patterns or groundwater recharge within the groundwater aquifer. Therefore, impacts of the proposed project associated with substantial depletion of groundwater or interference with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level would be **less than significant**. This issue is not discussed further in this EIR.

5.3.2.4.4 Flooding Hazards

The most recent Federal Emergency Management Agency (FEMA) Flood Insurance Study Flood Insurance Rate Map (1998) indicates that the project site is located in Flood Zone X (FEMA 1998). Areas identified as FEMA Flood Zone X are areas of minimal flood hazard that are subject to 0.2 percent-annual-chance flood events.

However, the highest water surface elevation in the Loomis Tributary (also known as “Secret Ravine”) near the project site is 322 feet, while the lowest existing site elevation is approximately 318 feet at the swale flowline before the crossing under Sierra College Boulevard. Based on those elevations, the project site could experience some inundation along the street frontage of Sierra College Boulevard and the frontage of Brace Road. Impacts related to flooding hazards would be **less than significant** since the project drainage system must be designed based on the *Placer County Stormwater Management Manual. The* preparation and implementation of a final drainage plan would ensure that storm drains attenuate peak flows during storm events. Therefore, this issue is not discussed further in this EIR.

5.3.2.4.5 Inundation by Seiche, Tsunami, or Mudflow

Because of the distance of the project site from water bodies, the site would not be expected to be affected by coastal flooding hazards, including tsunami, extreme high tides, or sea level rise. No surface water bodies are located in the vicinity of the project site that could generate damaging seiches (waves generated within enclosed surface water bodies); therefore, no effects are expected. In addition, the project site is relatively flat, and no effects related to mudflows would occur. **No impact** related to seiche, tsunami, or mudflow would occur, and these issues are not discussed further in this EIR.

5.3.2.5 Land Use and Planning

Appendix G of the State CEQA Guidelines states that a project would have a significant impact if it would physically divide an established community or conflict with a plan adopted for avoiding or mitigating an environmental effect. No residential dwellings or existing communities are located on the project site. The surrounding areas consist of residential to the east, undeveloped land to the west, and commercial/industrial areas to the north and south. The proposed project is not a linear feature, such as a highway, that could divide an existing community.

Section 65300 of the California Government Code requires each county and city to adopt a general plan to guide development. The General Plan establishes the Town of Loomis's development goals and policies; sets the land use, housing, and development policies for the Town; and designates allowable land uses for all property throughout the Town. The updated General Plan was adopted by the Loomis Town Council in 2001.

Many of the General Plan policies applicable to the proposed project were adopted with the intent of reducing the environmental impacts of ongoing development, while land use designations were adopted to provide the long-range planning necessary to minimize conflicts between adjacent land uses and provide adequate infrastructure. Most of the project site is zoned as General Commercial (CG); a small portion on the east side is zoned as Medium Density Residential (RM-5),a small parcel on the north side is zoned as High Density Residential (RH), and the parcels to the south of the project site where the Granite Drive extension would be (under Options 1B and 1C) are zoned by the City of Rocklin as Retail Business, and as an automotive overlay zone. Most of the project site is designated in the General Plan as General Commercial, with a portion on the east side designated as Residential–Medium-High Density and a small parcel on the north as Residential–High Density.

The project has been designed so that it can be found consistent with the intent of the General Plan land use pattern that uses high and medium density residential as a means to buffer single family homes from the high intensity activity associated with the planned commercial use. The project does not require an amendment to the General Plan Land Use Map that would remove the planned transitional use because only parking areas and landscaped setbacks are proposed in the transitional use areas and such uses are allowed. The site plan provides an extensive landscape buffer separating homes from the warehouse and incorporates a solid privacy wall along the perimeter with residential uses. No structures would be constructed in the portions of the project site currently designated as Residential–Medium-High Density and Residential–High Density and zoned as RM-5 and R-H. Light poles are proposed adjacent to residential uses, including 28-foot high fixtures near the homes on Hunter and 32-foot high fixtures near the apartments. Although the current limit in the Code is 20 feet, a Code amendment would increase the allowed height for warehouse retail to the height of the warehouse building.

Commercial development in the Town Center would also allow a significant amount of growth in Loomis to be contained in the area north of I-80. This Project would be consistent with existing Town patterns of growth, as well as development trends along the I-80 corridor. Specifically, the General Plan Land Use Element provides the following issues and goals that are applicable to the project. Under each issue or goal is bulleted text explaining the relationship of the project to the General Plan.

General Plan Land Use Element Issues (pg. 35):

"The lack of street trees and landscaping in some commercial areas detracts from the Town's aesthetic quality."

- The Project proposes commercial development with street trees and a landscaping plan to enhance the aesthetic quality.

"Residents frequently shop outside of Town limits due to limited retail product availability in Loomis, thereby creating significant retail sales leakage."

- The Project proposes commercial development that provides retail usage to residents and the community within the Town and helps reduce retail leakage.

"Many residents work outside of Town limits due to limited employment opportunities in Loomis."

- As a proposed retail development, the project would create new employment opportunities for Loomis residents.

"The increased public services and facilities desired by existing Town residents are dependent on property and sales tax revenues, which would increase with additional development of commercial and industrial uses."

- The Project would generate sales tax revenues that would benefit the community as those funds could be used for public purposes/services (law enforcement, fire protection, libraries, parks, road/public facility maintenance, etc.).

General Plan Land Use Element Goals (page 36):

"9. To improve the Town's commercial base to increase municipal revenues and provide a wider range of goods and services for local residents, in addition to encouraging some commercial uses near the freeway and in the downtown that can attract or serve patrons from outside the community."

- The Project would be near I-80 and would provide commercial uses that can attract and serve patrons from within the Town as well as outside the Town.

The General Plan designates most of the project site as General Commercial (GC), with a portion on the east side designated as Residential–Medium-High Density (RMH), and a parcel on the north side of the site designated as Residential-High Density (RH) (Figure 3.1-3). According to the General Plan, the GC designation is intended mainly for retail and service commercial uses located outside of the downtown core (Town of Loomis 2001). Zoning for the property is General Commercial (CG), High Density Residential (RH), and Medium Density Residential (RM-5) (Figure 3.1-3). CG zoning is applied to areas appropriate for a range of retail and service land uses, including shops, personal and business services, and restaurants. Residential uses may also be accommodated.

According to the General Plan, the General Commercial land use designation and the CG zoning district is intended mainly for retail and service commercial uses located outside of the downtown core, that primarily serve local residents and businesses (Town of Loomis 2001). As described in EIR Section 2.6, "Permits and Approvals," the Town would be required to approve issuance of a zoning text amendment to allow "warehouse retail" uses subject to specific criteria in the CG zoning district, with a "UP" (Use Permit Required). [6] Although Warehouse Retail is currently identified and listed in the Code for commercial zoning districts, it is not currently an allowed use in the districts. The amendment also limits the location within CG zoning where warehouse uses are considered appropriate. The zoning amendment also will change parking dimensions for compact cars from 10 to nine feet in width to reflect the current common sizing for compact spaces; revise lighting standards for warehouse uses to allow for higher poles greater than 20 feet in height, but less than the height of the warehouse structure; clarify the loading dock requirements and signalized driveway requirements for warehouse retail uses; and add definitions to the glossary as needed.

[6] Allowed only within one-half mile of an existing interchange along I-80, and at least one-half mile from any Central Commercial (CC) zoning district, on a project site of at least 15 gross acres.

The proposed amendments are listed below **(bold)**:

TABLE 2-6 **Allowed Land Uses and Permit Requirements for Commercial Zoning Districts**	P: Permitted Use, Zoning Clearance required; MUP: Minor Use Permit required; UP: Use Permit required; S: Permit requirement set by Specific Use Regulations; —: Use not allowed				
LAND USE (1)	**PERMIT REQUIRED BY DISTRICT**				**Specific Use Regulations**
	CO (6)	**CG (6)**	**CC (6)**	**CT (7)**	
RETAIL TRADE					
Warehouse retail	—	**UP(11)**	—	—	

Notes:
(1) See Division 8 for land use definitions.
(6) Use permit approval required for all new construction.
(7) Permit requirements established for the CT zoning district are for the replacement of land uses after initial site development. See Section 13.26.070.
(11) Warehouse retail is allowed only at locations within ½ mile of an I-80 interchange, and at least ½ mile from land zoned Central Commercial (CC) on sites with an aggregate size of 15 or more acres.

13.36.090 - Parking design and development standards.

Required parking areas shall be designed and constructed as follows.

D. **Parking Stall and Lot Dimensions**. Each parking stall, aisle, and other parking lot features shall comply with the minimum dimension requirements in Table 3-9, and as illustrated in Figure 3-8 except that, within all parking lots with noncovered spaces designed so that thirty-three and one-third percent of the required number of parking spaces shall be sized for compact cars (~~ten~~ **nine** feet in width and sixteen feet in length) in order to provide for tree wells and shall be clearly marked “Compact Cars Only” in nonresidential projects. Compact parking spaces shall be distributed throughout the parking lot as determined by the director. Residential garages shall comply with the “General Parking Stall Dimension Requirements” in Table 3-9.

13.36.100 - Driveways and site access.

Each driveway providing site access from a street, alley or other public right-of-way shall be designed, constructed and maintained as follows:

D. **Driveway Width and Length**.

1. **Single-Family Dwellings**. Each single-family dwelling shall be provided a driveway with a minimum length of twenty from the back of the sidewalk, or the edge of the right-of-way where there is no sidewalk.

2. **Nonresidential Uses**. A driveway for a nonresidential use shall have a minimum paved width of thirteen feet for a one-way driveway and twenty-six feet for a two-way driveway. The maximum driveway width shall be thirty feet, exclusive of the area provided for a median divider.

3. **Signalized Driveways for Warehouse Retail Uses**. **A signalized driveway shall have two-way paved access and shall not exceed a maximum paved width of sixty feet.**

13.36.110 - Loading space requirements.

A. **Number of Loading Spaces Required**. Nonresidential uses shall provide off-street loading spaces in compliance with Table 3-11, below. Requirements for uses not listed shall be determined by the director based upon the requirements for comparable uses.

TABLE 3-11 - REQUIRED LOADING SPACES

Type of Land Use	Loading Spaces Required
Commercial uses	1 space for each 10,000 sf of floor area over the first 10,000.
Warehouse retail uses	**1 space for each 36,000 sf of floor area over the first 10,000.**
Manufacturing, and industrial uses	1 space, plus one additional space for each 10,000 sf of floor area over the first 10,000.
Office uses and public uses	1 space for each 25,000 sf of floor area.

13.30.080 - Outdoor lighting.

Outdoor lighting on private property shall comply with the following requirements.

A. Outdoor light fixtures shall be limited to a maximum height of twenty feet or the height of the nearest building, whichever is less. **Outdoor light fixtures associated with warehouse retail uses may exceed twenty feet, but shall not exceed the height of the warehouse structure.**

13.80.020 – Definitions of specialized terms and phrases.

As used in this title, the following terms and phrases shall have the meaning ascribed to them in this section, unless the context in which they are used clearly requires otherwise.

F. Definitions, F.

Fuel dealer means a retail trade establishment that sells fuel oil, butane, propane and liquefied petroleum gas (LPG), bottled or in bulk, to consumers.

Fueling Station means a motor vehicle fueling component of a warehouse retail store, where warehouse consumers purchase bulk fuel from said warehouse retail store. Fueling stations are located adjacent to and operate in conjunction with a warehouse retail store. Fueling stations are an ancillary use of a warehouse retail use and are subject to siting and design requirements of the CG General Commercial zone Section 13.26.040 and are not subject to Section 13.42.100 regarding gas stations.

W. Definitions, W.

Warehouse retail means a retail store that emphasizes the packaging and sale of products in large quantities or volumes, some at discounted prices, where products are typically displayed in their original shipping containers. **Warehouse retail includes associated sales of motor vehicle fuels at onsite Fueling Stations operated by the warehouse retail use.** Sites and buildings are usually large and industrial in character. Patrons may be required to pay membership fees.

With the exception of the amendment to compact parking spaces, these amendments are limited to Warehouse Retail uses, which are limited in location to CG zones only within one-half mile of an existing interchange along I-80, and at least one-half mile from any Central Commercial (CC) zoning district, on a project site of at least 15 gross acres. Therefore, the Code amendments would only be applicable within very few locations in the Town. These amendments would have no significant impact on Town land use.

As described in Section 3.1, "Regional Environmental Setting," the project site lies within the boundaries of the *Loomis Town Center Master Plan*, which includes policies to maintain downtown Loomis as a focal point for personal shopping and services in the community. The Town Center area is designated as a Center and Corridor Community[7]

[7] Land uses in Center and Corridor Communities are typically higher density and more mixed than surrounding land uses. Centers and corridors are identified in local plans as historic downtowns, main streets, suburban or urban commercial corridors, rail station areas, central business districts, or town centers. They typically have more compact development patterns, a greater mix of uses, and a wider variety of transportation infrastructure than the communities that surround them.

in the Sacramento Area Council of Governments' *Metropolitan Transportation Plan/Sustainable Community Strategy* (MTP/SCS). The proposed project is consistent with the growth forecast contained in the MTP/SCS.[8]

Operation of the proposed project would be required to comply with all performance standards in Section 13.30.090 of the Municipal Code that are designed to limit impacts on adjacent uses. The code addresses:

- limits on visible smoke, dust, or gases;
- limits on handling, storage, and transportation of combustible materials;
- restrictions on light or glare;
- restrictions on odors or fumes;
- requirements on handling of liquid waste storage and disposal; and
- limits on electromagnetic and electrical disturbance.

Specific impacts on other resources and issue areas are addressed in each technical section of this EIR as appropriate. These technical sections provide a detailed analysis of other relevant physical environmental effects that could result from the proposed project. Land use inconsistencies are not physical effects on the environment. If the zoning text amendment is approved, implementation of the proposed project would not conflict with adopted zoning that would generate any adverse physical impacts beyond those addressed in detail in the environmental sections of this EIR (e.g., air quality, biological resources, cultural resources). Therefore, the project would not divide an established community or conflict with a plan adopted for avoiding or mitigating an environmental effect. The project would have **a less than significant impact**.

The relationship between the proposed project and any habitat conservation plans or natural community conservation plans is discussed in Section 3.4, "Biological Resources," of this EIR.

City of Rocklin

For Project Driveway Access Options 1B and 1C, the Granite Drive access point would be on two privately-owned parcels within the City of Rocklin designated as Mixed Use in the General Plan and zoned for Retail Business (C-2) in an Automotive Overlay Zone (City of Rocklin 2016).

5.3.2.6 Public Services and Recreation

Appendix G of the State CEQA Guidelines states that a project would have a significant impact if it would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities the construction of which creates an environmental impact to maintain acceptable service ratios, response times, or other performance objective.

The proposed project would not provide any new housing that generates new residences. Project construction and operation would not result in substantial in-migration of workers that would require new housing. As discussed above in Population and Housing, construction workers likely would come from the local labor pool, and the available labor force in Loomis is estimated to be 375 persons, which is enough to meet the demand for full-time positions to operate the project without in-migration of people from outside the region. Therefore, the project would not increase the demand for new schools, parks, recreational facilities, or other public facilities (i.e., libraries). No recreational facilities, schools, or public service structures or operations are proposed by the project. **No impact** would occur, and these issues are not evaluated further in this EIR.

5.3.2.6.1 Fire Protection Services

Fire protection services would be provided to the project site by South Placer Fire District (formerly Loomis Fire Protection District) Fire Station 28 located at 5840 Horseshoe Bar Road, approximately 1 mile northeast of the project site.

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[8] The MTP/SCS contains regional growth forecasts and policies intended to implement smart growth principles, including housing choice, compact development, mixed-use development, natural resource conservation, use of existing assets, quality design, and transportation choice. The plan also provides options to increase transportation while reducing congestion, shortening commute times, and improving air quality.

The project applicant would be required to incorporate California Fire Code requirements. These standards address access road length, dimensions, and finished surfaces for firefighting equipment; security gate design requirements; fire hydrant placement; fire flow availability and requirements; and plan submittal requirements.

The Town of Loomis enforces building codes and other Town ordinances related to fire hazards and fire protection and requires that new development provide adequate water pressure and volume for firefighting (General Plan Public Health and Safety Element, Policy 1). The on-site water system would consist of lines ranging in size from 10 to 12 inches in diameter. The system would provide sufficient flow and pressure to meet fire department requirements of 1,600 gallons per minute at a residual pressure of 55 pounds per square inch for sprinklers and 4,000 gallons per minute at a residual pressure of 20 pounds per square inch for firefighting flow. Emergency access to the project site would be provided by Sierra College Boulevard and Brace Road, as well as the driveway at Granite Drive (under Options 1B or 1C). A 30-foot aisle would loop around the warehouse to provide emergency access. No gates are proposed that would limit access to the project site.

During review and approval of project plans and before issuance of building permits and occupancy permits, the project applicant would be required to demonstrate to the South Placer Fire District and the Town of Loomis's Building Department that applicable California Fire Code requirements have been incorporated into project designs. Incorporating all California Building Standards Code and South Placer Fire District requirements into project designs would reduce dependence on fire department equipment and personnel by reducing fire hazards. The proposed project would not affect South Placer Fire District's response times or other performance objectives and would not result in the construction of new or expansion of existing fire protection facilities. The project applicant would also pay development impact fees to the Town, used to fund road improvements to ensure adequate circulation, and to South Placer Fire District, to offset the project's impact related to the need for increased equipment or staffing. As of January 2019, the fire impact fee was set at $1.32 per square foot of new construction. Impacts on fire protection services would be less than significant assuming compliance with the building code and payment of the development impact fee. Because the project applicant would demonstrate to the Town of Loomis Building Department that California Building Standards Code and South Placer Fire District requirements have been incorporated into project designs, and provide a will-serve letter from the South Placer Fire District indicating the District has the ability to serve the project, impacts are **less than significant**. Therefore, this issue is not evaluated further in the EIR.

5.3.2.6.2 Police Protection Services

Police protection services would be provided to the project site by the Placer County Sheriff's Department (PCSD) substation located at 6140 Horseshoe Bar Road, approximately 1 mile northeast of the project site. The design of the proposed project would not create any obstacles to the provision of law enforcement services to the project site or to surrounding land uses. Criminal activities would be discouraged by providing 24-hour lighting around the warehouse and in the parking lots.

The proposed project would not add residents to Loomis; therefore, the project would not require additional PCSD staffing to maintain service ratios. In addition, the proposed project is located within the existing service area of the Department and would not decrease response times nor increase demand for PCSD services such that the construction of new or expansion of existing sheriff's service facilities would be required. The project design incorporates features intended to enhance security including construction of a solid wall along the northern and eastern boundary and incorporates landscaped setbacks to exclude access to adjacent residential neighborhoods. Impacts on police protection services would be **less than significant**. Therefore, this issue is not evaluated further in the EIR.

5.3.2.7 Recreation

As discussed previously, the proposed project would not generate new residents in Loomis. Therefore, the project would not increase the use of existing or require construction of new neighborhood and regional parks or other recreational facilities. Additionally, Chapter 12.24 of the Loomis Municipal Code requires that all commercial development, including the proposed project, pay a passive park/open space, parkland fee, and park facilities fee to defray the cost of acquiring open space as new development occurs. Therefore, Costco is required to pay the open space and parkland fee to the Town at the time a building permit is issued. For these reasons, this action would be **beneficial**, no impact would occur, and this issue is not evaluated further in this EIR.

5.3.2.8 Utilities and Service Systems

5.3.2.8.1 Water Supply and Treatment

Placer County Water Agency would provide water to the project site. Loomis is located within PCWA's lower Zone 1, which includes the lower portion of the watershed below Auburn. Water for Zone 1 is delivered by contract through Pacific Gas & Electric Company's (PG&E's) Drum-Spaulding hydroelectric system; water also comes from PCWA's Middle Fork American River Project. PCWA anticipates that its Zone 1 PG&E contract will provide a water supply of 100,400 acre-feet per year and that its North Fork American River water rights will provide 120,000 acre-feet per year (PCWA 2016). Demand for water generated by operation of Costco is estimated at 11.2 acre-feet per year.

The PCWA Urban Water Management Plan addresses water supply and demand issues, water supply reliability, water conservation, water shortage contingencies, and recycled water use within PCWA's service area. The UWMP determined that water supplies would be available to meet water demands in PCWA's service area in normal, single-dry, and multiple-dry years (PCWA 2016). The North Fork American River and PG&E water supplies are reliable and would be available in all water years. Recycled water is expected to be available during single-dry and multiple-dry water years by 2020. Any potential shortfall in supply in single-dry years may be addressed through groundwater production (PCWA 2016). Therefore, PCWA has adequate water supplies to meet the water supply demands of the proposed project.

The project would require construction of a looped water distribution system on-site that would connect to an 8-inch main in Sierra College Boulevard (see Figure 2-7 in Chapter 2, "Project Description"). The on-site system would consist of lines ranging in size from 10 to 12 inches in diameter. Development of such on-site infrastructure is included in the design of the proposed project, and the environmental impacts associated with its development are analyzed in the appropriate technical sections of this EIR. Physical impacts associated with construction of stormwater facilities are evaluated throughout this EIR in sections such as Section 3.3, "Air Quality"; Section 3.4, "Biological Resources"; and Section 5.3.2.4, "Hydrology and Water Quality."

The Foothill Water Treatment Plant (WTP) and Sunset WTP serve Zone 1 communities. These treatment plants, located in the southern portion of Newcastle and northwest of Loomis, have capacities of 55 million gallons per day (mgd) and 8 mgd, respectively (PCWA 2016). Therefore, the Foothill and Sunset WTPs would have sufficient capacity to serve the proposed project, and the project would not result in the construction of new or expansion of existing water treatment facilities.

Water is available on a first-come, first-served basis and availability is not guaranteed until the project applicant applies for service and pays fees. PCWA has indicated that potable water can be made available to the project site. For the reasons described above, the water supply would be sufficient to meet project-related demands. This impact would be **less than significant**. This issue is not discussed further in this EIR.

5.3.2.8.2 Wastewater Collection, Conveyance, and Treatment

South Placer Municipal Utility District (SPMUD) would serve the project site. SPMUD operates under a joint powers agreement between the City of Roseville, SPMUD, and Placer County. The regional facilities funded by SPMUD include recycled-water facilities, trunk sewer lines, and two wastewater treatment plants (WWTPs).

The proposed project would construct a network of sewer lines on-site, ranging in size from 6 to 8 inches in diameter, that would connect to an 8-inch sewer line located in Sierra College Boulevard. All sewer lines would be constructed to meet SPMUD's *Standard Specifications and Improvement Standard for Sanitary Sewers.* Development of such on-site infrastructure is included in the proposed project, and the environmental impacts associated with its development are analyzed in the appropriate technical sections of this EIR. Physical impacts associated with construction of stormwater facilities are evaluated throughout this EIR in sections such as Section 3.3, "Air Quality"; Section 3.4, "Biological Resources"; and Section 5.3.2.4, "Hydrology and Water Quality."

SPMUD recently constructed the Loomis Diversion Trunkline Project to accommodate new development in the project area. The Loomis Diversion Trunkline Project consists of new 15-inch and 18-inch pipelines from the southern end of Dias Lane to Horseshoe Bar Road. Construction of the Loomis Diversion Trunkline Project was completed in winter 2019 (Consolini, pers. comm., 2019). The Lower Loomis Diversion Trunkline will have adequate capacity to serve the proposed project.

Wastewater flows would be transported to the Dry Creek WWTP, located on Booth Road along Dry Creek in southwest Roseville. The Dry Creek WWTP has a NPDES permit issued by the Central Valley RWQCB for discharge of up to 18 mgd of treated effluent into Dry Creek. As of 2015, the Dry Creek WWTP received and treated approximately 9.3 mgd average dry-weather flow each day, and the Dry Creek WWTP discharge constituents were below permitted discharge limits specified in the NPDES permit (PCLAFCO 2017). The proposed project would generate an average dry-weather flow of approximately 0.01 mgd. Wastewater flows generated by the proposed project (0.01 mgd) would not result in an increase in wastewater flows that would exceed the Dry Creek WWTP's current design capacity of 18 mgd average dry-weather flow. Therefore, the proposed project would not generate wastewater discharges that would exceed the Central Valley RWQCB's requirements and would not result in the construction of new or expansion of existing wastewater treatment facilities. Therefore, impacts associated with wastewater collection and conveyance facilities would be **less than significant**. This issue is not discussed further in this EIR.

5.3.2.8.3 Stormwater Drainage Facilities

As discussed in Section 5.3.2, "Hydrology and Water Quality," new stormwater drainage facilities would be constructed on the project site. These facilities would consist of curbs, swales, infiltration trenches along the perimeter of the project site, and pipelines to collect stormwater runoff from neighboring properties along the northern boundary of the site. The project applicant would prepare a drainage plan demonstrating that on-site stormwater drainage facilities would be sized to appropriately contain and convey stormwater runoff through the project site before discharge into the off-site drainage systems.

Physical impacts associated with construction of stormwater facilities are evaluated throughout this EIR in sections such as Section 3.3, "Air Quality"; Section 3.4, "Biological Resources"; and Section 3.5, "Greenhouse Gas Emissions." Therefore, impacts associated with the construction of new stormwater drainage facilities or expansion of existing facilities would be **less than significant**.

5.3.2.8.4 Solid Waste

Solid waste is collected in Loomis by Recology Auburn Placer. Solid waste is taken to the Western Regional Sanitary Landfill (WRSL), located at the intersection of Athens Avenue and Fiddyment Road in western Placer County. According to the California Department of Resources Recycling and Recovery (CalRecycle), the WRSL has a maximum permitted throughput of 1,900 tons per day (tpd); a total maximum permitted capacity of 36.4 million cubic yards; a remaining capacity of approximately 29.1 million cubic yards; and an anticipated closure date of January 1, 2058 (CalRecycle 2017).

Demolition and construction activities would generate various types of solid waste, including scrap lumber, scrap finishing materials, scrap metals, and other recyclable and nonrecyclable solid waste. The 2016 California Green Building Standards Code (CALGreen Code) (CCR Title 24, Part 11) requires all construction contractors to reduce construction waste and demolition debris by 65%. Code requirements include preparing a construction waste management plan that identifies materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale; determining whether materials will be sorted on-site or mixed; and identifying diversion facilities where the materials collected will be taken. The code also specifies that the amount of materials diverted should be calculated by weight or volume, but not by both (CBSC 2016). In addition, the 2016 CALGreen Code requires that 100% of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing be reused or recycled.

The project would comply with the requirements to prepare a construction waste management plan for submittal to the Town's Public Works Department. The construction waste management plan will demonstrate that project waste entering landfill facilities would be reduced by a minimum of 50% by weight through recycling. The waste management plan shall identify the sources of recyclable materials, identify if construction waste materials will be reused or recycled, outline a recycling method (self-separation or mixed recovery), and identify a self-haul or franchise waste hauler.

Construction of the proposed project would incorporate recycled materials into building designs. The building structure would consist of a pre-engineered system that uses 100% recycled steel. Roofing would be 100% recycled standing seam metal panels. The project applicant would comply with commercial recycling requirements consistent with AB 341. A recycling/reuse program would be implemented for the warehouse and office space. The program would involve recycling material such as tires, cardboard, grease, plastics, and electronics; no shopping bags would be used. In addition, suppliers would be required to reduce packaging and consider alternatives to packaging their products.

Two large-capacity compactors would be used for solid waste disposal. Collection of solid waste, including recycling, would be provided by Recology Auburn Placer. Solid waste collected from the project site would be hauled to the WRSL. CalRecycle estimates that the measured solid waste generation rate in Loomis in 2016 was 8.9 pounds per day (lb/day) per employee (CalRecycle 2016).[9] With 170 full-time employees present at full buildout, approximately 1,513 lb/day or 0.8 tpd of solid waste would be generated. The WRSL has a maximum permitted throughput of 1,900 tpd, a remaining capacity of approximately 29.1 million cubic yards, and an expected closure date of 2058 (CalRecycle 2017). The estimated 0.8 tpd of solid waste generated by the proposed project would be less than 1% of the maximum tpd that could be received at the landfill. Therefore, sufficient landfill capacity would be available to accommodate solid-waste disposal needs for the proposed project.

In addition, the proposed project does not include any components that would violate any applicable federal, state, or local solid waste regulations. The project would comply with all statutes and regulations related to solid waste, including the CALGreen Code, the Town's construction waste management plan, and commercial recycling programs. Therefore, impacts associated with the generation of solid waste would be **less than significant** This issue is not discussed further in this EIR.

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[9] CalRecycle measures jurisdictional diversion and disposal rates in terms of per-capita disposal expressed as pounds per day (lb/day) per employee. The per capita disposal measurement system uses an actual disposal measurement based on population, disposal rates reported by disposal facilities, and program implementation efforts.

6. Alternatives

6.1 Purpose

Section 15126.6(a) of the State CEQA Guidelines requires that an EIR describe a range of reasonable alternatives to a project or its location that would feasibly attain most of the project's basic objectives but would avoid or substantially lessen any of the significant effects, and that the EIR evaluate the comparative merits of the alternatives. An EIR need not describe or evaluate the environmental effects of alternatives in the same level of detail as the effects of the proposed project; however, the document must include enough information to allow meaningful evaluation, analysis, and comparison with the proposed project.

An EIR need not consider every conceivable alternative to a project. Rather, a range of potentially feasible alternatives, governed by the "rule of reason," must be considered. This is intended to foster informed decision making and public participation (State CEQA Guidelines, Section 15126.6[f]). The State CEQA Guidelines recommend that an EIR briefly describe the rationale for selecting the alternatives to be discussed, identify any alternatives that the lead agency considered but rejected as infeasible, and briefly explain the reasons for the lead agency's determination (State CEQA Guidelines, Section 15126.6[c]).

CEQA requires that a no project alternative be evaluated (State CEQA Guidelines, Section 15126.6[e]). In addition, the EIR must identify an environmentally superior alternative among the alternatives considered, defined as the alternative that would result in the least adverse environmental impacts on a project site and affected environment. If the no project alternative is found to be environmentally superior, the EIR must also identify an environmentally superior alternative among the other alternatives.

6.2 Factors Considered in Selection of Alternatives

Consistent with Section 15126.6(c) of the State CEQA Guidelines, the Town of Loomis (Town or Loomis) considered the following factors in developing the range of reasonable alternatives to the proposed project:

- The extent to which the alternative would accomplish the project's objectives
- The feasibility of the alternative
- Avoidance or substantial reduction of significant effects

Primary consideration was given to alternatives that would reduce significant impacts while still meeting most project objectives. Alternatives that would have the same or greater impacts compared to the proposed project, or that would not meet most of the project objectives, were rejected from further consideration (State CEQA Guidelines, Section 15126.6[a]).

6.2.1 Ability of the Alternative to Attain Most Project Objectives

Potential alternatives were identified and evaluated relative to the objectives of the proposed project. For the purpose of the alternative's analysis under CEQA, project objectives may not be defined so narrowly that the range of alternatives is unduly constrained.

Applicant Objectives

The project applicant provided the following objectives for the proposed project:

- Construct and operate a new Costco warehouse that serves the local community with goods and services not only from nationally known businesses, but also from regional and local businesses.
- Reduce energy consumption by incorporating passive lighting into building design; using computer-controlled monitoring equipment and high-efficiency heating, ventilation, and air conditioning (HVAC) equipment; and promoting energy efficiencies that exceed state and federal code requirements.

- Provide a Costco warehouse in a location that is convenient for Costco members, the community, and employees to reach for shopping and work.
- Increase employment opportunities and contribute to the Town of Loomis's (Town's) job/housing balance.
- Provide a state-of-the-art Costco warehouse to serve Costco's membership in the greater Loomis area.
- Develop a fueling station and tire facility to serve customers of the retail warehouse.
- Enhance the area by constructing a warehouse that has an architectural design unique to Loomis, is sensitive to the adjacent community and future developments, and is compatible with the need for a new warehouse.
- Minimize circulation conflicts between automobiles and pedestrians.
- Plan and design for public transit access.
- Provide a Costco warehouse in a location served by adequate existing infrastructure, including roadways and utilities.
- Develop a Costco warehouse large enough to accommodate all uses and services that Costco provides to its members elsewhere.

6.2.1.1 Town of Loomis Objectives

- Locate warehouse retail uses and a fueling station near existing interchanges to minimize impacts on Loomis. (General Plan Goal 6)
- Locate warehouse retail uses and a fueling station so as not to conflict with the character, scale, and architecture of the historic central business district.
- Locate warehouse retail on land sufficient to provide the necessary facilities for these types of uses.
- Improve Loomis's commercial base to increase municipal revenues through increased retail sales taxes as well as employee spending and provide a wider range of goods and services for local residents, in addition to encouraging commercial uses near the freeway.
- Expand the space available for integrated retail sales of goods and services, and fuel in Loomis.

6.2.2 Feasibility of the Alternatives

CEQA generally defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account environmental, social, technological, and legal factors." Alternatives were evaluated according to the "rule of reason" and general feasibility criteria suggested by State CEQA Guidelines Section 15126.6 as follows:

> *The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.*

The inclusion of an alternative in an EIR does not necessarily mean that the alternative is feasible; rather, it indicates that the lead agency's staff has determined that the alternative is potentially feasible. This analysis considered the following criteria (State CEQA Guidelines, Section 15126.6[f][1]):

- suitability of the site or alternative site;
- the alternative's economic viability;
- availability of infrastructure;
- consistency of the alternative with the General Plan, zoning, and other plans and regulatory limitations; and
- the effect of applicable jurisdictional boundaries.

According to the website for Costco's real estate advisory services, Costco is seeking locations with populations in excess of 200,000 people. The optimal site size is 16 acres. Depending on configuration and location, this will accommodate a 148,000 square-foot building with 850 parking stalls and a fueling station (Northwest Atlantic 2018).

6.2.3 Avoidance or Substantial Reduction of Significant Effects

The evaluation of alternatives must also account for the potential of the alternative to avoid or substantially lessen any of the significant effects of the proposed project, as identified in this EIR. The potential environmental effects of the proposed project are summarized in the Executive Summary of this EIR and include significant and unavoidable traffic impacts for all Project Driveway Access Options and a significant unavoidable impact to oak woodlands if Option 1B or 1C were selected (Granite Drive Extension).

6.3 Alternatives Removed from Consideration

CEQA Section 15126.6(f)(2) requires that the lead agency consider alternative locations if using an off-site location would avoid or lessen any of the significant effects of the project. Only locations that would avoid or substantially lessen any of the project's significant effects need be considered for inclusion in the EIR.

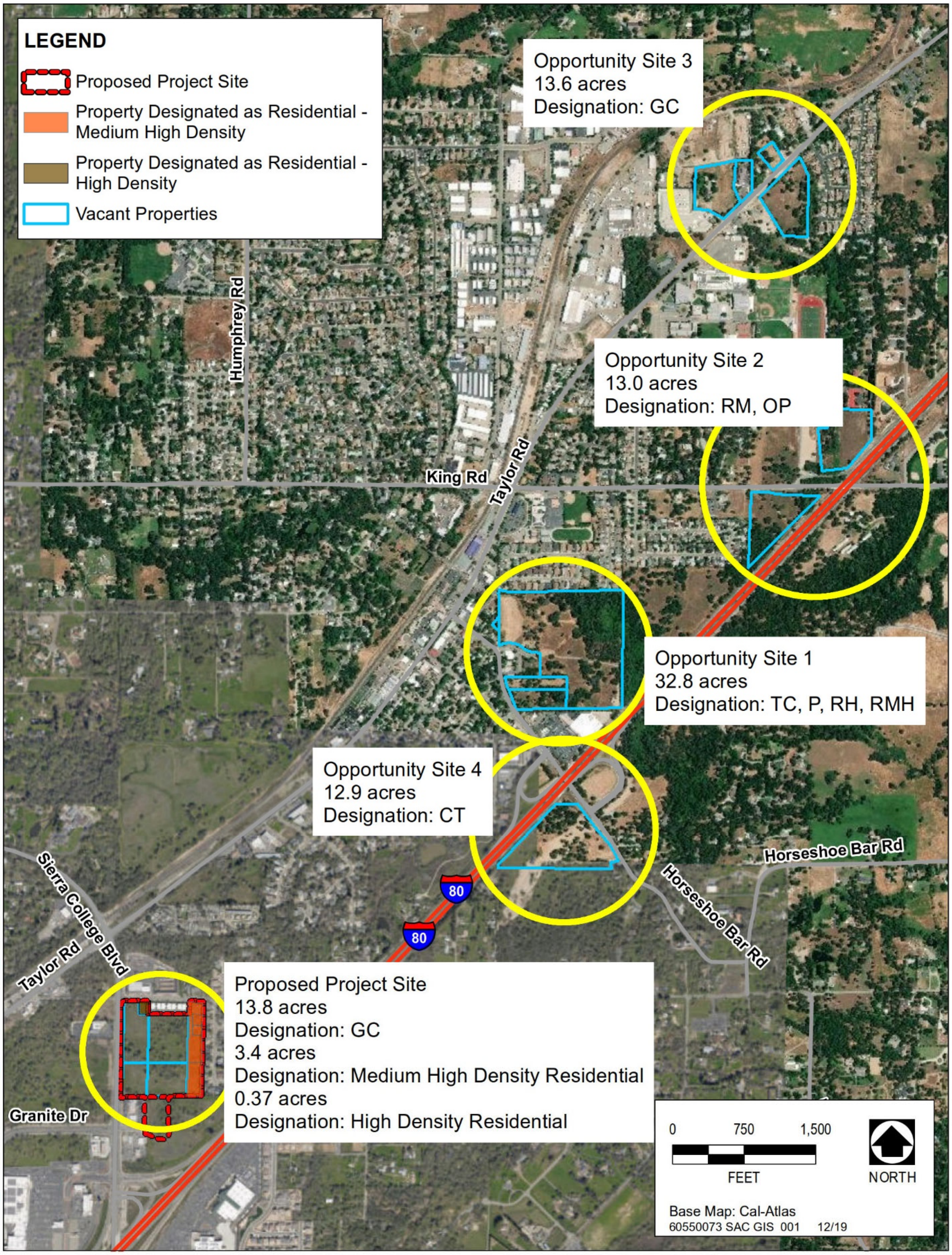
Four locations in the Town of Loomis other than the project site, referred to as "opportunity sites," contain vacant land of similar size to accommodate the project, are zoned or designated for commercial use by the General Plan, and are served by roadways with freeway access (Figure 6-1). For each opportunity site, the following discussion analyzes the site's suitability based on consistency with the General Plan, availability and adequacy of municipal infrastructure, the ability of the alternative site to avoid or lessen environmental effects of the project, feasibility of the alternative site, and ability to accomplish project objectives at the alternative site. For the reasons outlined below, construction and operation of the proposed project at these opportunity sites would not be feasible.

6.3.1 Opportunity Site 1

Opportunity Site 1 is 32.8 acres and consists of nine vacant parcels designated by the General Plan for Town Center Commercial (TC), Public/Quasi Public (P), Residential High Density (RH), and Residential Medium High Density (RMH). Of this total, approximately 5 acres is designated as Town Center Commercial. Regional highway access to Opportunity Site 1 is provided by Interstate 80 (I-80) and its exit at Horseshoe Bar Road, which provides local access to Opportunity Site 1.

- *Site suitability/consistency with the Town of Loomis General Plan*—Placement of warehouse retail uses at Opportunity Site 1 would not be consistent with goal 3 of the General Plan's Community Design Element that are directed toward designing projects that fit their context in terms of building form, siting, and massing. A Costco warehouse store has a much greater building height and mass than the one- and two-story wood structures that characterize existing development in the historical downtown commercial district.
- *Availability and adequacy of municipal infrastructure*—All needed municipal services are available at Opportunity Site 1. However, Horseshoe Bar Road is a two-lane undivided roadway and the I-80 interchange operates below accepted levels of service (LOS). Horseshoe Bar Road is one of the Core Area improvements identified in the General Plan's Circulation Element Update. Improvements called for in the Circulation Element at the Horseshoe Bar Road interchange include four new roundabouts, construction of a new frontage road connecting King Road and Horseshoe Bar Road just north of the southbound off-ramp with I-80, and extension of a new roadway connecting to Webb Street. However, no date has been set for constructing the needed improvements (Town of Loomis 2016). Placing the proposed project at this location would further reduce LOS at the Horseshoe Bar Road I-80 interchange until the identified improvements are in place and operating.

  The selection of Opportunity Site 1 would not be consistent with Policy 1 of the Public Services, Facilities and Finance Element that calls for Loomis to work toward achieving and maintaining acceptable levels of municipal services including public safety, roadway maintenance, and administrative services. In contrast, while improvements are needed along surface roads, the project site is served by an improved interchange of I-80 at Sierra College Boulevard that operates at adequate levels of service.



Source: Data compiled by AECOM in 2018

Figure 6-1. Proposed Project Site and Alternative Opportunity Sites

- *Avoidance or lessening of environmental effects of the project*—Development at Opportunity Site 1 would have impacts similar to those of the proposed project. Opportunity Site 1 is heavily wooded, vacant land that is bisected by a riparian drainage. While larger in size than the project site, in order to meet Town policy for setbacks from the drainage the actual developable area is constrained; therefore, a loss of open space and removal of trees would occur similar to the proposed project. Opportunity Site 1 is approximately 7.5 miles northeast of the existing Roseville Costco warehouse. Although the number of vehicular trips would be the same as under the proposed project, these trips would have a greater impact at Opportunity Site 1 because the interchange providing access to the two locations are very different. Horseshoe Bar Road is a narrow, two-lane road and the I-80/Horseshoe Bar Road interchange is a rural design that already operates below accepted LOS (LOS F for the eastbound ramps during a.m. and p.m. weekday conditions). In comparison, Sierra College Boulevard is an improved arterial road with two travel lanes each direct and dedicated turn pockets. The I-80 Sierra College Boulevard interchange is fully improved and the freeway ramps at I-80 currently operate at acceptable levels of service: LOS B for both ramps during the a.m. peak hour and LOS B (westbound ramp) and LOS C (eastbound ramp) during the p.m. peak hour.
- *Feasibility*—The parcels that make up Opportunity Site 1 would have to be acquired by the project applicant, which would require negotiations between a willing seller(s) and on mutually agreeable terms. As a result, development at this location is less feasible than development at the proposed project site and considered speculative.
- *Ability to accomplish project objectives*-Development at Opportunity Site 1 would not meet the following project objectives:
  - Provide a Costco warehouse in a location served by adequate existing infrastructure, including roadways and utilities. (Opportunity Site 1 is accessed by Horseshoe Bar Road interchange of I-80 which is operating below acceptable levels of service).
  - Locate warehouse retail on land sufficient to provide the necessary facilities for these types of uses (Only 5 acres currently designated for commercial).
  - Locate warehouse retail uses so as not to conflict with the character, scale, and architecture of the historic central business district. (The most direct route to the Opportunity site from Roseville Costco would place motorists on Taylor Road traveling north through downtown to reach Horseshoe Bar Road.) [1]
  - Locate warehouse retail on land sufficient to provide the necessary facilities for these types of uses.

Conclusion: For the forgoing reasons the Town deems Opportunity Site 1 infeasible.

6.3.2 Off-Site Location at Opportunity Site 2

Opportunity Site 2 is 13.0 acres and consists of two vacant parcels bisected by King Road. The northern parcel, north of King Road, is designated for Office and Professional (O/P) land uses while the southern parcel, south of King Road, is designated for medium density residential use (RM). The O/P designation is intended for general business, professional, and medical offices. The RM designation allows residential uses at densities ranging from two to six dwelling units per acre. King Road provides local access to the site, with regional highway access provided by I-80 and its exit at Horseshoe Bar Road.

- *Site suitability/consistency with the Town of Loomis General Plan*—This location consists of two noncontiguous parcels that are not conducive to a warehouse retail format, which requires a minimum land area (16 acres) for planning purposes (i.e., large enough to accommodate the minimum square footage required for the warehouse and parking) and contiguous parcels as the warehouse structure, parking lot, and fueling station needs to be contained on one site.
- *Availability and adequacy of municipal infrastructure*—All necessary municipal services are available at Opportunity Site 2. As at Opportunity Site 1, regional access is provided by I-80 and its exit at Horseshoe Bar Road, an interchange that operates below acceptable LOS. If a warehouse retail use were sited at this location, vehicular traffic would travel through the historic downtown to access the property from I-80, which is not consistent with policies of the General Plan's Circulation Element that are directed toward reducing through trips on Taylor Road through the downtown historic core.

[1] The land use goals and policies of the General Plan are all oriented toward maintaining this historical arrangement of land uses, because the Town recognizes the importance of the land use pattern in determining community character.

- *Avoidance or lessening of environmental effects of the project*—Development at Opportunity Site 2 would have impacts similar to those of the proposed project. The Opportunity Site 2 property is wooded, vacant land; therefore, a loss of open space and removal of trees would occur at this property. Opportunity Site 2 is approximately 7 miles northeast of the existing Roseville Costco warehouse. Although the number of vehicular trips would be the same as under the proposed project, these trips would have a greater impact at Opportunity Site 2 because regional access is provided by I-80 and its Horseshoe Bar Road ramps. Horseshoe Bar Road is a narrow, two-lane road and the I-80 interchange at Horseshoe Bar Road is a rural design that operates below accepted LOS (LOS F for the eastbound ramps during a.m. and p.m. weekday conditions). In comparison, Sierra College Boulevard is a four-lane road with dedicated turn pockets and a center median with capacity to accommodate additional traffic. Existing operating conditions at the Sierra College Boulevard ramps with I-80 are in the acceptable range: LOS B for both ramps during the a.m. peak hour and LOS B (westbound ramp) and LOS C (eastbound ramp) during the p.m. peak hour.
- *Feasibility*—The project applicant does not own the site. The parcels that make up Opportunity Site 2 would have to be acquired by the project applicant, which would require negotiations between willing seller(s) and on mutually agreeable terms. As a result, development at this location is less feasible than development at the proposed project site and considered speculative.
- *Ability to accomplish project objectives*—Development at Opportunity Site 2 would not meet the following project objectives:
  - Provide a Costco warehouse in a location that is convenient for Costco members, the community, and employees to reach for shopping and work. (Opportunity Site 2 would take access from Horseshoe Bar Road, which is operating below Town standards for level of service.)
  - Provide a Costco warehouse in a location served by adequate existing infrastructure, including roadways and utilities. (Opportunity Site 2 would increase traffic on Taylor Road through the downtown which is not consistent with town policy to reduce regional trips).
  - Locate warehouse retail on land sufficient to provide the necessary facilities for these types of uses. (Opportunity Site 2 contains 7.7 acres designated as residential medium density and 5.3 acres designated office and professional).
  - Locate warehouse retail uses and a fueling station so as not to conflict with the character, scale, and architecture of the historic central business district. (The most direct route to the Opportunity site from Roseville Costco would place motorists on Taylor Road traveling north through downtown to reach Horseshoe Bar Road.)

Conclusion: For the forgoing reasons the Town deems Opportunity Site 2 infeasible.

6.3.3 Off-Site Location at Opportunity Site 3

Opportunity Site 3 is 13.6 acres and represents four noncontiguous parcels in the northern part of Loomis. The four parcels are designated for General Commercial (GC) use and are adjacent to a self-storage facility and immediately south of the railroad tracks. Taylor Road provides local access to Opportunity Site 3, while regional access is provided by I-80 and its exit at Horseshoe Bar Road.

- *Site suitability/consistency with the Town of Loomis General Plan*—Placement of warehouse retail uses along Taylor Road at the northern gateway to the downtown (Opportunity Site 3) would not be consistent with policy 3 of the General Plan's Community Design Element that is directed toward designing projects that fit their context in terms of building form, siting, and massing. A Costco warehouse store has a much greater building height and mass than the one- and two-story wood structures that characterize existing development in the historic downtown commercial district. Further, Opportunity Site 3 consists of noncontiguous parcels totaling 13.6 acres when combined, which is not conducive to a warehouse retail use that ideally is 16 acres of contiguous land (i.e., large enough to accommodate the minimum square footage required for the warehouse) for site planning.
- *Availability and adequacy of municipal infrastructure*—All needed municipal services are available at Opportunity Site 3. However, using Taylor Road for access would carry vehicular trips through downtown Loomis. One of the primary goals of the General Plan's Circulation Element Update is to remove "through traffic" in the downtown area. Further, Horseshoe Bar Road is a narrow, two-lane road and the I-80 interchange operates below accepted LOS (LOS F for the eastbound ramps during a.m. and p.m. weekday conditions). In comparison, Sierra College Boulevard is a four-lane road with dedicated turn pockets and a center median with capacity to accommodate additional traffic. Existing operating conditions at the Sierra College Boulevard ramps with I-80 are in the

acceptable range: LOS B for both ramps during the a.m. peak hour and LOS B (westbound ramp) and LOS C (eastbound ramp) during the p.m. peak hour.

- *Avoidance or lessening of environmental effects of the project*—Development at Opportunity Site 3 would have impacts similar to those of the proposed project. The Opportunity Site 3 property is heavily wooded, vacant land; therefore, a loss of open space and removal of trees would occur if developed, like development of the project site. Traffic impacts would be equal to or greater than those of the proposed project because while the number of vehicular trips would be identical, but the roadways accessing to the two locations are very different. Opportunity Site 3 is approximately 5.5 miles southwest of the existing Roseville Costco warehouse with access taken from Taylor Road. The presence of at-grade railroad crossings at King Road, Webb Street, and Sierra College Boulevard combined with close spacing (about 1,000 feet) of the railroad crossings at Webb Street and King Road could result in traffic problems if a slow moving or stopped train simultaneously blocks the Webb Street and King Road at-grade crossings.
- *Feasibility*—The non-contiguous parcels that make up Opportunity Site 3 would have to be acquired by the project applicant, which would require multiple negotiations between willing sellers and on mutually agreeable terms. Moreover, the land that divides the parcels would have to be acquired to make the parcels contiguous for development purposes which is not feasible. As a result, development at this location is likely less feasible than development at the proposed project site and considered speculative.
- *Ability to accomplish project objectives*—Development of Opportunity Site 3 would not meet basic project objectives. With selection of this alternative, the following project objectives would not be met:
  - Provide a Costco warehouse in a location that is convenient for Costco members, the community, and employees to reach for shopping and work.
  - Provide a Costco warehouse in a location served by adequate existing infrastructure, including roadways and utilities.
  - Develop a Costco warehouse large enough to accommodate all uses and services that Costco provides to its members elsewhere.
  - Locate warehouse retail uses and a fueling station near existing interchanges to minimize impacts on Loomis. (General Plan Goal 6)
  - Locate warehouse retail uses and a fueling station so as not to conflict with the character, scale, and architecture of the historic central business district.
  - Locate warehouse retail on land sufficient to provide the necessary facilities for these types of uses.
  - Improve Loomis's commercial base to increase municipal revenues through increased retail sales taxes as well as employee spending and provide a wider range of goods and services for local residents, in addition to encouraging commercial uses near the freeway.

Conclusion: For the forgoing reasons the Town deems Opportunity Site 3 infeasible.

6.3.4 Off-Site Alternative Suggested by the City of Rocklin

In a comment on the Draft EIR, the City of Rocklin suggested an off-site alternative for consideration on the south side of I-80 at Horseshoe Bar Road. The site is 12.9 acres of land for Tourist/Destination Commercial (CT). For the purposes of this analysis, regional access is assumed to be provided by I-80 and its exit at Horseshoe Bar Road. Local access would likely have to be added as part of this alternative, or vehicles could use Brace Road. For the following reasons, the Town has opted not to evaluate this site further:

- *Site suitability/consistency with the Town of Loomis General Plan*—Placement of warehouse retail uses at the location suggested by the City of Rocklin would not be consistent with Policy 3 of the General Plan's Community Design Element that directs designing projects that fit their context in terms of building form, siting, and massing. A Costco warehouse store has a much greater building height and mass than the one- and two-story wood structures that characterize existing development in the historic downtown commercial district. According to the Town's Municipal Code, the CT zoning district is applied to areas appropriate for a mixture of office/business park, retail commercial, lodging, conference center, and other traveler-serving uses, local-serving entertainment uses, and residential uses as part of mixed-use structures. Further, Opportunity Site 3 consists of noncontiguous parcels totaling 13.6 acres when combined, which is not conducive to a warehouse retail use that ideally is 16 acres of contiguous land (i.e., large enough to accommodate the minimum square footage required for the warehouse) for site planning.

Availability and adequacy of municipal infrastructure—Similar to Opportunity Site 3, these parcels are provided regional access from the Horseshoe Bar offramp of I-80. Horseshoe Bar Road is a narrow, two-lane road and the I-80 interchange operates below accepted LOS (LOS F for the eastbound ramps during a.m. and p.m. weekday conditions). In comparison, Sierra College Boulevard is a four-lane road with dedicated turn pockets and a center median with sufficient capacity to accommodate additional traffic. Existing operating conditions at the Sierra College Boulevard ramps with I-80 are in the acceptable range: LOS B for both ramps during the a.m. peak hour and LOS B (westbound ramp) and LOS C (eastbound ramp) during the p.m. peak hour.

- *Avoidance or lessening of environmental effects of the project*—Development at this location would have impacts similar to those of the proposed project. The property is heavily wooded, vacant land that is bisected by Secret Ravine; therefore, a loss of open space, removal of trees, and impacts to jurisdictional resources may occur at this property, similar to the proposed project site. Traffic impacts would be equal to or greater than those of the proposed project because the number of vehicular trips would be identical, but the roadways accessing the two locations are very different as noted above.
- *Feasibility*—The parcel must be acquired by the project applicant, which would require negotiations with a willing seller on mutually agreeable terms. As a result, development at this location is likely less feasible than development at the proposed project site and considered speculative.
- *Ability to accomplish project objectives*—Development of this site would not meet the project objectives. With selection of this alternative, the following project objectives would be either not met or only partially met:
  - Provide a Costco warehouse in a location that is convenient for Costco members, the community, and employees to reach for shopping and work. (Operating conditions at the unimproved Horseshoe Bar Road Interchange would result in diversion of trips along local roadways as motorists seek to find ways around the congestion).
  - Provide a Costco warehouse in a location served by adequate existing infrastructure, including roadways and utilities (Horseshoe Bar Road interchange with I-80 presently operates below acceptable levels of service).
  - Locate warehouse retail uses so as not to conflict with the character, scale, and architecture of the historic central business district. (Horseshoe Bar Road is a gateway to the historic downtown. The mass and intensity of use for the warehouse related commercial is distinctly different character that the one and two story wood buildings that represent the character of old downtown).
  - Locate warehouse retail on land sufficient to provide the necessary facilities for these types of uses. (The property is smaller than the desired size for a Costco warehouse at 12.9 acres vs. the 16 acres considered to be desirable).

Conclusion: For the forgoing reasons the Town deems Opportunity Site 4 infeasible.

6.4 Alternatives Selected for Consideration

The Town of Loomis has selected four alternatives to the proposed project for comparison. An EIR need not describe or evaluate the environmental effects of alternatives at the same level of detail as the proposed project, but must include enough information to allow meaningful evaluation, analysis, and comparison with the proposed project (State CEQA Guidelines Section 15126.2[d]).

6.4.1 Alternative 1: No Project

The No Build Scenario/Existing Condition Alternative assumes that the proposed project would not be implemented and that the project site would remain in its existing condition. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.[2]

[2] The analysis of the no project alternative is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis that does establish that baseline (see Section 15125 of the State CEQA Guidelines).

The No Project Alternative can proceed under one of two approaches. When the project is a development project on identifiable property, the "no project" alternative is the circumstance under which the project would not proceed. Here, the discussion compares the environmental effects of the property remaining in its existing state against the environmental effects that would occur if the project had been approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed.[3] For purposes of full disclosure, this evaluation follows both approaches, as explained below.

6.4.1.1 Alternative 1A: No Project/No Development

Under the no project/no development scenario, none of the impacts identified for the proposed project would occur. Similarly, the Town of Loomis would not receive the economic benefits associated with construction of commercial development at key locations consistent with General Plan policies. For these reasons, although Alternative 1A is considered environmentally superior to the proposed project, it fails to attain any of the project objectives outlined in Section 2.3.2.1, "Applicant Objectives," and Section 2.3.2.2, "Town of Loomis Objectives," in Chapter 2, "Project Description."

6.4.1.2 Alternative 1B: No Project/Future Development

This alternative considers the circumstance under which the project site would be proposed for development of commercial uses permitted under the existing General Plan consistent with the development intensities and standards of the Loomis Municipal Code. The types of uses allowed under the General Commercial (GC) land use designation are oriented toward local residents and offices, including shops, personal and business services, and restaurants. Residential uses may also be accommodated as part of mixed-use projects. The Residential, Medium High-Density (RMH) General Plan designation is oriented toward multi-family housing, including duplexes, townhouses, and apartments. The Residential, High Density (RH) General Plan designation is oriented toward multi-family housing.

Under Alternative 1B, approximately 14 acres of the site designated as GC by the General Plan are forecast for development with a range of commercial uses, including a restaurant, business services, and retail shops on multiple, smaller development pads distributed throughout the property. The remaining approximately three acres of the site along the eastern boundary designated as RM and the remaining 0.37 acre at the northern boundary designated RH would be developed with townhomes at the maximum permitted density and allowing for extension of access south through the site. Table 6-1 provides a summary of buildout under Alternative 1B. For purposes of the analysis, it was assumed that the site plan and building architecture for Alternative 1B would meet the development standards outlined in the Loomis Municipal Code including building coverage, setbacks, landscaping, open space, and building height.

Table 6-1. Alternative 1B Development Statistics

Land Use	Amount
Shopping Center	75,000 sq. ft.
Office	25,000 sq. ft.
Low-Rise Townhomes	35 du
Restaurant	10,000 sq. ft.

Notes: du = dwelling units; sq. ft. = square feet.
Source: Data compiled by AECOM in 2017

Aesthetics

Site development under Alternative 1B would result in multiple development pads distributed around the property containing structures that would be smaller in scale and mass than under the proposed project. Like the proposed project, Alternative 1B would alter views of the site from existing conditions; however, using smaller pads would

[3] In certain instances, the no project alternative means "no build," and the existing environmental setting is maintained. However, where failure to proceed with the project would not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and should not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

provide greater flexibility to avoid natural resources on-site that form the prominent visual features, including oak trees and annual grasslands. All future development would be subject to Loomis Municipal Code standards to ensure that building form, siting, and massing would fit in with the local context.

Air Quality

Construction and operation under either the proposed project or Alternative 1B would generate emissions of criteria pollutants (Tables 6-2 and 6-3). Alternative 1B would generate similar emissions of volatile organic compounds (VOCs) as the proposed project during construction. Alternative 1B would generate lower levels of oxides of nitrogen (NO_X) emissions and higher levels of particulate matter than the proposed project during construction. All construction activities would be subject to relevant existing regulations to reduce construction-related and operational air pollutant emissions. Because the Sacramento federal non-attainment designation is NOx limited and the proposed project would generate less NOx, the proposed project is superior with regard to construction emissions.

Operation of Alternative 1B would result in greater levels of VOC, NOx, and PM_{10} when compared to the proposed project. As shown in Table 6-3, the proposed project would not generate emissions that exceed adopted thresholds and would not cause an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards. In contrast, operation of Alternative 1B would generate levels of VOCs and NO_X above the adopted thresholds and would exceed those of the proposed project.

Table 6-2. Comparison of Construction-Related Emissions: Proposed Project versus Alternative 1B

	Criteria Pollutant Emissions (lb/day)		
	VOCs	NO_X	PM_{10}[1]
Proposed Project	80	76.1	12.9
Alternative 1B	87	50	42
Significance Threshold	82	82	82
Exceed Threshold?	Yes (Alt. 1B)	No	No

Notes:

lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 micrometers or less; VOC = reactive organic gases

[1] Particulate matter emissions shown include the sum of particulate matter with aerodynamic diameter of 0 to 2.5 micrometers and particulate matter with aerodynamic diameter of 2.5 to 10 micrometers.

Source: Estimated by AECOM in 2019

Table 6-3. Comparison of Operational Emissions: Proposed Project versus Alternative 1B

	Criteria Pollutant Emissions (lb/day)		
	VOCs	NO_X	PM_{10}[1]
Proposed Project	37	37	12
Alternative 1B	86	70	33
Significance Threshold	55	55	82
Exceed Threshold?	Yes (Alt. 1B)	Yes (Atl. 1B)	No

Notes:

Alt. = Alternative; lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 micrometers or less; VOC = reactive organic gases

[1] Particulate matter emissions shown include the sum of particulate matter with aerodynamic diameter of 0 to 2.5 micrometers and particulate matter with aerodynamic diameter of 2.5 to 10 micrometers.

Source: Estimated by AECOM in 2019

Biological Resources

The proposed project would permanently disturb approximately 17.4 acres through grading activity. The project would result in a permanent disturbance to approximately 7.96 acres of oak woodland (158 trees requiring replacement), 10.16 acres of annual grassland, and 0.15 acre of palustrine emergent wetlands. As described in Section 3.4, “Biological Resources,” of this DEIR, the proposed project would result in potentially significant direct and indirect impacts on oak woodlands and riparian habitat. No direct or indirect impacts on listed endangered, threatened, or candidate wildlife species would occur as a result of project construction.

Under Alternative 1B, the inclusion of smaller development pads would provide greater flexibility to avoid natural resources on the site while meeting relevant development standards for setbacks, parking, and landscaping. Impacts of Alternative 1B on oaks and emergent wetlands would be less than those of the proposed project, but impacts would not be entirely avoided. Coverage patterns for oaks, drainages, and requirements for roadway access and parking preclude the complete avoidance of impacts on individual oak trees, protected zones, oak habitat, and wetlands.

Greenhouse Gases

Development of either the proposed project or Alternative 1B would generate indirect and direct greenhouse gas (GHG) emissions associated with solid waste generation and decay; combustion of fossil fuels for transportation, heating, and lighting; and the use of energy to distribute and treat water. Table 6-4 depicts the estimated GHG emissions associated with construction and operation of Alternative 1B. As shown, Alternative 1B would generate fewer GHG equivalent emissions compared to the proposed project (5,209 MT CO_2e for this alternative compared to 6,178 CO_2e for the proposed project) but would have higher emissions per thousand feet of building space (36 versus 40 MT CO2e/year).

Table 6-4. Modeled Greenhouse Gas Emissions for Construction and Operations of Alternative 1B

Emissions Source	GHG Emissions (MT CO_2e/year)
Construction GHG Emissions	
Annual Construction Emissions	903
Operational GHG Emissions	
Area	69
Energy	693
Mobile	4,225
Waste	122
Water	55
Total Annual Operational Emissions**	**5,209**
PCAPCD Bright-Line Threshold	**10,000**
Exceeds Threshold?	**No**
Total Annual Operational Emissions per 1,000 Square Foot	**36**
Rural, Nonresidential Efficiency Threshold per thousand square feet of building space	**27.3**
Exceeds Threshold?	**Yes**

Notes:

CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons; PCAPCD = Placer County Air Pollution Control District

* The project site is 17.4 acres (approximately 740,520 square feet).

** Totals do not add due to rounding. Includes amortized construction emissions.

Source: Modeled by AECOM in 2018. See Appendix B for modeling details, assumptions, inputs, and outputs.

Noise

Like the proposed project, Alternative 1B would expose sensitive receptors east and north of the site to construction noise. Mitigation measures would be implemented to reduce impacts, but the noise level would remain above adopted standards.

Occupancy of the project site under Alternative 1B would contribute to a permanent increase in ambient noise levels in the area from normal activities such as deliveries of goods; landscape maintenance; use of heating, ventilation, and air conditioning (HVAC) equipment; parking lot noise; and vehicular traffic on local roadways. Because Alternative 1B would increase daily vehicular trips compared to the proposed project and also requires delivery by truck to stock products, noise levels along studied roadways are expected to be louder.

With regard to on-site noise, Alternative 1B could reduce the impact of the proposed project on the Sierra Meadows Apartments. This alternative would consist of multiple, smaller development pads that could be oriented in a layout where access to and from delivery docks would route heavy trucks away from existing noise-sensitive receptors. Consequently, heavy trucks would not enter off Brace Road and pass by the apartments during the nighttime hours when the receptors are most sensitive to noise.

Transportation and Traffic

Project development would generate approximately 4,330 average daily trips (ADT) when consideration of pass-by[4] and diverted trips[5] is applied to the proposed project. The mix of trips associated with project operation consists of 1,111 net new trips (65 inbound, 65 outbound) to the proposed fueling station. In comparison, operation under Alternative 1B would generate 4,956 ADT (Table 6-5), or 626 more vehicular trips on a daily basis than the proposed project. Both Alternative 1B and the proposed project would be subject to Town ordinances for roadway design to ensure adequate sight distance and other applicable requirements regarding width, corner radii, and intersection stoppage. Under either scenario, the project applicant would pay development fees to fund roadway and signal improvements as outlined in Title 12.24 of the Loomis Municipal Code.

Table 6-5. Vehicular Trip Generation under Alternative 1B

ITE Code	Description	Floor Area (KSF)/ Dwellings	Daily	Total Vehicular Trips	
				A.M. Peak Hour Total	P.M. Peak Hour Total
820	Shopping Center	75	3,202	72	278
710	Office—General	25	276	39	37
231	Low-Rise Townhome	35 du	203	35	41
932	Quality Sit-Down Restaurant	10	1,275	108	99
TOTAL			**4,956**	**254**	**455**

Notes: Alt. = Alternative; du = dwelling units; ITE = Institute of Transportation Engineers; KSF = thousand square feet
Sources: ITE 2012; data compiled by AECOM in 2019

Energy

Like the proposed project, Alternative 1B would increase consumption of energy in the form of electricity, natural gas, and fossil fuels (e.g., gasoline, diesel fuel) during construction and operation. All new construction in the Town must comply with General Plan policies that require new development to consider energy conservation during the selection of building materials, among other design elements. The proposed project intends to incorporate the use of locally sourced, renewable, and pre-manufactured components and presumably, this same strategy could be employed under this alternative. Using locally sourced materials would reduce the project's energy requirements for transporting materials to the project site. In addition, using renewable materials would reduce overall energy demand in extracting and manufacturing demands for such materials relative to new materials. Since the alternative is estimated to have a greater number of trips compared to the proposed project, the energy demand related to operational transportation could be higher. Neither the proposed project nor this alternative would conflict with any relevant renewable energy or energy efficiency plans. Overall, the impact is anticipated to be similar.

6.4.1.3 Ability to Accomplish Project Objectives

Development of the site as outlined under Alternative 1B would not meet the following project objectives when compared to the proposed project:

Applicant Objectives

- Construct and operate a new Costco warehouse that serves the local community with goods and services not only from nationally known businesses, but also from regional and local businesses. (Alternative1B is a mixed-use development without warehouse retail).

[4] Pass-by trips are existing trips on roadways adjacent to the site that would allow motorists to turn into the Costco development, then continue on to their ultimate destinations after they finish shopping.
[5] Diverted trips are existing trips on nearby roadways in which motorists decide to drive out-of-direction for a distance to stop at Costco, then after they finish shopping, continue on their trips to their ultimate destinations.

- Provide a Costco warehouse in a location that is convenient for Costco members, the community, and employees to reach for shopping and work. (Alternative 1B is a mixed-use development without warehouse retail).
- Provide a state-of-the-art Costco warehouse to serve Costco's membership in the greater Loomis area. (Alternative 1B is a mixed-use development without warehouse retail).
- Develop a fueling station and tire facility to serve customers of the retail warehouse. (Alternative 1B is a mixed-use development without fueling station).
- Enhance the area by constructing a warehouse that has an architectural design unique to Loomis, is sensitive to the adjacent community and future developments, and is compatible with the need for a new warehouse. (Alternative 1B is a mixed-use development without warehouse retail).
- Provide a Costco warehouse in a location served by adequate existing infrastructure, including roadways and utilities. (Alternative 1B is a mixed-use development without warehouse retail).
- Develop a Costco warehouse large enough to accommodate all uses and services that Costco provides to its members elsewhere. (Alternative 1B is a mixed-use development without warehouse retail).

Town of Loomis Objectives

- Locate warehouse retail uses and a fueling station near existing interchanges to minimize impacts on Loomis. (General Plan Goal 6) (Alternative 1B is a mixed-use development without warehouse retail).
- Locate warehouse retail uses and a fueling station so as not to conflict with the character, scale, and architecture of the historic central business district. (Alternative 1B is a mixed-use development without warehouse retail).
- Locate warehouse retail on land sufficient to provide the necessary facilities for these types of uses. (Alternative 1B is a mixed-use development without warehouse retail).
- Expand the space available for integrated retail sales of goods and services, and fuel in Loomis. (Alternative 1B is a mixed-use development without warehouse retail).

6.4.2 Alternative 2: No Fueling Station

The No Fueling Station Alternative would remove the proposed 30-dispenser fueling station from the proposed project. The remainder of the site layout would remain unchanged. This alternative would reduce the expected vehicular trips to and from the project site, thereby reducing impacts related to air quality, GHG emissions, and traffic. Under this alternative, all new square footage would be dedicated to general merchandise and food sales.

6.4.2.1 Aesthetics

Removing the fueling station would eliminate views of the 7,560-square-foot canopy and a 106-square-foot controller enclosure as observed from Key Viewpoint 1 (Sierra College Boulevard). As with the proposed project, development of the site under Alternative 2 would be subject to the requirements of the Loomis Municipal Code with regard to landscaping, building setbacks, massing, and height. No disruption to scenic corridors or highways would occur under Alternative 2 because none are located in the study area. Site development under Alternative 2 would remove oak woodland canopy, as would the proposed project, but to a lesser degree than site development under the project. Under either the proposed project or Alternative 2, a landscape plan would be prepared that would incorporate replacement oak trees into the landscape palette to retain the tree canopy, which represents a visual amenity contributing to the visual character of the community.

6.4.2.2 Air Quality

Construction and operation under either the proposed project or Alternative 2 would generate emissions of criteria pollutants from mobile and stationary sources. Alternative 2 would generate fewer construction-related and operational emissions than the proposed project, given that smaller size building requires less application of architectural coatings during construction and the number of vehicular trips would be reduced on a daily basis during operations (Table 6-6).

This alternative would also avoid the potential for release of toxic air contaminants that may affect nearby uses and are typically associated with operation of a fueling station, including benzene, toluene, and hydrocarbons. These compounds can be released during refilling of the station storage tanks, during fueling of automobiles, and from spillage.

Table 6-6. Comparison of Operational Emissions: Proposed Project versus Alternative 2

	Criteria Pollutant Emissions (lb/day)		
	VOCs	**NO_X**	**PM_{10}[1]**
Proposed Project	37	37	12
Alternative 2	8	29	9
Significance Threshold	55	55	82
Exceed Threshold?	No	No	No

Notes:

lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 micrometers or less; VOC = reactive organic gases

[1] Particulate matter emissions shown include the sum of particulate matter with aerodynamic diameter of 0 to 2.5 micrometers and particulate matter with aerodynamic diameter of 2.5 to 10 micrometers.

Source: Estimated by AECOM in 2019

6.4.2.3 Biological Resources

The proposed project would permanently disturb approximately 17.4 acres through grading activity. In the area of permanent disturbance, approximately 7.96 acres of oak woodland (158 trees requiring replacement), 10.16 acres of annual grassland, and 0.15 acre of palustrine emergent wetlands would be affected by site development. As described in Section 3.4, "Biological Resources," of this EIR, the proposed project (Project Driveway Access Options 1A, 1B, and 1C) would result in potentially significant direct and indirect impacts on oak woodlands and riparian habitat. No direct or indirect impacts on listed endangered, threatened, or candidate wildlife species would occur as a result of project construction.

Under Alternative 2, grading activity would result in permanent disturbance of 15.3 acres (2.1 acres less than the proposed project). Impacts of Alternative 2 on emergent wetlands would be the same as impacts of the proposed project, while Alternative 2 would result in less disturbance to oaks because the fueling station would not be constructed. Coverage patterns, drainage, and roadway access preclude the complete avoidance of any loss of individual oak trees, protected zones, oak habitat, and wetlands through placement and sizing of the warehouse structure.

6.4.2.4 Greenhouse Gases

Development of either the proposed project or Alternative 2 would generate indirect and direct GHG emissions associated with solid waste generation and decay; combustion of fossil fuels for transportation, heating, and lighting; and the use of energy to distribute and treat water. Alternative 2 would reduce GHG emissions (Table 6-7), compared to the proposed project (6,178 MT CO_2e/year for the proposed project compared to 5,184 MT CO_2e/year for Alternative 2) and would result in less emissions per 1,000 square foot on annualized basis than does the project (40 MT CO_2e/thousand square feet/year for the proposed project compared to 33 MT CO_2e/thousand square feet/year for Alternative 2). However, the level of GHG emissions would still be above the per-square-foot threshold recommended by the Placer County Air Pollution Control District (PCAPCD) (i.e., similar to the proposed project).

6.4.2.5 Noise

As with the proposed project, construction activity under Alternative 2 would expose sensitive receptors east and north of the site to equipment noise that would exceed standards. Mitigation measures would be implemented to reduce impacts, but similar to the proposed project, construction activity would generate noise levels that would exceed the standards even after implementation of all feasible mitigation.

Occupancy of the project site under Alternative 2 would contribute to a permanent increase in ambient noise levels in the area from normal activities, such as operation of delivery vehicles, landscape maintenance, HVAC equipment, and vehicular traffic on local roadways. The reduction in trips associated with the removal of the fueling station would also reduce transportation noise along area roadways somewhat. Alternative 2 would reduce on site noise generated by delivery trucks because this alternative eliminates heavy truck trips delivering fuel.

Table 6-7. Modeled Greenhouse Gas Emissions for Construction and Operations of Alternative 2

Emissions Source	GHG Emissions ($MT\ CO_2e$/year)
Construction GHG Emissions	
Amortized Construction Emissions	13
Operational GHG Emissions	
Area	0.02
Energy	678
Mobile	4,124
Waste	329
Water	40
Total Annual Operational Emissions**	**5,184**
PCAPCD Bright-Line Threshold	**10,000**
Exceeds Threshold?	**No**
Total Annual Operational Emissions per 1,000 Square Foot	**33**
Rural, Nonresidential Efficiency Threshold per thousand square feet of building space	**27.3**
Exceeds Threshold?	**YES**

Notes:

CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons; PCAPCD = Placer County Air Pollution Control District

* The project site is 17 acres (approximately 740,520 square feet) consisting of the proposed warehouse.

** Totals do not add due to rounding.

Source: Modeled by AECOM in 2019. See Appendix B for modeling details, assumptions, inputs, and outputs.

6.4.2.6 Transportation and Traffic

The Costco fueling station is assumed to generate roughly 5,000 trips a day, but approximately 34 percent of these trips also visit the warehouse, therefore approximately 3,300 fewer trips daily would be generated under Alternative 2. Employee trips would be approximately the same as under the proposed project. The same number of warehouse deliveries per day is expected. However, no fuel deliveries would be provided with Alternative 2, resulting in a reduction of seven fuel trucks inbound and outbound.

Both Alternative 2 and the proposed project would be subject to Town ordinances for roadway design to ensure adequate sight distance and other applicable requirements regarding width, corner radii, and intersection stoppage. Under either alternative, the project applicant would pay development fees to fund roadway and signal improvements, as outlined in Title 12.24 of the Loomis Municipal Code.

6.4.2.7 Energy

Like the proposed project, Alternative 2 would increase consumption of energy in the form of electricity, natural gas, and fossil fuels (e.g., gasoline, diesel fuel) during construction and operation. All new construction in the Town must comply with General Plan policies that require new development to consider energy conservation during the selection of building materials, among other design elements. The proposed project intends to incorporate the use of locally sourced, renewable, and pre-manufactured components and presumably, this same strategy could be employed under this alternative. Using locally sourced materials would reduce the project's energy requirements for transporting materials to the project site. In addition, using renewable materials would reduce overall energy demand in extracting and manufacturing demands for such materials relative to new materials. Since Alternative 2 would reduce the number of trips and VMT during the operational phase, it would require less energy. Neither the proposed project nor this alternative would conflict with any relevant renewable energy or energy efficiency plans. Overall, the impact is anticipated to be similar.

6.4.2.8 Ability to Accomplish Project Objectives

Development of the site as outlined under Alternative 2 would not meet the following project objectives:

Applicant Objectives

- Develop a fueling station and tire facility to serve customers of the retail warehouse.
- Develop a Costco warehouse large enough to accommodate all uses and services that Costco provides to its members elsewhere.

Town of Loomis Objectives

- Locate warehouse retail uses and a fueling station near existing interchanges to minimize impacts on Loomis. (General Plan Goal 6)
- Locate warehouse retail uses and a fueling station so as not to conflict with the character, scale, and architecture of the historic central business district.
- Expand the space available for integrated retail sales of goods and services, and fuel in Loomis.

6.4.3 Alternative 3: Reduced Floor Space

Alternative 3 would decrease floor space of the proposed warehouse structure by approximately 20 percent compared to the proposed project. The fueling station would be included under Alternative 3, and the layout of buildings, roadways and parking lot would remain the same as the proposed project. Floor space at the warehouse retail structure, fueling station, and parking lot would occupy 124,315 square feet compared to the proposed project at up to approximately 155,000 square feet. All activities planned for the proposed project would occur under Alternative 3 including sales of goods and services, optical exams and sales, photo center processing, hearing aid testing and sales, food service preparation and sales (including meat and baked goods), alcohol sales and tasting, tire center, and fuel sales.

6.4.3.1 Aesthetics

Alternative 3 would slightly reduce building mass when compared to the proposed project although the building would remain visible from surrounding vantage points. Alternative 3 would result in a smaller building footprint. As with the proposed project, development of the site under Alternative 3 would be subject to the requirements of the Loomis Municipal Code with regard to landscaping, building setbacks, massing, and height. No disruption to scenic corridors or highways would occur under either the proposed project or Alternative 3 because none are located in the study area. Under either the proposed project or Alternative 3, the final landscape plan would incorporate replacement oak trees into the landscape palette to retain the tree canopy, which represents a visual amenity contributing to the character of the community. Views of the warehouse retail building from off-site vantage points would be similar to those under the proposed project and would be consistent with the visual character of existing commercial centers found at the intersection of Sierra College Boulevard.

6.4.3.2 Air Quality

Construction and operation under either the proposed project or Alternative 3 would generate emissions of criteria pollutants from mobile and stationary sources. Alternative 3 would reduce construction-related emissions compared to the proposed project due to the smaller building size of the warehouse, which would require less time and equipment to build and would have less exterior surface that requires architectural coating.

Operational emissions would be lower compared to the proposed project (Table 6-8). Both the proposed project and Alternative 3 would be found consistent with regional air attainment plans for criteria pollutants. Neither the proposed project nor Alternative 3 would cause an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards.

Table 6-8. Comparison of Operational Emissions: Proposed Project versus Alternative 3

	Criteria Pollutant Emissions (lb/day)		
	VOCs	NO_X	PM_{10}[1]
Proposed Project	37	37	12
Alternative 3	36	32	10
Significance Threshold	55	55	82
Exceed Threshold?	No	No	No

Notes:

lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 micrometers or less; VOC = reactive organic gases

[1] Particulate matter emissions shown include the sum of particulate matter with aerodynamic diameter of 0 to 2.5 micrometers and particulate matter with aerodynamic diameter of 2.5 to 10 micrometers.

Source: Estimated by AECOM in 2019

6.4.3.3 Biological Resources

The proposed project would permanently disturb approximately 17.4 acres through grading activity resulting in permanent disturbance to approximately 7.96 acres of oak woodland (158 protected trees requiring replacement), 10.16 acres of annual grassland, and 0.15 acre of palustrine emergent wetlands would be affected by site development.

As described in Section 3.4, “Biological Resources,” of this EIR, the proposed project would result in potentially significant direct and indirect impacts on oak woodlands and riparian habitat. No direct or indirect impacts on listed endangered, threatened, or candidate wildlife species would occur as a result of project construction.

Under Alternative 3, grading activity would result in permanent disturbance of 16.4 acres, approximately 0.7 acre less than the proposed project. Impacts of Alternative 3 on emergent wetlands would be similar to those of the proposed project as this resource is centrally located on the property. Alternative 3 may result in loss of fewer oaks than under the proposed project, since the footprint of the warehouse building would be smaller. However, coverage patterns, drainage, and roadway access preclude the complete avoidance of any loss of individual oak trees, protected zones, oak habitat, and wetlands through placement and sizing of the warehouse structure. These resources would be affected under any site plan because of their distribution across the project site.

6.4.3.4 Greenhouse Gases

Development of either the proposed project or Alternative 3 would generate indirect and direct GHG emissions associated with solid waste generation and decay; combustion of fossil fuels for transportation, heating, and lighting; and the use of energy to distribute and treat water. Alternative 3 would reduce GHG emissions (Table 6-9), compared to the proposed project (6,178 MT CO_2e/year for the proposed project compared to 5,575 MT CO_2e/year for Alternative 3) but would result in higher emissions per 1,000 square foot on annualized basis than does the project (40 MT CO_2e/thousand square feet/year for the proposed project compared to 45 MT CO_2e/thousand square feet/year for Alternative 3). GHG emissions per thousand square feet would be above the threshold recommended by the PCAPCD for both the proposed project and Alternative 3. Therefore, the overall impact is considered similar.

Table 6-9. Modeled Greenhouse Gas Emissions for Construction and Operations of Alternative 3

Emissions Source	GHG Emissions ($MT\ CO_2e$/year)
Construction GHG Emissions	
Amortized Construction Emissions	13
Operational GHG Emissions	
Area	0.02
Energy	543
Mobile	4,632
Waste	343
Water	42
Total Annual Operational Emissions**	**5,575**
PCAPCD Bright-Line Threshold	**10,000**
Exceeds Threshold?	**No**
Total Annual Operational Emissions per 1,000 Square Foot	**45**
Rural, Non-residential Efficiency Threshold/ksf	**27.3**
Exceeds Threshold?	**YES**

Notes:

CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons; PCAPCD = Placer County Air Pollution Control District

* The project site is 17 acres (approximately 740,520 square feet); the proposed warehouse and fueling center would occupy approximately 124,315 square feet of the site.

** Totals do not add due to rounding.

Source: Modeled by AECOM in 2019. See Appendix B for modeling details, assumptions, inputs, and outputs.

6.4.3.5 Noise

Construction activity under Alternative 3 would be similar to the proposed project because the warehouse building would be developed in the same location on the project site. The reduced floor space would not substantially lessen the duration of construction activities. Mitigation measures would be implemented to reduce impacts, but similar to the proposed project, construction activity would generate noise levels that would exceed the standards even after implementation of all feasible mitigation.

Occupancy of the project site under Alternative 3 would contribute to a permanent increase in ambient noise levels in the area from normal activities such as operation of delivery vehicles, landscape maintenance, HVAC equipment, and vehicular traffic on local roadways. Alternative 3 would reduce both member trips to the site and deliveries, and therefore transportation noise levels in the vicinity of the project site would be reduced compared to the proposed project.

6.4.3.6 Transportation and Traffic

Alternative 3 would reduce member trips to the project site by approximately 20 percent compared to the proposed project. Employee trips would be approximately the same as under the proposed project. Under this alternative, the same number of warehouse deliveries a day (13 trucks) and the same number of fuel deliveries (7 trucks) would occur under this alternative as with the proposed project. Overall travel demand would be reduced.

Both Alternative 3 and the proposed project would be subject to Town ordinances for roadway design to ensure adequate sight distance and other applicable requirements regarding width, corner radii, and intersection stoppage. Under either alternative, the project applicant would pay development fees to fund roadway and signal improvements as outlined in Title 12.24 of the Loomis Municipal Code.

6.4.3.7 Energy

Like the proposed project, Alternative 3 would increase consumption of energy in the form of electricity, natural gas, and fossil fuels (e.g., gasoline, diesel fuel) during construction and operation. All new construction in the Town must comply with General Plan policies that require new development to consider energy conservation during the selection of building materials, among other design elements. The proposed project intends to incorporate the use of locally sourced, renewable, and pre-manufactured components and presumably, this same strategy could be employed under this alternative. Using locally sourced materials would reduce the project's energy requirements for transporting materials to the project site. In addition, using renewable materials would reduce overall energy demand in extracting and manufacturing demands for such materials relative to new materials. Since Alternative 3 would reduce the number of trips and VMT during the operational phase, it would require less energy. Neither the proposed project nor this alternative would conflict with any relevant renewable energy or energy efficiency plans. Overall, the impact is anticipated to be similar.

6.4.3.8 Ability to Accomplish Project Objectives

Development of the site as outlined under Alternative 3 would not meet several of the project objectives to the extent that they would be met by the proposed project. The following project objective would not be met with selection of this alternative:

Applicant Objectives

- Develop a Costco warehouse large enough to accommodate all uses and services that Costco provides to its members elsewhere.

6.4.4 Alternative 4: Reduced Floor Space and No Fueling Station

Alternative 4 would decrease floor space of the proposed warehouse structure by 20 percent compared to the proposed project. Alternative 4 would remove the fueling station included in the proposed project. The remainder of the site layout would remain unchanged from that of the proposed project.

Floor space at the warehouse retail structure would occupy 124,315 square feet compared to the proposed project at 155,000 square feet. Alternative 4 would include sales of goods and services, optical exams and sales, photo center processing, hearing aid testing and sales, food service preparation and sales (including meat and baked goods), alcohol sales and tasting, and tire center. No fuel sales would occur.

6.4.4.1 Aesthetics

Alternative 4 would slightly reduce building mass when compared to the proposed project, although the building would remain visible from surrounding vantage points. Alternative 4 would reduce the visibility of buildings on the site because the warehouse structure would be reduced in size and the fueling station would be removed. No disruption to scenic corridors or highways would occur under either the proposed project or Alternative 4 because none are located in the study area. Removing the fueling station would eliminate views of the 7,560-square-foot canopy and a 106-square-foot controller enclosure as observed from Key Viewpoint 1 (Sierra College Boulevard). Site development under Alternative 4 would remove slightly less oak woodland canopy when compared to the proposed project.

As with the proposed project, development of the site under Alternative 4 would be subject to the requirements of the Loomis Municipal Code with regard to landscaping, building setbacks, massing, and height. Under either the proposed project or Alternative 4, the final landscape plan would incorporate replacement oak trees into the landscape palette to retain the tree canopy, which represents a visual amenity contributing to the character of the community. Views of the warehouse retail building from off-site vantage points would be similar to those under the proposed project and would be consistent with the visual character of existing commercial centers found at the intersection of Sierra College Boulevard.

6.4.4.2 Air Quality

Construction and operation under either the proposed project or Alternative 4 would generate emissions of criteria pollutants from mobile and stationary sources. Alternative 4 would reduce construction-related emissions compared to the proposed project due to the reduction in floor space of the warehouse, which would require less architectural coating than the proposed project and removal of the fueling station.

With the reduction in trips and VMT to the project site, and with the reduction in square footage of the alternative, operational emissions would be lower under this alternative when compared to the proposed project (Table 6-10). Neither the proposed project nor Alternative 4 would generate emissions of criteria pollutants that exceed relevant thresholds recommended by PCAPCD, however. Neither the proposed project nor Alternative 4 would cause an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards.

This alternative would also avoid the potential for release of toxic air contaminants that may affect nearby uses and are typically associated with operation of a fueling station, including benzene, toluene, and hydrocarbons. These compounds can be released during refilling of the station storage tanks, during fueling of automobiles, and from spillage. Application of mitigation would reduce this impact under any development scenario.

Table 6-10. Comparison of Operational Emissions: Proposed Project versus Alternative 4

	Criteria Pollutant Emissions (lb/day)		
	VOCs	**NO_X**	**PM_{10}[1]**
Proposed Project	37	37	12
Alternative 4	7	19	7
Significance Threshold	55	55	82
Exceed Threshold?	No	No	No

Notes:

lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 micrometers or less; VOC = reactive organic gases

[1] Particulate matter emissions shown include the sum of particulate matter with aerodynamic diameter of 0 to 2.5 micrometers and particulate matter with aerodynamic diameter of 2.5 to 10 micrometers.

Source: Estimated by AECOM in 2019

6.4.4.3 Biological Resources

As described in Section 3.4, "Biological Resources," of this EIR, the proposed project would result in potentially significant direct and indirect impacts on oak woodlands and riparian habitat. No direct or indirect impacts on listed endangered, threatened, or candidate wildlife species would occur as a result of project construction.

Under Alternative 4, grading activity would be comparable to the project resulting in permanent disturbance of 17.4 acres (7.96 acres of oak woodland, 158 trees requiring replacement in the Town, 10.16 acres of annual grassland, and 0.15 acre of palustrine emergent wetlands). Under all development scenarios, vegetation on the site must be grubbed, soils over excavated and recompacted, and graded for development pads. Impacts of Alternative 4 on emergent wetlands would be similar to those of the proposed project as this resource is centrally located on the property. However, coverage patterns, drainage, and roadway access preclude the complete avoidance of any loss of individual oak trees, protected zones, oak habitat, and wetlands through placement and sizing of the warehouse structure. These resources would be affected under any site plan because of their distribution across the project site.

6.4.4.4 Greenhouse Gases

Development of either the proposed project or Alternative 4 would generate indirect and direct GHG emissions associated with solid waste generation and decay; combustion of fossil fuels for transportation, heating, and lighting; and the use of energy to distribute and treat water.

Development of either the proposed project or Alternative 4 would generate indirect and direct GHG emissions associated with solid waste generation and decay; combustion of fossil fuels for transportation, heating, and lighting; and the use of energy to distribute and treat water. Alternative 4 would reduce GHG emissions (Table 6-11), compared to the proposed project (6,178 MT CO_2e/year for the proposed project compared to 4,603 MT CO_2e/year for Alternative 3) and would result in lower emissions per 1,000 square foot on annualized basis than does the project (40 MT CO_2e/thousand square feet/year for the proposed project compared to 37 MT CO2e/thousand square feet/year for Alternative 4). GHG emissions per thousand square feet would be above the threshold recommended by the PCAPCD for both the proposed project and Alternative 4.

Table 6-11. Modeled Greenhouse Gas Emissions for Construction and Operations of Alternative 4

Emissions Source	GHG Emissions ($MT\ CO_2e$/year)
Construction GHG Emissions	
Amortized Construction Emissions	13
Operational GHG Emissions	
Area	0.02
Energy	543
Mobile	3,661
Waste	343
Water	42
Total Annual Operational Emissions**	**4,603**
PCAPCD Bright-Line Threshold	**10,000**
Exceeds Threshold?	**No**
Total Annual Operational Emissions per 1,000 Square Foot	**37**
Rural, Non-residential Efficiency Threshold/ksf	**27.3**
Exceeds Threshold?	**YES**

Notes:

CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons; PCAPCD = Placer County Air Pollution Control District

* Source: Modeled by AECOM in 2019. See Appendix B for modeling details, assumptions, inputs, and outputs.

6.4.4.5 Noise

Construction activity under Alternative 4 would be similar to the proposed project because the warehouse building would be developed in the same location on the project site. The reduced floor space would not substantially lessen the duration of construction activities. Mitigation measures would be implemented to reduce impacts, but similar to the proposed project, construction activity would generate noise levels that would exceed the standards even after implementation of all feasible mitigation.

Under any scenario, occupancy of the project site with a commercial warehouse use would contribute to a permanent increase in ambient noise levels in the area from normal activity such as operation of delivery vehicles, traffic on local roads and in parking lot, and from mechanical equipment associated with HVAC and the tire shop. Alternative 4 would reduce both member trips to the site and deliveries, and therefore transportation noise levels in the vicinity of the project site would be reduced compared to the proposed project.

6.4.4.6 Transportation and Traffic

Total daily trips by members under Alternative 4 would be approximately 47 percent lower compared to the proposed project due to the reduction in the size of the warehouse and the lack of a fueling station. Employee trips would be approximately the same. The number of deliveries for the warehouse would be the same as for the proposed project, but there would be no need for fuel deliveries.

Both the Alternative 4 and the proposed project would be subject to Town ordinances for roadway design to ensure adequate sight distance and other applicable requirements regarding width, corner radii, and intersection stoppage. Under either alternative, the project applicant would pay development fees to fund roadway and signal improvements as outlined in Title 12.24 of the Loomis Municipal Code.

6.4.4.7 Energy

Like the proposed project, Alternative 4 would increase consumption of energy in the form of electricity, natural gas, and fossil fuels (e.g., gasoline, diesel fuel) during construction and operation. All new construction in the Town must comply with General Plan policies that require new development to consider energy conservation during the selection of building materials, among other design elements. The proposed project intends to incorporate the use of locally sourced, renewable, and pre-manufactured components and presumably, this same strategy could be employed under this alternative. Using locally sourced materials would reduce the project's energy requirements for transporting materials to the project site. In addition, using renewable materials would reduce overall energy demand in extracting and manufacturing demands for such materials relative to new materials. Since Alternative 4 would reduce the number of trips and VMT during the operational phase, it would require less energy. Neither the proposed project nor this alternative would conflict with any relevant renewable energy or energy efficiency plans. Overall, the impact is anticipated to be similar.

6.4.4.8 Ability to Accomplish Project Objectives

Development of the site as outlined under Alternative 4 would not meet several of the project objectives to the extent that they would be met by the proposed project. Development of the site as outlined under Alternative 4 would not meet the following project objectives:

Applicant Objectives

- Develop a fueling station and tire facility to serve customers of the retail warehouse.
- Develop a Costco warehouse large enough to accommodate all uses and services that Costco provides to its members elsewhere.

Town of Loomis Objectives

- Locate warehouse retail uses and a fueling station near existing interchanges to minimize impacts on Loomis. (General Plan Goal 6)
- Locate warehouse retail uses and a fueling station so as not to conflict with the character, scale, and architecture of the historic central business district.
- Expand the space available for integrated retail sales of goods and services, and fuel in Loomis

6.5 Environmentally Superior Alternative

CEQA requires an EIR to identify the environmentally superior project alternative (California Code of Regulations Title 14, Section 15126.6[e]). If the "no project" alternative is the environmentally superior alternative, then the EIR must also identify an environmentally superior alternative from among the others (California Code of Regulations Title 14, Section 15126.6[e][2]). In this case, the no project alternative is superior, so the EIR must select among the others for the environmentally superior alternative. Based on the information provided below, Alternative 4: Reduced Floor Space and No Fueling Station is the environmentally superior alternative (Table 6-12).

Alternative 4 (Reduced Floor Space and No Fueling Station) would result in six impact areas that are less than or equal to those for the proposed project. Alternative 4 would disturb less land, remove fewer oaks, would generate fewer vehicle trips, and would generate less criteria air pollutants than the proposed project. Operation of Alternative 4 would also generate fewer greenhouse gas emissions (CO_2e) than the project. Additionally, Alternative 4 would reduce the unavoidable significant traffic impact along Sierra College Boulevard compared to the proposed project and would reduce the nighttime interior noise impact experienced at Sierra Meadows apartment units that face the delivery entrance. Alternative 4 would fail to meet five of the basic project objectives (Table 6-13).

Alternative 1B: This alternative assumed a range of commercial uses, including a restaurant, offices, and retail shops on multiple, smaller development pads distributed throughout the property. This alternative would result in impacts in two topical categories that are greater than the proposed project, including transportation and traffic, which is identified as significant and unavoidable with operation of the proposed project.

While Alternative 1B would not avoid or lessen the significant unavoidable traffic impacts, this alternative would avoid the significant unavoidable noise impact to the Sierra Meadows Apartments building created by heavy truck deliveries entering the site off Brace Road. Instead, Alternative 1B would allow for a layout that could avoid routing trucks off Brace Road past the apartment building. Alternative 1B would also fail to meet or fully achieve 11 basic project objectives (Table 6-13).

Table 6-12. Comparison of Alternatives

Issue	Alternative 1A: No Project/ No Development	Alternative 1B: No Project/ Future Development	Alternative 2: No Fueling Station	Alternative 3: Reduced Floor Space	Alternative 4: Reduced Floor Space and No Fueling Station
Aesthetics	Less	Less	Similar	Similar	Similar
Air Quality	Less	Greater	Less	Less	Less
Biology	Less	Less	Less	Less	Less
Greenhouse Gases	Less	Less	Less	Similar	Less
Noise	Less	Less	Similar	Less	Less
Transportation and Traffic	Less	Greater	Less	Less	Less
Energy	Less	Similar	Similar	Similar	Less
Total Number of Reduced Impacts	**7**	**4**	**4**	**4**	**6**

Notes: CWA = Clean Water Act; GHG = greenhouse gas; USFWS = U.S. Fish and Wildlife Service
Source: Data compiled by AECOM in 2017

Alternative 2 (No Fueling Station) would result in four impact areas that are less than or equal to those for the proposed project. Alternative 2 would generate fewer vehicle trips, less criteria air and fewer greenhouse gas emissions (CO_2e) than the project. Alternative 2 would result in fewer vehicle trips than the project so the unavoidable significant traffic impact along Sierra College Boulevard would be slightly reduced compared to the proposed project. The site plan would remain similar to the project so Alternative 2 would not avoid or lessen the significant unavoidable noise impact experienced at Sierra Meadows Apartments units that face the delivery entrance. Alternative 2 would fail to meet or fully achieve five of the basic project objectives (Table 6-13).

Alternative 3 (Reduced Floor Space) would result in four impact areas that are less than the proposed project. Alternative 3 would disturb less land (16.4 acres compared to 17.4 acres for the proposed project) and may remove fewer oaks than the proposed project. However, Alternative 3 would not avoid or reduce the unavoidable significant traffic impacts. Alternative 3 would fail to meet or fully achieve one of the basic project objectives (Table 6-13).

Table 6-13. Project Objectives Not Met by Each Alternative

Issue	Alternative 1B: No Project/ Future Development	Alternative 2: No Fueling Station	Alternative 3: Reduced Floor Space	Alternative 4: Reduced Floor Space and No Fueling Station
Applicant Objectives				
Construct and operate a new Costco warehouse that serves the local community with goods and services not only from nationally known businesses, but also from regional and local businesses.	X			
Reduce energy consumption by incorporating passive lighting into building design; using computer-controlled monitoring equipment and high-efficiency heating, ventilation, and air conditioning (HVAC) equipment; and promoting energy efficiencies that exceed state and federal code requirements.				
Provide a Costco warehouse in a location that is convenient for Costco members, the community, and employees to reach for shopping and work.	X			
Increase employment opportunities and contribute to the Town of Loomis's (Town's) job/housing balance.				
Provide a state-of-the-art Costco warehouse to serve Costco's membership in the greater Loomis area.	X			
Develop a fueling station and tire facility to serve customers of the retail warehouse	X	X		X

Table 6-13. Project Objectives Not Met by Each Alternative

Issue	Alternative 1B: No Project/ Future Development	Alternative 2: No Fueling Station	Alternative 3: Reduced Floor Space	Alternative 4: Reduced Floor Space and No Fueling Station
Enhance the area by constructing a warehouse that has an architectural design unique to Loomis, is sensitive to the adjacent community and future developments, and is compatible with the need for a new warehouse.	X			
Minimize circulation conflicts between automobiles and pedestrians.				
Plan and design for public transit access.				
Provide a Costco warehouse in a location served by adequate existing infrastructure, including roadways and utilities.	X			
Develop a Costco warehouse large enough to accommodate all uses and services that Costco provides to its members elsewhere.	X	X	X	X
Town Objectives				
Locate warehouse retail uses and a fueling station near existing interchanges to minimize impacts on Loomis. (General Plan Goal 6)	X	X		X
Locate warehouse retail uses and a fueling station so as not to conflict with the character, scale, and architecture of the historic central business district.	X	X		X
Locate warehouse retail on land sufficient to provide the necessary facilities for these types of uses.	X			
Improve Loomis's commercial base to increase municipal revenues through increased retail sales taxes as well as employee spending and provide a wider range of goods and services for local residents, in addition to encouraging commercial uses near the freeway.				
Expand the space available for integrated retail sales of goods and services, and fuel in Loomis	X	X		X
Total Project Objectives Not Met	**11**	**5**	**1**	**5**

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