DRAFT
Environmental Impact Report
Oak Road Townhouse Condominiums Project
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Contra Costa County, California

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Table of Contents

Acronyms and Abbreviations ..... **ix**

Executive Summary **ES-1**
Purpose ES-1
Project Summary ES-1
Significant Unavoidable Adverse Impacts ES-3
Summary of Project Alternatives ES-3
Areas of Controversy ES-3
Public Review of the Draft EIR ES-4
Executive Summary Matrix ES-5

Chapter 1: Introduction **1-1**
1.1 - Project Overview 1-1
1.2 - Environmental Review Process 1-2
1.3 - Purpose and Legal Authority 1-3
1.4 - Draft EIR Document Organization 1-16
1.5 - Documents Incorporated by Reference 1-18

Chapter 2: Project Description **2-1**
2.1 - Project Location and Setting 2-1
2.2 - Project Objectives 2-5
2.3 - Project Components 2-6
2.4 - Required Actions and Approvals 2-13
2.5 - Intended Uses of this Draft EIR 2-14

Chapter 3: Environmental Impact Analysis **3-1**
Organization of Issue Areas 3-1
Issues Addressed in this Draft EIR 3-1
Format of the Environmental Analysis 3-1
3.1 - Aesthetics, Light, and Glare 3.1-1
3.2 - Air Quality 3.2-1
3.3 - Biological Resources 3.3-1
3.4 - Cultural Resources and Tribal Cultural Resources 3.4-1
3.5 - Energy 3.5-1
3.6 - Geology and Soils 3.6-1
3.7 - Greenhouse Gas Emissions 3.7-1
3.8 - Hazards and Hazardous Materials 3.8-1
3.9 - Hydrology and Water Quality 3.9-1
3.10 - Land Use and Planning 3.10-1
3.11 - Noise 3.11-1
3.12 - Population and Housing 3.12-1
3.13 - Public Services and Recreation 3.13-1
3.14 - Transportation 3.14-1
3.15 - Utilities and Service Systems 3.15-1
3.16 - Wildfire 3.16-1

Chapter 4: Alternatives to the Proposed Project **4-1**
4.1 - Introduction 4-1
4.2 - Project Objectives 4-3

4.3 - Alternative 1—No Project, No Build Alternative 4-4
4.4 - Alternative 2–Reopening the Palmer School 4-6
4.5 - Environmentally Superior Alternative 4-17
4.6 - Alternatives Rejected from Further Consideration 4-20

Chapter 5: Other Ceqa Considerations 5-1
5.1 - Significant Unavoidable Impacts 5-1
5.2 - Growth-Inducing Impacts 5-1
5.3 - Significant Irreversible Environmental Changes 5-2

Chapter 6: Effects Found not to be Significant 6-1
6.1 - Introduction 6-1
6.2 - Effects Found not to be Significant 6-1

Chapter 7: Persons and Organizations Consulted/List of Preparers 7-1
7.1 - Lead Agency 7-1
7.2 - Other Agency CEQA Support 7-1
7.3 - Project Sponsor and Sponsor Consultants 7-1
7.4 - County Consultants 7-2

List of Appendices

Appendix A: NOP and Scoping Comments
A.1 - Notice of Preparation
A.2 - NOP Public Comments and Scoping Session Transcription

Appendix B: Air Quality, Greenhouse Gas Emissions, and Energy Supporting Information
B.1 - Air Quality and Greenhouse Gas Assessment
B.2 - Energy Supporting Material

Appendix C: Biological Resources Supporting Information
C.1 - Database Search Results
C.2 - Species Table–Oak Road
C.3 - Special-status Species Assessment–Oak Road
C.4 - Oak Road Townhouse Biological Resources Peer Review Memorandum
C.5 - Oak Road Townhouse Response to Review
C.6 - Oak Road Townhouse Tree Report

Appendix D: Cultural Resources and Tribal Cultural Resources Supporting Information
D.1 - Cultural Resources Preliminary Assessment
D.2 - CONFIDENTIAL Cultural Resources Assessment

Appendix E: Geology and Soils Supporting Information
E.1 - Geotechnical Report
E.2 - County Geologist Comments
E.3 - Oak Road Paleontological Records Search

Appendix F: Hazards and Hazardous Materials Supporting Information

Appendix G: Hydrology and Water Quality Supporting Information
G.1 - Hydrology and Hydraulics Calculations
G.2 - Stormwater Control Plan

Appendix H: Noise Supporting Information
H.1 - Environmental Noise Assessment (January 2021)
H.2 - Draft Environmental Noise Assessment (May 2021)

Appendix I: Transportation Supporting Information

List of Tables

Table ES-1: Executive Summary Matrix ES-6
Table 1-1: Summary of EIR Scoping Comments 1-5
Table 2-1: Project Site Parcels 2-3
Table 2-2: Project Site General Plan Land Use Designations and Zoning 2-5
Table 2-3: P-1 Zoning District Development Standards 2-8
Table 3-1: Cumulative Projects 3-5
Table 3.1-1: P-1 District Development Standards 3.1-6
Table 3.2-1: Description of Criteria Pollutants of National and California Concern 3.2-3
Table 3.2-2: Description of Toxic Air Contaminants of National and California Concern 3.2-6
Table 3.2-3: Federal and State Air Quality Standards in the Air Basin 3.2-11
Table 3.2-4: San Francisco Bay Area Air Basin Attainment Status 3.2-13
Table 3.2-5: Air Quality Index and Health Effects from Ozone 3.2-13
Table 3.2-6: Air Quality Monitoring Summary 3.2-15
Table 3.2-7: BAAQMD Regional (Mass Emissions) Air Pollutant Significance Thresholds 3.2-29
Table 3.2-8: BAAQMD Odor Screening-level Distances Thresholds 3.2-32
Table 3.2-9: Consistency with 2017 Clean Air Plan Control Measures 3.2-39
Table 3.2-10: Construction Emissions 3.2-44
Table 3.2-11: Operational Emissions 3.2-46
Table 3.2-12: Construction Risk Impacts at the Off-site Residential MEIs 3.2-50
Table 3.2-13: Impacts from Combined Sources at Off-Site Construction MEI 3.2-51
Table 3.4-1: Previously Recorded Cultural Resources within a 0.5-mile Radius of the Project Site 3.4-9
Table 3.5-1: Annual Project Energy Consumption 3.5-12
Table 3.6-1: Approximate Probability of Occurrence of Earthquakes on Selected Bay Area Faults (50-year Period) 3.6-4
Table 3.7-1: Description of Greenhouse Gases of California Concern 3.7-5
Table 3.7-2: 2011 County GHG Emissions by Sector (Million Metric Tons CO_2e/Year) 3.7-11
Table 3.7-3: 2005 Unincorporated County GHG Emissions Baseline by Sector (excluding Stationary Source Emissions) 3.7-12

Table 3.7-4: Project GHG Emissions: Construction Phase 3.7-42
Table 3.7-5: Annual Project GHG Emissions 3.7-43
Table 3.7-6: Annual Palmer School GHG Emissions 3.7-44
Table 3.7-7: Contra Costa County Climate Action Plan Consistency 3.7-45
Table 3.8-1: Indoor Radon Test Levels 3.8-7
Table 3.10-1: Surrounding Land Use Designations and Zoning 3.10-3
Table 3.10-2: R-15 Zoning District Development Standards 3.10-11
Table 3.10-3: M-29 Zoning District Development Standards 3.10-12
Table 3.10-4: P-1 District Development Standards 3.10-14
Table 3.10-5: Contra Costa County General Plan Consistency Analysis 3.10-17
Table 3.11-1: Sound Terminology 3.11-3
Table 3.11-2: Typical Construction Equipment Maximum Noise Levels, L_{max} 3.11-5
Table 3.11-3: Vibration Levels of Construction Equipment 3.11-6
Table 3.11-4: Federal Transit Administration Construction Vibration Impact Criteria 3.11-10
Table 3.12-1: Contra Costa County Population and Housing Characteristics (2021) 3.12-2
Table 3.12-2: Contra Costa County Historic Population Growth (1990-2020) 3.12-2
Table 3.12-3: Contra Costa County General Plan Unincorporated Growth Projections (2020) 3.12-3
Table 3.12-4: Project-Related Population Growth 3.12-8
Table 3.13-1: Overall Sheriff Response Times 3.13-3
Table 3.13-2: Contra Costa Library Information 3.13-4
Table 3.13-3: Community Parks within 3 Miles of Project Site 3.13-7
Table 3.14-1: COVID-19 Factors 3.14-3
Table 3.14-2: Growth Rates 3.14-3
Table 3.14-3: New Counts Versus Adjusted Counts 3.14-4
Table 3.14-4: Project Trip Generation Estimates 3.14-12
Table 3.14-5: Comparison PM Peak-hour Trip Rate of Private/Charter Elementary and Middle Schools 3.14-13
Table 3.14-6: Existing Transit Services 3.14-16
Table 3.15-1: Projected Supply and Demand Comparison 3.15-4
Table 3.15-2: Landfill Summary 3.15-8
Table 3.15-3: Water Consumption Estimate 3.15-20
Table 3.15-4: Wastewater Generation Estimate 3.15-21
Table 3.15-5: Construction and Demolition Solid Waste Generation Estimate 3.15-22

Table 3.15-6: Operational Solid Waste Generation Estimate 3.15-23
Table 4-1: Summary of Alternative Impacts 4-18
Table 4-2: Summary of Alternatives Meeting of Project Objectives 4-19
Table 5.2-1: Project-Related Population Growth 5-2

List of Exhibits

Exhibit 2-1: Regional Location Map 2-15
Exhibit 2-2a: Local Vicinity Map 2-17
Exhibit 2-2b: Local Vicinity Map Surrounding Land Uses 2-19
Exhibit 2-3: Existing General Plan Land Use Designations 2-21
Exhibit 2-4: Existing Buildings and Structures 2-23
Exhibit 2-5: Parcel Map 2-25
Exhibit 2-6: Existing Zoning Code Designations 2-27
Exhibit 2-7: Tree Disposition Plan 2-29
Exhibit 2-8: Landscape Plan 2-31
Exhibit 2-9: Site Plan 2-33
Exhibit 2-10a: Building Exterior Elevations 2-35
Exhibit 2-10b: Building Exterior Elevations 2-37
Exhibit 2-10c: Building Exterior Elevations 2-39
Exhibit 2-10d Building Exterior Elevations 2-41
Exhibit 2-10e: Building Exterior Elevations 2-43
Exhibit 2-10f: Building Exterior Elevations 2-45
Exhibit 2-10g: Building Exterior Elevations 2-47
Exhibit 2-10h: Building Exterior Elevations 2-49
Exhibit 2-10i: Building Exterior Elevations 2-51
Exhibit 2-10j: Building Exterior Elevations 2-53
Exhibit 3-1: Cumulative Projects Location Map 3-9
Exhibit 3.1-1: Existing Site and Surrounding Context 3.1-15
Exhibit 3.3-1: CNDDB Special-status Species Occurrences (5-mile radius) 3.3-27
Exhibit 3.3-2: Tree Disposition Plan 3.3-29
Exhibit 3.6-1: Regional Fault Map 3.6-23
Exhibit 3.13-1: Parks in Project Site Vicinity 3.13-29
Exhibit 3.14-1: Roadway Network 3.14-21

Exhibit 3.14-2: Existing Traffic Volumes 3.14-23
Exhibit 3.14-3: Trip Distribution and Assignment 3.14-25
Exhibit 3.14-4: Existing Bicycle Facilities 3.14-27
Exhibit 3.14-5: Existing Transit Facilities 3.14-29

ACRONYMS AND ABBREVIATIONS

µg/m^3	micrograms per cubic meter
°C	degrees Celsius (Centigrade)
°F	degrees Fahrenheit
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ACP	Alternative Compliance Plan
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AFY	acre-feet/year
AIA	Airport Influence Area
AIC	Archaeological Information Center
AICUZ	Air Installation Compatibility Use Zone
ALUC	Airport Land Use Commission
APCD	Air Pollution Control District
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQI	Air Quality Index
AQMD	Air Quality Management District
ARB	California Air Resources Board
ARPA	Archaeological Resources Protection Act
AST	aboveground storage tank
ASTM	American Society of Testing and Materials
ATCM	Airborne Toxic Control Measures
AUHSD	Acalanes Union High School District
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BASMMA	Bay Area Stormwater Management Agencies Association
BAU	business-as-usual
BayREN	Bay Area Regional Energy Network
BCF	billion cubic feet
BCF/year	billion cubic feet per year
BER	Business Environmental Risk

BGS	below ground surface
BIOS	Biogeographic Information and Observation System
BMP	Best Management Practice
BTU	British Thermal Unit
BVOC	biogenic volatile organic compound
C^2ES	Center for Climate and Energy Solution
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Health and Safety Administration
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARE	Community Air Risk Evaluation
CBC	California Building Standards Code
CBD	Center for Biological Diversity
CBPP	Contra Costa Countywide Bicycle and Pedestrian Plan
CCAA	California Clean Air Act
CCCC	California Climate Change Center
CCCFPD	Contra Costa County Fire Protection District
CCCWP	Contra Costa Clean Water Program
CCR	California Code of Regulations
CCTA	Contra Costa Transportation Authority
CCTS	Central California Taxonomic System
CCWD	Contra Costa Water District
CDD	Community Development Division
CDF	California Department of Finance
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
Central San	Central Contra Costa County Sanitary District
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations

cfs	cubic feet per second
CGS	California Geological Survey
CH_4	methane
CHL	California Historical Landmarks
CHRIS	California Historical Resources Information System
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNPSEI	California Native Plant Society Electronic Inventory
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
CPHI	California Points of Historical Interest
CPT	Cone Penetration Test
CPUC	California Public Utilities Code
CRA	Cultural Resources Assessment
CRHR	California Register of Historical Resources
CTP	Comprehensive Transportation Plan
CTR	California Toxics Rule
CUPA	Certified Unified Program Agency
CVP	Central Valley Project
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DBH	diameter at breast height
DOGGR	California Department of Oil, Gas, and Geothermal Resources
DPM	diesel particulate matter
DPR	California Department of Parks and Recreation
DTSC	California Department of Toxic Substances Control
du	dwelling unit
du/acre	dwelling unit per acre
DWD	Diablo Water District
DWR	California Department of Water Resources
EBRPD	East Bay Regional Park District
EBMUD	East Bay Municipal Utility District
EDD	California Employment Development Department
EIA	United States Energy Information Administration

EIR	Environmental Impact Report
EISA	Energy Independence and Security Act of 2007
EMF	electromagnetic field
EOP	Emergency Operations Plan
EPA	United States Environmental Protection Agency
ESL	Environmental Screening Level
EV	Electric Vehicle
FAA	Federal Aviation Administration
FAR	floor area ratio
FAST	Fairfield and Suisun Transit
FC District	Contra Costa County Flood Control and Water Conservation District
FCS	FirstCarbon Solutions
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GDP	gross domestic product
GHG	greenhouse gas
gpm	gallons per minute
GPS	Global Positioning System
GSWC	Golden State Water Company
GWh	gigawatt-hours
GWh/y	gigawatt-hours per year
GWP	global warming potential
HAP	Hazardous Air Pollutants
HAZNET	Hazardous Waste Tracking System
HCD	California Department of Housing and Community Development
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HFC	hydrofluorocarbon
HMBP	Hazardous Materials Business Plan
HMP	Hazard Mitigation Plan
HOA	Homeowner’s Association
HOV/HOT	High Occupancy Vehicle/High Occupancy Toll
HRA	Health Risk Assessment
HRI	California Historic Resources Inventory
HUD	United States Department of Housing and Urban Development
HVAC	heating, ventilation, and air conditioning

HWCL	Hazardous Waste Control Law
IPCC	United Nations Intergovernmental Panel on Climate Change
ISO	Independent System Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
JPA	Joint Powers Authority
kW	kilowatts
LAFCo	Local Agency Formation Commission
LBP	lead-based paint
LCFS	Low Carbon Fuel Standard
L_{dn}	day/night average sound level
LED	light-emitting diode
L_{eq}	equivalent sound level
LEV	Low Emission Vehicle
LID	Low Impact Development
LOS	Level of Service
LRA	Local Responsibility Area
LSE	load-serving entities
LUST	Leaking Underground Storage Tank
M&I	Municipal and Industrial
MBTA	Migratory Bird Treaty Act
MCE	Marin Clean Energy
MEI	maximally exposed individual
mgd	million gallons per day
MLD	Most Likely Descendant
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
mph	miles per hour
MPO	Metropolitan Planning Organization
MPP	Multi-Purpose Pipeline
MS4	Municipal Separate Storm Sewer System
MTC	Metropolitan Transportation Commission
MTS	Metropolitan Transportation System
MW	megawatt
MWD	Metropolitan Water District of Southern California
MWELO	Model Water Efficient Landscape Ordinance
MWh	megawatt-hour
MXD	mixed-use development

N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHM	Natural History Museum of Los Angeles County
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOAA	National Marine Fisheries Service
NOC	Notice of Completion
NOP	Notice of Preparation
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTR	National Toxics Rule
NWIC	Northwest Information Center
NWPR	Navigable Waters Protection Rule
O_3	ozone
OAL	Office of Administrative Law
OEHHA	California Office of Environmental Health Hazard Assessment
OHWM	ordinary high water mark
ONAC	Federal Office of Noise Abatement and Control
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
pCi/L	picocuries per liter
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric Company
Phase I ESA	Phase I Environmental Site Assessment
PID	photo ionization detector
PM_x	particulate matter

PM_{10}	particulate matter, including dust, 10 micrometers or less in diameter
$PM_{2.5}$	particulate matter, including dust, 2.5 micrometers or less in diameter
ppb	parts per billion
ppm	parts per million
ppt	parts per trillion
PPV	peak particle velocity
PRC	Public Resources Code
PV	photovoltaics
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
Recology	Integrated Resource Recovery Company
RecycleSmart	Central Contra Costa County Solid Waste Authority
REL	Reference Exposure Level
RHNA	Regional Housing Needs Allocation
RMP	Risk Management Plan
rms	root mean square
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SAVES	Sheriff's All Volunteer Extended Services
SCAQMD	South Coast Air Quality Management District
SCPT	Seismic Cone Penetration Test
SF_6	sulfur hexafluoride
SFHA	Special Flood Hazard Area
SFPUC	San Francisco Public Utilities Commission
SIP	State Implementation Plan
SMART	Storm Water Multiple Application and Report Tracking System
SO_2	sulfur dioxide
SOI	Sphere of Influence
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
STC	Sound Transmission Class
SVP	Society of Vertebrate Paleontology
SWPPP	Storm Water Pollution Prevention Plan
State Water Board	California State Water Resources Control Board

TAC	toxic air contaminants
TCM	transportation control measures
TCR	Tribal Cultural Resources
TDM	Transportation Demand Management
TDS	total dissolved solids
TDV	Time Dependent Valuation
TEA-21	Transportation Equity Act for the 21st Century
Tg	teragram
therms/y	therms per year
TIA	Traffic Impact Analysis
TIS	Traffic Impact Study
TMA	Transportation Management Association
TMDL	Total Maximum Daily Load
TOD	Transit Oriented Development
TPH	total petroleum hydrocarbons
UBC	Uniform Building Code
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USC	United States Code
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
Valley Air District	San Joaquin Valley Air Pollution Control District
V/C	volume to capacity ratio
VdB	vibration in decibels
VDECS	Verified Diesel Emission Control Strategies
VMT	Vehicle Miles Traveled
VOC	volatile organic compounds
WCSD	Walnut Creek School District
WCWD	West County Wastewater District
WDR	Waste Discharge Requirements
WHO	World Health Organization
WQMP	Water Quality Management Plan
WSA	Water Supply Assessment
WTP	Water Treatment Plant

WWTP	Wastewater Treatment Plant
ZEV	Zero Emission Vehicle

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EXECUTIVE SUMMARY

Purpose

This Draft Environmental Impact Report (Draft EIR) is prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the implementation of the Contra Costa County Oak Road Townhouse Condominiums Project (State Clearinghouse No. 2021040684). This document is prepared in conformance with CEQA (Public Resources Code [PRC] § 21000, *et seq*.) and the CEQA Guidelines (California Code of Regulations [CCR], Title 14, § 15000, *et se*q.).

The purpose of this Draft EIR is to inform decision makers, representatives of affected and responsible agencies, the public, and other interested parties of the potential environmental effects that may result from implementation of the proposed Oak Road Townhouse Condominiums Project (project). This Draft EIR describes potential impacts relating to a wide variety of environmental issues and methods by which these impacts can be mitigated or avoided.

Project Summary

Project Location

The project site is located in the unincorporated Walnut Creek area of Contra Costa County. The site is bound by residential uses to the north and south, by Oak Road to the east with residential uses across Oak Road, and by Jones Road to the west and north. Office uses are located north of Jones Road, while Interstate 680 (I-680) is located directly west of Jones Road. The Contra Costa Canal is approximately 450–600 feet south of the project site. The nearest Bay Area Rapid Transit (BART) station (Pleasant Hill/Contra Costa Centre Station) is located approximately 0.35 mile northeast of the site. I-680 is located approximately 180 feet to the west.

Project Description

The proposed project includes construction of 125 townhouse condominium units located in 19 three-story townhome condominium buildings. The buildings would be approximately 37–43 feet in height to the ridgeline, although roof-top deck structures may extend up to 45 feet in height. The 5.94-acre site would be developed with a total of approximately 237,816 square feet of new habitable construction (293,139 total gross building square feet), resulting in a net density of 26.3 dwelling units per acre.

As part of the proposed project, the existing eight parcels would be divided into 19 residential lots (1-19), ranging in size from 7,706 square feet to 17,294 square feet, as well as 13 street and court lots (A-M), ranging in size from 2,808 and 9,834 square feet.

The building site coverage area would be a maximum of 50 percent of the site (approximately 129,373 square feet). Thirteen of the 125 townhouse condominium units (10 percent) would comply with the Americans with Disabilities Act (ADA). Five types of units are proposed, ranging in size from 1,362 to 2,250 square feet with attached 1- or 2-car garages, 3 to 4 bedrooms and 3 to 3.5 bathrooms.

A minimum of 25 percent of the project site (approximately 92,120 square feet) would function as common landscaped open space and private open space areas. Additional common features would include internal streets, courts, walkways, and drainage improvements. Off-site improvements would include installation of parking stalls along Oak Road and Jones Road.

The proposed project would involve the demolition of all existing improvements currently present on-site, including buildings, foundations, asphalt, concrete, fence poles, and landscaping. These buildings and structures are associated with the former Palmer School for Boys and Girls, a private K-8 school that closed in 2020. In addition, 74 on-site trees would be removed, and one valley oak (*Quercus lobata*) would be relocated within the site. Six trees are located adjacent to the property boundaries, and have canopies that extend onto the site. Although construction activities would occur within the drip lines of these trees, they would be afforded protection during construction to ensure their preservation. The trees would be pruned in accordance with arborist recommendations to reduce the size of tree crown over the project site.

Off-site improvements would include frontage sidewalk, driveway curb, gutter improvements including retaining existing on-street parking and street tree planting.

Project Objectives

The objectives of the proposed project are to:

- Develop an appropriate mix of multi-family units (including affordable units) that meets the existing General Plan land use designation and regional housing goals.
- Provide affordable housing units in accordance with the Contra Costa County Housing Element (2014).
- Locate housing in close proximity to transit in order to reduce vehicle miles traveled.
- Provide housing with a variety of floor plans and unit types to enhance the economic viability of the development for long term sustainability.
- Retain the architectural and visual character of the neighborhood by building 3-story townhouse condominiums with roof-deck elements on selected homes fronting Oak Road and providing replacement landscaping that will mature over time.
- Replace an obsolete private school with new market rate and affordable for-sale townhouse condominium homes consistent with the General Plan and surrounding neighborhood.
- Establish physical and social connections between Jones and Oak Roads by building safe, private streets, walkable landscaped open spaces including stormwater management and green building components.
- Provide on-site open space amenities for future residents.
- Phase development to allow for managed, orderly, and economically viable growth.

Significant Unavoidable Adverse Impacts

The proposed project would not result in significant unavoidable impacts.

Summary of Project Alternatives

Below is a summary of the alternatives to the proposed project considered in Section 4, Alternatives to the proposed project.

No Project Alternative: Under the No Project Alternative, the proposed 125-unit 19-building community proposed would not be constructed on the project site. The closed, vacant private school and its associated structures would remain on-site, and no development of any kind would occur. In this scenario, off-site improvements would not occur, trees would not be removed or impacted, grading would not take place, and the eight parcels would not be divided into 19 residential lots and 13 street and court lots. For the purposes of this alternatives analysis, it is assumed that the existing buildings would remain vacant and no educational land use activities would occur. This alternative would not require rezoning, a Final Development Plan, or Tree Permits.

Re-open the Palmer School Alternative: Under the Re-opening the Palmer School Alternative, the currently closed school would re-open and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, and no new development would take place on the project site. The school would resume operations at the same level as at the time of school closure in June 2020. This alternative would not require rezoning, a Final Development Plan, or Tree Permits.

Areas of Controversy

Pursuant to CEQA Guidelines Section 15123(b), a summary section must address areas of controversy known to the lead agency, including issues raised by agencies and the public, and it must also address 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 proposed project was issued on April 28, 2021. The NOP describing the original concept for the project and issues to be addressed in the EIR was distributed to the State Clearinghouse, responsible agencies, and other interested parties for a 30-day public review period extending from April 29, 2021, through May 28, 2021. The NOP identified the potential for significant impacts on the environment related to the following topical areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soil
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation

Disagreement Among Experts

This Draft EIR contains substantial evidence to support all the conclusions presented herein. It is possible that there will be disagreement among various parties regarding these conclusions, although the Contra Costa County is not aware of any disputed conclusions at the time of this writing. Both the CEQA Guidelines and case law clearly provide the standards for treating disagreement among experts. Where evidence and opinions conflict on an issue concerning the environment, and the lead agency knows of these controversies in advance, the EIR must acknowledge the controversies, summarize the conflicting opinions of the experts, and include sufficient information to allow the public and decision makers to make an informed judgment about the environmental consequences of the proposed project.

Potentially Controversial Issues

Below is a list of potentially controversial issues that were raised during the NOP public review period and may be reiterated during the public review and hearing process of this Draft EIR:

- Aesthetic impacts to views from adjacent residences should be evaluated.
- Impacts to Biological Resources due to the removal of a large number of trees, including valley oaks (*Quercus lobata*), should be evaluated.
- Land Use and Planning impacts due to size of setbacks between the proposed project buildings and adjacent residences should be evaluated.

It is also possible that evidence will be presented during the 45-day, statutory Draft EIR public review period that may create disagreement. Decision makers would consider this evidence during the public hearing process.

In rendering a decision on a project where there is disagreement among experts, the decision makers are not obligated to select the most environmentally preferable viewpoint. Decision makers are vested with the ability to choose whatever viewpoint is preferable and need not resolve a dispute among experts. In their proceedings, decision makers must consider comments received concerning the adequacy of the Draft EIR and address any objections raised in these comments. However, decision makers are not obligated to follow any directives, recommendations, or suggestions presented in comments on the Draft EIR, and can certify the Final EIR without needing to resolve disagreements among experts.

Public Review of the Draft EIR

Upon completion of the Draft EIR, the Contra Costa County filed a Notice of Completion (NOC) with the State Office of Planning and Research to begin the public review period (PRC § 21161). Concurrent with the NOC, this Draft EIR has been distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as all parties requesting a copy of the Draft EIR in accordance with Public Resources Code 21092(b)(3). During the public review period, the Draft EIR, including the technical appendices, is available for review at the Contra Costa website (www.contracosta.ca.gov/oakroad), the office of Contra Costa County Department of Conservation and Development and two alternative locations. The address for each location is provided below:

Contra Costa County
Department of Conservation and Development
30 Muir Road
Martinez, CA 94553-4601
Hours:
Monday through Friday: Call 925.655.2700
Saturday and Sunday: Closed

Walnut Creek Library Contra Costa County
1644 North Broadway
Walnut Creek, CA 94596
Hours:
Monday and Tuesday: 10:00 a.m.–8:00 p.m.
Wednesday and Thursday: 10:00 a.m.–6:00 p.m.
Friday and Saturday: 9:00 a.m.–5:00 p.m.
Sunday: Closed

Office of County Supervisor Karen Mitchoff
(District 4)
2151 Salvio Street, Suite R
Concord, CA 94520
Hours:
Monday through Friday: Call 925.521.7100 or email
SUPERVISORMITCHOFF@BOS.CCCOUNTY.US
Saturday and Sunday: Closed

Agencies, organizations, and interested parties have the opportunity to comment on the Draft EIR during the 45-day public review period. Written comments on this Draft EIR should be addressed to:

Jennifer Cruz, Principal Planner
Contra Costa County
Department of Conservation and Development
30 Muir Road
Martinez, CA 94553-4601
Phone: 925.655.2867
Email: Jennifer.cruz@dcd.cccounty.us

Submittal of electronic comments in Microsoft Word or Adobe PDF format is encouraged. Upon completion of the public review period, written responses to all significant environmental issues raised will be prepared and made available for review by the commenting agencies at least 10 days prior to the public hearing before the Contra Costa County on the project, at which the certification of the Final EIR will be considered. Comments received and the responses to comments will be included as part of the record for consideration by decision makers for the project.

Executive Summary Matrix

Table ES-1 below summarizes the impacts, mitigation measures, and resulting level 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-1 is included in the EIR as required by CEQA Guidelines Section 15123(b)(1).

Table ES-1: Executive Summary Matrix

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Section 3.1—Aesthetics, Light, and Glare			
Impact AES-1: The proposed project would not have a substantial adverse effect on a scenic resource as identified in the General Plan.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact AES-2: The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State scenic highway.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact AES-3: The proposed project is in an urbanized area and would not conflict with applicable zoning and other regulations governing scenic quality.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact AES-4: The proposed project could create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Potentially significant impact.	**MM AES-4**: **Prepare Final Lighting Plan** At least 30 days prior to issuance of a building permit, the applicant shall submit for review and approval by the Department of Conservation and Development, Community Development Division a Final Lighting Plan. Exterior lighting must be directed downward and away from adjacent properties and public/private right-of-way to prevent glare or excessive light spillover.	Less than significant impact.
Cumulative Impact	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Section 3.2—Air Quality			
Impact AIR-1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact AIR-2: The proposed project could result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment under an applicable federal or State ambient air quality standard.	Potentially significant impact.	**MM AIR-2: Apply Construction Best Management Practices (BMP)** The contractor shall implement the following enhanced best management practices: 1. During site preparation and grading, all exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.	Less than significant with mitigation incorporated.

		7. Post a publicly visible sign with the telephone number of the project manager to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations. 8. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph. 9. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. 10. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established. 11. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. 12. All trucks and equipment, including their tires, shall be washed off prior to leaving the site. 13. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6-to-12-inch compacted layer of wood chips, mulch, or gravel. 14. Sandbags or other erosion control measures shall be installed to prevent	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		silt runoff to public roadways from sites with a slope greater than 1 percent. 15. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 2 minutes. Clear signage shall be provided for construction workers at all access points.	
Impact AIR-3: The proposed project could expose sensitive receptors to substantial pollutant concentrations.	Potentially significant impact.	**MM AIR-3: Selection of equipment during construction to minimize diesel particulate matter (DPM) emissions** The project shall implement the following: 1. Prior to the issuance of grading or construction permits, the applicant shall provide the Department of Conservation and Development, Community Development Division (CDD) with documentation to the satisfaction of CDD that all diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously, at a minimum, meet United States Environmental Protection Agency (EPA) emissions standards for Tier 4 Interim engines. Where Tier 4 equipment is not available, exceptions could be made for equipment meeting Tier 2 or Tier 3 standards that include California Air Resources Board (ARB)-certified Level 3 Diesel Particulate Filters or equivalent. Equipment that is electrically powered or uses non-diesel fuels would also meet this requirement. 2. Minimize diesel generator use by providing line power to the site during early construction phases.	Less than significant with mitigation incorporated.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		3. Avoid staging construction equipment near residences (i.e., within 200 feet of homes).	
Impact AIR-4: The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	Potentially significant impact.	Implement MM AIR-2 and MM AIR-3.	Less than significant with mitigation incorporated.
Section 3.3—Biological Resources			
Impact BIO-1: The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.	Potentially significant impact.	**MM BIO-1a: Roosting Bats** 1. A qualified wildlife Biologist shall conduct surveys for special-status bats during the appropriate time of day to maximize detectability to whether if bat species are roosting near the work area no more than 5 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (Anabat, etc.). 2. Visual surveys will include trees within 100 feet of project construction activities. Prior to building demolition, the applicants for development on any project parcel shall ensure that a qualified Biologist (i.e., one familiar with the identification of bats and signs of bats) survey buildings proposed for demolition for the presence of roosting bats or evidence of bats. If no roosting bats or evidence of bats are found in the	Less than significant with mitigation incorporated.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		structure, demolition may proceed. If the Biologist determines bats are present , the Biologist shall exclude the bats from suitable spaces by installing one-way exclusion devices. After the bats vacate the space, the Biologist shall close off the space to prevent recolonization. Building demolition shall only commence after the Biologist verifies seven to 10 days later that the exclusion methods have successfully prevented bats from returning. To avoid impacts on non-volant (i.e., nonflying) bats, the Biologist shall only conduct bat exclusion and eviction from September 1 through March 31. Exclusion efforts shall be restricted during periods of sensitive activity. **MM BIO-1b: Migratory and Nesting Birds** 1. If the project requires vegetation to be removed during the nesting season (February 1–August 31), pre-construction surveys shall be conducted 5 days prior to vegetation removal to determine whether or not active nests are present. 2. If an active nest is located during pre-construction surveys, a qualified Biologist shall determine an appropriately-sized avoidance buffer based on the species and anticipated disturbance level. Based on input from the Biologist, the project applicant will delineate the avoidance buffer using Environmentally Sensitive Area fencing, pin flags, and or yellow caution tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		independently. No construction activities shall be allowed within the avoidance buffer(s). 3. The qualified Biologist shall periodically monitor the active nest during construction activities to prevent any potential impacts that may result from the construction of the proposed project, until the young have fledged.	
Impact BIO-2: The proposed project would not have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.	No impact.	No mitigation is necessary.	No impact.
Impact BIO-3: The proposed project would not have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	No impact.	No mitigation is necessary.	No impact.
Impact BIO-4: The proposed project would not substantially interfere with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact BIO-5: The proposed project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Potentially significant impact.	**MM BIO-5a: Prepare and Implement a Tree Replacement Plan** A Tree Replacement Plan shall be submitted and approved by the Department of Conservation and Development, Community Development Division (CDD) prior to the removal of trees, prior to issuance of a demolition or grading permit, whichever comes first. The Tree Replacement Plan shall designate the approximate location, number, and sizes of trees to be planted. Trees shall be planted prior to requesting a final inspection of the building permit. **MM BIO-5b: Implement Tree Protection Guidelines During Construction** Tree protection guidelines shall be implemented during construction throughout the clearing, grading, and construction phases as outlined on pages 12-13 in the arborist report prepared by HortScience dated January 4, 2021.	Less than significant with mitigation incorporated.
Impact BIO-6: The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.	No impact.	No mitigation is necessary.	No impact.
Cumulative Impact	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Section 3.4—Cultural Resources and Tribal Cultural Resources			
Impact CUL-1: The proposed project could cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.	Potentially significant impact.	**MM CUL-1: Archaeological Spot-Monitoring and Halt of Construction Upon Encountering Historical or Archaeological Materials** An Archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology should inspect the	Less than significant with mitigation incorporated.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		site once grubbing and clearing are complete, and prior to any grading or trenching into previously undisturbed soils. This will be followed by regular periodic or "spot-check" archaeological monitoring as determined by the Archaeologist. If the Archaeologist believes that a reduction in monitoring activities is prudent, then a letter report detailing the rationale for making such a reduction and summarizing the monitoring results shall be provided to the Department of Conservation and Development, Community Development Division (CDD) for concurrence. In the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers should avoid altering the materials until an Archaeologist has evaluated the situation. The applicant for the proposed project shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramics, fossils, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. The Archaeologist shall make recommendations concerning appropriate measures that will be implemented to protect the resource, including but not limited to excavation and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Any previously undiscovered resources found	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		during construction within the project site shall be recorded on appropriate California Department of Parks and Recreation (DPR) 523 forms and will be submitted to the Department of Conservation and Development, Community Development Division, the Northwest Information Center (NWIC), and the California Office of Historic Preservation (OHP), as required.	
Impact CUL-2: The proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	Potentially significant impact.	Implement MM CUL-1.	Less than significant with mitigation incorporated.
Impact CUL-3: The proposed project could disturb human remains, including those interred outside of formal cemeteries.	Potentially significant impact.	**MM CUL-3: Stop Construction Upon Encountering of Human Remains** In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, and Public Resources Code Sections 5097.94 and Section 5097.98 shall be followed. If during the course of project construction, there is accidental discovery or recognition of any human remains, the following steps shall be taken: 1. There shall be no further excavation or disturbance within 100 feet of the remains until the County Coroner is contacted to determine whether the remains are Native American and if an investigation of the cause of death is required. If the Coroner determines the remains to be Native American, the Coroner shall contact the	Less than significant with mitigation incorporated.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the Most Likely Descendant (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98. 2. Where the following conditions occur, the landowner or his or her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the MLD or on the project site in a location not subject to further subsurface disturbance: • The NAHC is unable to identify an MLD or the MLD failed to make a recommendation within 48 hours after being notified by the NAHC. • The descendant identified fails to make a recommendation.	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner. Additionally, California Public Resources Code Section 15064.5 requires the following relative to Native American Remains: When an initial study identifies the existence of, or the probable likelihood of, Native American Remains within a project, a lead agency shall work with the appropriate Native Americans as identified by the NAHC as provided in Public Resources Code Section 5097.98. The applicant may develop a plan for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American Burials with the appropriate Native Americans as identified by the NAHC.	
Impact CUL-4: The proposed project could cause a substantial adverse change in the significance of a Tribal Cultural Resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1 (k).	Potentially significant impact.	Implement MM CUL-1 and MM CUL-3.	Less than significant with mitigation incorporated.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact CUL-5: The proposed project could cause a substantial adverse change in the significance of a Tribal Cultural Resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.	Potentially significant impact.	Implement MM CUL-1 and MM CUL-3.	Less than significant with mitigation incorporated.
Cumulative Impact	Potentially significant impact.	Implement MM CUL-1 and MM CUL-3.	Less than significant with mitigation incorporated.
Section 3.5—Energy			
Impact ENER-1: The proposed project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact ENER-2: The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Section 3.6—Geology and Soils			
Impact GEO-1: The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake	Potentially significant impact.	**MM GEO-1a: Conduct Design-Level Geotechnical Exploration** At least 60 days prior to recording the final Subdivision Map, or requesting issuance of construction permits or installation of utility improvements, the applicant shall submit a design-level Geotechnical Exploration report for the proposed project, based on adequate	Less than significant with mitigation incorporated.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii) Strong seismic ground shaking. iii) Seismic-related ground failure, including liquefaction. iv) Landslides.		subsurface exploration, laboratory testing and engineering analysis. The scope of the Geotechnical Exploration should address the following potential hazards: *(i)* grading, including removal of existing undocumented fill that is deemed to be unsuitable for use in engineered fills, preparation to receive fill, compaction standards for fill, etc., *(ii)* consolidation settlement, *(iii)* analysis of liquefaction potential, including estimating total settlement and differential settlement, and surface manifestation of liquefaction, *(iv)* foundation design, *(v)* measures to protect improvements from the relatively shallow water table, *(vi)* laboratory testing to evaluate the expansive and corrosion potential soils, and measures designed to protect improvement that are in contact with the ground from these hazard, including the building foundation, parking garage slabs, flatwork, pavement and utilities, *(vii)* exploration/testing/and engineering analysis aimed at providing recommendations pertaining to foundation design, including foundation retaining walls, and pavement design, *(viii)* evaluation of the drainage design, including the proposed bio-retention facilities and their effect on planned improvements, *(ix)* address temporary shoring and support of excavations, *(x)* provide updated California Building Standards Code (CBC) seismic parameters, and *(xi)* outline the recommended geotechnical monitoring, commencing with clearing and demolition, extending through final grading, installation of drainage improvements, and including the monitoring of foundation-related work.	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		MM GEO-1b: Conduct Geotechnical Observations and Testing Services During Construction The design-level geotechnical report required by Mitigation Measure GEO-1a routinely includes recommended geotechnical observation and testing services during construction. These services are essential to the success of the proposed project. They allow the Geotechnical Engineer to (i) ensure geotechnical recommendations for the proposed project are properly interpreted and implemented by contractors, (ii) allow the Geotechnical Engineer to view exposed conditions during construction to ensure that field conditions match those that were the basis of the design recommendations in the approved report, and (iii) provide the opportunity for field modifications of geotechnical recommendations (with Contra Costa County Department of Conservation and Development, Community Development Division approval), based on exposed conditions. The monitoring shall commence during clearing, and extend through grading, placement of engineered fill, installation of recommended drainage facilities, and foundation-related work. A hold shall be placed on the "final" grading inspection, pending submittal of a report from the project Geotechnical Engineer that documents their observation and testing services to that stage of construction, including monitoring and testing	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		of backfilling required for utility and drainage facilities. Similarly, a hold shall be placed on the final inspection for each residential building, pending submittal of a letter-report from the Geotechnical Engineer documenting the monitoring services associated with implementation of final grading, drainage, and foundation-related work. This can be one letter that addresses all residential buildings, or separate letters for each building. The geotechnical monitoring shall include documentation of conformance of retaining wall, pier hole drilling/ foundation preparation work and installation of drainage improvements. **MM GEO-1c: Prepare Final Construction Report** The Geotechnical Engineer shall prepare a final report that documents the field observations and testing services provided during construction as well as provide a professional opinion on the compliance of construction with the recommendations in the Preliminary Geotechnical Exploration. The final report can be segmented into an as-graded report that is issued at the end of rough grading, but prior to the installation of the foundations, and a second letter commenting on the inspections made during installation of foundations/parking lot/drainage facilities. The Department of Conservation and Development, Community Development Division (CDD) will place a hold on the final inspection, to ensure	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		that the Geotechnical Engineer's grading-foundation inspection letter-report is provided prior to requesting the final building inspection for each building. This requirement may be satisfied by issuance of one letter for all residential buildings, or separate letters for each residential building.	
Impact GEO-2: The proposed project could result in substantial soil erosion or the loss of topsoil.	Potentially significant impact.	**MM GEO-2: Conduct Grading, Excavation, and Filling Only During the Dry Season** The grading, excavation and filling shall be conducted during the dry season (April 15 through October 15) only, and all areas of exposed soils shall be revegetated to minimize erosion and subsequent sedimentation. After October 15, only erosion control work shall be allowed by the grading permit. Any modification to the above schedule shall be subject to review by the Grading Inspection Division, and the review/approval of the Department of Conservation and Development, Community Development Division (CDD).	Less than significant with mitigation incorporated.
Impact GEO-3: The proposed project could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	Potentially significant impact.	Implement MM GEO-1a, GEO-1b, and GEO-1c.	Less than significant with mitigation incorporated.
Impact GEO-4: The proposed project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	Potentially significant impact.	Implement MM GEO-1a, GEO-1b, and GEO-1c.	Less than significant with mitigation incorporated.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact GEO-5: The proposed project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	No impact.	No mitigation is necessary.	No impact.
Impact GEO-6: The proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Less than significant impact.	**MM GEO-6: Stop Construction Upon Encountering Paleontological Materials** In the event that fossils or fossil-bearing deposits are discovered during construction activities, excavations within a 50-foot radius of the find shall be temporarily halted or diverted. The project contractor shall notify a qualified Paleontologist to examine the discovery. The Paleontologist shall document the discovery as needed (in accordance with Society of Vertebrate Paleontology [SVP] standards), evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The Paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the applicant determines that avoidance is not feasible, the Paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the Lead Agency for review and approval prior to implementation, and the applicant shall adhere to the recommendations in the plan.	Less than significant with mitigation incorporated.
Cumulative	Less than significant impact.	No mitigation is necessary.	Less than significant impact.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Section 3.7—Greenhouse Gas Emissions			
Impact GHG-1: The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact GHG-2: The proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Cumulative	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Section 3.8—Hazards and Hazardous Materials			
Impact HAZ-1: The proposed project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially significant impact.	**MM HAZ-1a: Conduct Asbestos and Lead Surveys Prior to Demolition** Prior to the issuance of demolition permits for the existing structures, the applicant shall retain a licensed professional to conduct asbestos and lead paint surveys. These surveys shall be conducted prior to the disturbance or removal of any suspect asbestos-containing materials (ACM) and lead-based paint (LBP), and these materials shall be characterized for asbestos and lead by a reliable method. All activities involving ACM and LBP shall be conducted in accordance with governmental regulations, and all removal shall be conducted by properly licensed abatement contractors.	Less than significant with mitigation incorporated.

		MM HAZ-1b: Proper Disposal of Hazardous Materials Such As Cleaning Supplies and Insecticides Prior to the issuance of a grading permit, the applicant shall remove and dispose of all materials observed during the site reconnaissance for the Phase I Environmental Site Assessment (Phase I ESA) in accordance with applicable local, State, and federal regulations. The materials include, but are not limited to containers of cleaning supplies and insecticides. **MM HAZ-1c: Closure of On-site Irrigation Wells** Prior to the issuance of a grading permit, the three on-site irrigation wells shall be properly closed under permit in accordance with applicable local, State, and federal regulations. **MM HAZ-1d: Soil Aeration** The applicant shall complete the soil aeration and soil vapor testing during demolition and rough grading operations. Once the soil aeration is completed which consists of spreading excavated soil on the ground in an approximately 18-inch-thick layer, mixing of the soil (tilling) shall be performed regularly to maintain aerobic conditions (presence of oxygen). The soil shall be thoroughly tilled using equipment such as a Terex RS600 Reclaimer/Stabilizer. An Environmental Health Licensed Professional shall spot check to ensure that the process is implemented.	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		A total of six tilling passes shall be performed through the proposed excavation area (approximately 30 feet long by 20 feet wide and 6 feet deep with a total volume of 135 cubic yards). During the tilling operation, air quality monitoring shall be performed with a photo ionization detector (PID) 3 inches above the soils and also in the breathing zone. Dust control measures shall be implemented during the aeration process (as spelled out in MM AIR-2), and dust monitoring shall be performed in the perimeter of the project site. Soil vapor sampling shall be performed at the end of aeration/tilling operations prior to backfill. If the soil vapor sampling finds no benzene Environmental Screening Level (ESL) exceedances, then the applicant shall have the Phase I Environmental Site Assessment and Phase II Environmental Investigation Report prepared by Roux Associates, Inc. (Roux) in August 2021, updated memorializing the implementation of the mitigation and confirming that no Recognized Environmental Conditions (REC) exist on the site and provide a copy to the Department of Conservation and Development, Community Development Division demonstrating that benzene levels no longer exceed the ESL. If soil vapor exceedances are identified after soil excavation and aeration, then a Soil	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Management Plan (SMP) shall be prepared and forwarded to an appropriate environmental oversight agency for disposition. A copy of the SMP will also be provided to the Department of Conservation and Development, Community Development Division. All construction work shall cease in the area of the underground storage tank (UST) as shown in the Roux report, including the aeration area, until the disposition of the SMP is determined by the environmental oversight agency. Once the issue has been addressed to the satisfaction of the environmental oversight agency, evidence shall be provided to the satisfaction of the Department of Conservation and Development, Community Development Division and construction activities may resume on the former UST area.	
Impact HAZ-2: The proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact HAZ-3: The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact HAZ-4: The proposed project could be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.	Potentially significant impact.	Implement MM HAZ-1d.	Less than significant with mitigation incorporated.
Impact HAZ-5: The proposed project would not be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and result in a safety hazard or excessive noise for people residing or working in the project area.	No impact.	No mitigation is necessary.	No impact.
Impact HAZ-6: The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact HAZ-7: The proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Cumulative	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Section 3.9—Hydrology and Water Quality			
Impact HYD-1: The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact HYD-2: The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact HYD-3: The proposed project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) result in substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows?	Potentially significant impact.	**MM HYD-3: Prepare Final Drainage Plan Prior to Grading** • In accordance with Division 914 of the County Ordinance Code, the project shall collect and convey all stormwater entering and/or originating on this property, without diversion and within an adequate storm drainage facility, to a natural watercourse having definable bed and banks, or to an existing adequate public storm drainage system that conveys the stormwater to a natural watercourse. Any proposed diversions of the watershed shall be subject to hearing body approval. Prior to issuance of a grading permit, the applicant shall obtain a Flood Control Permit from the applicant and Permit Center, submit improvement plans for proposed drainage improvements, and a drainage report with hydrology and hydraulic calculations to the Engineering Services Division of the Public Works Department for review and approval that demonstrates the adequacy of the in-tract drainage system and the downstream drainage system. The applicant shall verify the adequacy at any downstream drainage facility accepting stormwater from this project prior to discharging runoff. If the downstream system(s) is not adequate to handle the Existing Plus Project condition for	Less than significant with mitigation incorporated.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		the required design storm, improvements shall be constructed to make the system adequate. The applicant shall obtain access rights to make any necessary improvements to off-site facilities. • In accordance with Division 1014 of the County Ordinance Code, the applicant shall comply with all rules, regulations and procedures of the National Pollutant Discharge Elimination System (NPDES) for municipal, construction and industrial activities as promulgated by the California State Water Resources Control Board, or any of its Regional Water Quality Control Boards (San Francisco Bay—Region 2); and • Submit a Final Stormwater Control Plan and a Stormwater Control Operation and Maintenance Plan (O&M Plan) to the Public Works Department, which shall be reviewed for compliance with the County's NPDES Permit and shall be deemed consistent with the County's Stormwater Management and Discharge Control Ordinance (Division 1014) prior to issuance of a building permit. Improvement Plans shall be reviewed to verify consistency with the Final Stormwater Control Plan and compliance with the Contra Costa Stormwater C.3 Guidebook of the County's NPDES Permit and the County's Stormwater Management and Discharge Control Ordinance (Division 1014) and be designed to discourage prolonged standing/ponding of water on-site.	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact HYD-4: The proposed project would not be located in a flood hazard zone, tsunami, or seiche zone, or risk release of pollutants due to project inundation.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact HYD-5: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Cumulative	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Section 3.10—Land Use and Planning			
Impact LAND-1: The proposed project would not physically divide an established community.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact LAND-2: The proposed project would not cause a significant environmental impact due to conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Cumulative	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Section 3.11—Noise			
Impact NOI-1: The proposed project could cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Potentially significant impact.	**MM NOI-1: Implement Traffic Noise-reduction Measures** To reduce potential traffic noise impacts, the following multi-part mitigation measure shall be implemented for the project: • The project applicant shall ensure inclusion of ventilation systems that would permit windows to remain closed for prolonged periods. The systems must not compromise	Less than significant with mitigation incorporated.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		sound insulation of the exterior wall assemblies. • Prior to issuance of building permits, the project applicant shall provide design plans which show that window and exterior door assemblies of units located within 175-feet of the centerline of Jones Road will have ratings of STC 39 to reduce project traffic noise levels to meet the interior noise level standards. Alternatively, the project applicant shall provide a design-level noise study that demonstrates the specific window and door assembly sound ratings to achieve the required interior noise threshold for each of these impacted residential units. • Prior to issuance of building permits, the project applicant shall provide design plans which show that window and exterior door assemblies of units located within 100-feet of the centerline of Oak Road will have ratings of STC 34 to reduce project traffic noise levels to meet the interior noise level standards. Alternatively, the project applicant shall provide a design-level noise study that demonstrates the specific window and door assembly sound ratings to achieve the required interior noise threshold for each of these impacted residential units.	
Impact NOI-2: The proposed project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the	Potentially significant impact (construction noise only).	**MM NOI-2: Implement Noise-reduction Measures During Construction** To reduce potential construction noise impacts, the following multi-part mitigation measure shall be implemented for the proposed project:	Less than significant with mitigation incorporated.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
local general plan or noise ordinance, or applicable standards of other agencies.		• The construction contractor shall ensure that all equipment driven by internal combustion engines shall be equipped with mufflers, which are in good condition and appropriate for the equipment. • The construction contractor shall ensure that unnecessary idling of internal combustion engines (i.e., idling in excess of 5 minutes) is prohibited. • The construction contractor shall utilize "quiet" models of air compressors and other stationary noise sources where technology exists. • At all times during project grading and construction, the construction contractor shall ensure that stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from adjacent residences. • The construction contractor shall ensure that the construction staging areas shall be located to create the greatest feasible distance between the staging area and noise-sensitive receptors nearest the project site. • The construction contractor shall control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site. • The construction contractor shall designate a "disturbance coordinator" who would be responsible for responding to any	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. • The construction contractor shall ensure that noise-generating construction activities (including construction-related traffic, excluding interior work within the building once the building envelope is complete) at the project site and in areas adjacent to the project site are limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise approved by the Department of Conservation and Development, Community Development Division (CDD), with no construction allowed on weekends, federal, and State holidays.	
Impact NOI-3: The proposed project would not result in generation of excessive groundborne vibration or groundborne noise levels.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact NOI-4: The proposed project would not expose people residing or working in the project area to excessive noise levels 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.	No impact.	No mitigation is necessary.	No impact.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Cumulative	Potentially significant impact (traffic noise land use compatibility only).	Implement MM NOI-1.	Less than significant impact.
Section 3.12—Population and Housing			
Impact POP-1: The proposed project would not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact POP-2: The proposed project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	No impact.	No mitigation is necessary.	No impact.
Cumulative	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Section 3.13—Public Services and Recreation			
Impact PUB-1: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact PUB-2: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered	Less than significant impact.	No mitigation is necessary.	Less than significant impact.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
police protection facilities, need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection.			
Impact PUB-3: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for schools.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact PUB-4: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for library facilities.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact REC-1: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact REC-2: The proposed project could include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.	Potentially significant impact.	Implement MM AIR-2, MM AIR-3, and MM NOI-2.	Less than significant with mitigation incorporated.
Cumulative	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Section 3.14—Transportation			
Impact TRANS-1: The proposed project would not conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact TRANS-2: The proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact TRANS-3: The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact TRANS-4: The proposed project would not result in inadequate emergency access.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Cumulative	Less than significant impact.	No mitigation is necessary.	Less than significant impact.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Section 3.15—Utilities and Service Systems			
Impact UTIL-1: The proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact UTIL-2: The proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple-dry years.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact UTIL-3: The proposed project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact UTIL-4: The proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact UTIL-5: The proposed project would comply with federal, state, and local statutes and regulations related to solid waste.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Cumulative	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Section 3.16—Wildfire			
Impact WILD-1: The proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact WILD-2: The project would not due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact WILD-3: The proposed project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Impact WILD-4: The proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	Less than significant impact.	No mitigation is necessary.	Less than significant impact.
Cumulative	Less than significant impact.	No mitigation is necessary.	Less than significant impact.

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CHAPTER 1: INTRODUCTION

This Draft Environmental Impact Report (Draft EIR) for the Oak Road Townhouse Condominium Project (proposed project) has been prepared in accordance with—and complies with—criteria, standards, and procedures of the California Environmental Quality Act (CEQA), as amended (California Public Resources Code [PRC], § 21000, *et seq*.) and the CEQA Guidelines (California Code of Regulations [CCR], Title 14, § 15000, *et seq*.). In accordance with Sections 21067, 15367, and 15050–15053 of the CEQA Guidelines, Contra Costa County (County) is the lead agency under whose authority this document has been prepared. As an informational document, this Draft EIR is intended for use by the County and other public agency decision makers and members of the public in evaluating the potential environmental impacts of the proposed project.

1.1 - Project Overview

The 5.94-acre project site consists of eight parcels and is located at 2740 Jones Road, southeast of the intersection of Interstate 680 and Treat Boulevard, within unincorporated Contra Costa County and adjacent to the City of Walnut Creek (see Exhibits 2-1 and 2-2). The project site was formerly used by the Palmer School for Boys and Girls, a private K-8 school, and is currently developed with 14 buildings as well as associated structures, including classrooms, an auditorium, a front office, a paved courtyard, a grass field, tennis courts, basketball courts playgrounds, a swimming pool, parking lots and planters. The private school operated from 1939 until its closure due to COVID-19 in June 2020.

The proposed project includes rezoning of the project site from Multiple-Family Residential (M-17 and M-29) and Single-Family Residential (R-15) to a Planned Unit District (P-1) and approval of a vesting tentative map reconfiguring the current eight parcels into 19 new residential parcels. The proposed project would involve a development plan to allow the demolition of all existing improvements currently present on-site, including buildings, foundations, asphalt, concrete, fence poles, and landscaping. The major project components are as follows:

- Construction of 19 new three-story buildings containing 125 condominium units.
- Approximately 237,816 square feet of new residential living area (293,139 total gross building square feet).
- Removal of approximately 74 trees, relocation of one valley oak tree (*Quercus lobata*), and work within the dripline of an additional six trees.
- Approximately 92,120 square feet of landscaped areas.
- 278 on-site auto parking spaces.
- Internal private streets, courts, walkways, and drainage improvements.
- Off-site improvements would include frontage sidewalk, driveway curb, gutter improvements including retaining existing on-street parking and street tree planting.

1.2 - Environmental Review Process

An EIR is an informational document used by a lead agency (in this case, the County) when considering approval of a proposed project. The purpose of an EIR is to provide public agencies and members of the public with detailed information regarding the environmental effects associated with implementing a project. An EIR should analyze the environmental consequences of a project, identify ways to reduce or avoid the proposed project's potential environmental effects, and identify alternatives to the proposed project that can avoid or reduce impacts. Pursuant to CEQA, public agencies must consider the environmental consequences of projects over which they have discretionary authority. This Draft EIR provides information to be used in the planning and decision-making process. It is not the purpose of an EIR to recommend approval or denial of a project.

Before approval of the proposed project, the County, as lead agency and the decision-making entity, is required to certify that this EIR has been completed in compliance with CEQA, that the information in the EIR has been considered, and that the EIR reflects the independent judgment of the County. Pursuant to CEQA, decision makers must balance the benefits of a project against its unavoidable environmental consequences. If environmental impacts are identified as significant and unavoidable, the County may still approve the proposed project if it finds that social, economic, or other benefits outweigh the unavoidable impacts. The County would then be required to state in writing the specific reasons for approving the proposed project, based on information in the EIR and other information sources in the administrative record. This reasoning is called a "statement of overriding considerations" (PRC § 21081; CEQA Guidelines § 15093).

In addition, the County as lead agency must adopt a Mitigation Monitoring and Reporting Program (MMRP) describing the measures that were made a condition of project approval to avoid or mitigate significant effects on the environment (PRC § 21081.6; CEQA Guidelines § 15097). The MMRP is adopted at the time of project approval and is designed to ensure compliance with the project description and EIR mitigation measures during and after project implementation. If the County decides to approve the proposed project, it would be responsible for verifying that the MMRP for this proposed project is implemented. The EIR will be used primarily by the County during approval of future discretionary actions and permits.

This Draft EIR provides a project-level analysis of the environmental effects of the proposed project. The environmental impacts of the proposed project are analyzed in this Draft EIR to the degree of specificity appropriate, in accordance with CEQA Guidelines Section 15146. This Draft EIR addresses the potentially significant adverse environmental impacts that may be associated with the planning, construction, or operation of the project. It also identifies appropriate and feasible mitigation measures and alternatives that may be adopted to significantly reduce or avoid these impacts.

CEQA requires that an EIR contain, at a minimum, certain specific components. These components are contained in this EIR and include the following:

- Table of Contents
- Introduction
- Executive Summary

- Project Description
- Environmental Setting
- Significant Environmental Impacts
- Mitigation Measures
- Cumulative Impacts
- Significant Unavoidable Adverse Impacts
- Alternatives to the Proposed Project
- Growth-Inducing Impacts
- Effects Found not to be Significant
- Areas of Known Controversy

Contra Costa County is the lead agency for the project. CEQA Guidelines Section 15367 defines the lead agency as ". . . the public agency, which has the principal responsibility for carrying out or approving a project." Other public agencies may use this Draft EIR in the decision-making or permit process and consider the information in this Draft EIR along with other information that may be presented during the CEQA process.

This Draft EIR was prepared by FirstCarbon Solutions (FCS), an environmental consultant. Prior to public review, it was extensively reviewed and evaluated by the County. This Draft EIR reflects the independent judgment and analysis of the County as required by CEQA. Lists of organizations and persons consulted, and the report preparation personnel is provided in Chapter 7 of this Draft EIR.

1.3 - Purpose and Legal Authority

1.3.1 - Notice of Preparation and Public Scoping Process

In accordance with Sections 15063 and 15082 of the CEQA Guidelines, the County, as lead agency, sent the Notice of Preparation (NOP) to responsible and trustee agencies, and interested entities and individuals on April 28, 2021, thus beginning the formal CEQA scoping process. The purpose of the scoping process is to allow the public and government agencies to comment on the issues and provide input on the scope of the EIR. The scoping period began on April 28, 2021, and ended on May 28, 2021, representing the statutory 30-day public review period. Fifteen comment letters and emails were received in response to the NOP. The NOP, comment letters, and emails are contained in Appendix A. A summary of comments submitted is provided in Table 1-1, with cross-references to applicable Draft EIR sections where comments are addressed.

Pursuant to Section 15083 of the CEQA Guidelines, the County held a public scoping meeting on May 17, 2021, starting at 3:30 p.m. via a videoconference platform. At the meeting, attendees were given an opportunity to provide comments and express concerns about the potential effects of the project. A total of seven individuals provided verbal comments on the content of the Draft EIR at the scoping meeting (see Appendix A for meeting transcript). A summary of the main concerns expressed at the scoping meeting is provided below, and additional details are provided in Table 1-1:

- Removal of oak trees
- Privacy concerns
- Shading from the new buildings

- New nighttime lighting
- Construction noise and release of pollutants
- Potential fire hazards from open space on rooftop
- Concerns that the proposed setbacks from properties to the north would impact foundations of existing residences

Table 1-1: Summary of EIR Scoping Comments

Agency/Organization	Author	Date	Comment Summary	Coverage in the DEIR
State Agencies				
California Department of Transportation, District 4	Mark Leong, District Branch Chief, Local Development–Intergovernmental Review	5/25/2021	• If the proposed project meets the screening criteria to be exempt from detailed Vehicle Miles Traveled (VMT) analysis, requests justification to support the exempt status in line with the City's VMT policy. • If the proposed project does not meet exempt screening criteria, lists the required components for the VMT analysis in the EIR. • Offers mitigation strategies such as Transportation Demand Management (TDM) Program. • Requests identification of project-generated travel demand and cost estimate transportation improvements necessitated by the proposed project as well as viable funding sources. • States that the County is responsible for all project mitigation. • States requirements associated with equitable access including Americans Disabilities Act (ADA) Standards and bicycle and pedestrian access during construction. • States that an Encroachment Permit may be required and lists the submittal requirements.	• Section 3.14, Transportation
Native American Heritage Commission	Nancy Gonzalez-Lopez, Cultural Resources Analyst	4/29/2021	• Notes tribal consultation requirements according to CEQA and state and federal laws. • Recommends consultation with tribes affiliated with project area as early as possible.	• Section 3.4, Cultural Resources and Tribal Cultural Resources

Agency/Organization	Author	Date	Comment Summary	Coverage in the DEIR
			• Summarizes Assembly Bill (AB) 52, Senate Bill 18, and recommendations for cultural resources assessments. • Advises legal counsel consultation for compliance. • Conduct an archaeological records search and a Sacred Lands File search.	
Organizations				
Contra Costa Local Agency Formation Commission (LAFCo)	Lou Ann Texeira, Executive Officer	5/10/2021	• States the proposed project is within the service areas of Central Contra Costa Sanitary District, Contra Costa County Fire Protection District, and Contra Costa Water District; no LAFCo action will be needed for this project.	• N/A
Oak Treat Court Association, Board of Directors	Jessica McCurdy, President; Romi McIntire-Mann, Secretary; Philip Abellera, Treasurer	5/26/2021	• States that the proposed setback between the proposed project Buildings F, G, and H are too close to their buildings; referencing their documentation of larger setbacks. between other neighborhood communities. • Raises privacy, light and shadow, view, and air flow concerns due to the proposed heights of proposed Buildings F, G, and H. • States density concerns. • Objects to the removal of 74 trees including many valley oak trees and its potential impact on animal and avian species, as well as on views; state that they have cooperated with project site owners to pay for maintenance of tree No. 80; request that tree No 77, 78, and 79 be preserved in addition to tree No. 80. • States concerns regarding increased noise and light pollution.	• Section 3.1, Aesthetics • Section 3.2, Air Quality • Section 3.3, Biological Resources • Section 3.10, Land Use • Section 3.11, Noise • Section 3.14, Transportation

Agency/Organization	Author	Date	Comment Summary	Coverage in the DEIR
			• States concern regarding traffic congestion, GHG emissions, and parking due to the number of proposed parking slots. • States concerns associated with demolition and construction such as pollutants release, subsidence, runoff, and foundation damage.	
2700-2725 Oak Road Homeowners	Becky Klemm, Signatures of 30 homeowners (see Appendix A for all names and signatures)	5/25/2021	• The proposed project would destroy the artistic style of the project site. • Construction and occupation would affect the community's air quality due to constant release of pollutants and greenhouse gases. • Proposed tree removal would put plant and animal species at risk. • Release of asbestos during demolition would cause permanent damage to the community. • Demolition, construction, and occupation would result in unacceptable noise pollution (residents were able to hear daily noise from the former Palmer School). • The proposed Oak Road Townhouse Condominiums plan will result in permanent negative impact on traffic patterns. • Neighborhood street parking would be negatively and permanently affected by the proposed project. • The proposed project would crowd area walking trails and neighborhood park which are already congested.	• Section 3.1, Aesthetics • Section 3.2, Air Quality • Section 3.3, Biological Resources • Section 3.8, Hazards and Hazardous Materials • Section 3.11, Noise • Section 3.13, Public Services and Recreation • Section 3.14, Transportation
Walden District Improvement Association	Jeffrey Peckham, President	Undated	• Objects to the removal of 75 of the 81 trees on the project site, including seven heritage valley oaks.	• Section 3.3, Biological Resources

Agency/Organization	Author	Date	Comment Summary	Coverage in the DEIR
			• States that the City of Walnut Creek required the developer of the Tiffany site to build around a heritage tree originally planned for removal and urgers the County to do the same with trees on the proposed site. • Questions the necessity to remove 24 healthy mature coast redwoods on the southern border of the project site only to replace them at a later date and suggests they be preserved.	
Walden District Improvement Association	Jeffrey Peckham, President	5/4/2021	• Reiterates concern regarding the preservation of heritage trees on the Oak Road side of the proposed project.	• Section 3.3, Biological Resources
Walden District Improvement Association	Larry McEwen, Secretary	5/13/2021	• Asks when does the public comment period end.	• Addressed by the County
Individuals				
N/A	Phil Abellera	5/4/2021	• Requesting documents related to the project.	• Provided by the County
N/A	Matthew Bamford	5/7/2021	• Requesting supporting documents for the project. • Inquiring about the difference between mailing comments and attending Scoping Meeting. • Inquiring about the process for neighboring property owners to address the design of the development.	• Provided by the County
N/A	Matthew Bamford	5/17/2021	• Provides examples of setback between existing developments along Oak Road in the vicinity of the proposed project, which are larger than with those associated with the proposed project.	• Section 3.1 Aesthetics • Section 3.10, Land Use and Planning • Section 3.11, Noise

Agency/Organization	Author	Date	Comment Summary	Coverage in the DEIR
			• States that the neighboring residents are asking for larger setback due to privacy, light, views, shadows, and construction noise concerns.	
N/A	Laura Bramble	5/3/2021	• Raises density concerns. • Raises concerns regarding impacts to biological resources and states a complete environmental impact report should be completed. • States that noise would have negative impact on those working from home and home-bound residents. • States that owners at Oak Road Villas Condo complex would not be able to rent or sell their properties once current renters leave during construction; noise would reduce property values. • Offers less dense, community-oriented alternatives to the proposed project. • States that the proposed project would exacerbate current congestion, noise, and air quality issues at the Treat Boulevard intersection. • States that the proposed project would result in more vehicles than the project site previous use. • Inquiries about compensation for home-bound residents who would be impacted by construction noise. • Inquiries about compensation for reduction in property value due to loss of view.	• Section 3.1 Aesthetics • Section 3.2, Air Quality • Section 3.3, Biological Resources • Section 3.10, Land Use and Planning • Section 3.11, Noise • Section 3.12, Population and Housing • Section 3.14, Transportation
N/A	Laura Bramble	5/3/2021	• States that the proposed project would reduce adjacent property values. • States that the proposed project would eliminate views.	• Section 3.1 Aesthetics • Section 3.10, Land Use and Planning • Section 3.11, Noise

Agency/Organization	Author	Date	Comment Summary	Coverage in the DEIR
			• States that the proposed project would result in noise, impacting adjacent residents' well-being. • The proposed project would increase density. • Inquires whether adjacent homeowners receive compensation for the proposed project's impact. • Suggesting alternate projects for the project site.	
N/A	Laura Bramble	5/4/2021	• Repeating concerns similar to the previous letter and email, especially reduction in property value due to loss of view.	• Section 3.1, Aesthetics
N/A	Karen Chen	5/17/2021	• Raises concern that the roof decks will exceed the allowed height for P-1 zoning and will be significantly taller than the surrounding community. • States that roof decks could lead to pollution, fire, safety, and noise concerns. • States that the 15-foot setback is a concern for neighboring residents due to foundations, noise, pollution, safety, and privacy concerns. • Offers alternatives to increase the currently proposed setback.	• Section 3.2, Air Quality • Section 3.6, Geology and Soils • Section 3.10, Land Use and Planning • Section 3.11, Noise
N/A	Sindy Kirkland	5/14/2021	• Raises aesthetics, density, and neighborhood compatibility (design) concerns. • Sates that the proposed project would reduce property values of neighboring properties. • Raises biological impacts concerns due to change from previous agricultural uses.	• Section 3.1, Aesthetics • Section 3.3, Biological Resources • Section 3.6, Geology and Soils • Section 3.10, Land Use and Planning • Section 3.12, Population and Housing

Agency/Organization	Author	Date	Comment Summary	Coverage in the DEIR
			• States the proposed project would impact the foundations and quality of life. • States the project site should be developed in accordance with its current zoning.	
NA	Becky Klemm	5/17/2021	• Verbalized identical points as in the 2700-2728 Oak Road Homeowners Letter dated 5/25/2021. • Made a plea to current property owner, "Mr. Sam," to protect the trees.	• Section 3.1, Aesthetics • Section 3.2, Air Quality • Section 3.3, Biological Resources • Section 3.8, Hazards and Hazardous Materials • Section 3.11, Noise • Section 3.13, Public Services and Recreation • Section 3.14, Transportation
NA	Phil Abellara	5/17/2021	• Raised concern about the setback and the size of some of the buildings. • Raised concerns about aesthetics – the buildings are too close and the setbacks too small. • Raised concerns about air quality, air pollution, odor and smells. • Raised concern about foundation exterior cracks that may affect adjacent properties. • Raised concern that the small distance between buildings would impact light. • Raised concern about light pollution. • Raised concern about privacy and noise. • Requested to have a discussion with the County and the developer to come up with a plan that would consider the setbacks and building heights and sizes.	• Section 3.1, Aesthetics • Section 3.2, Air Quality • Section 3.6, Geology and Soils • Section 3.10, Land Use and Planning • Section 3.11, Noise
NA	Karen Chen	5/17/2021	• Raised concern about setbacks and building heights. • Raised concern about air pollution.	• Section 3.1, Aesthetics • Section 3.2, Air Quality • Section 3.6, Geology and Soils

Agency/Organization	Author	Date	Comment Summary	Coverage in the DEIR
			• Sated that under the proposed P-1 zoning, consistency with existing structures is required. • Raised concern that the roof decks could result in fire and noise, and stated that the County to eliminate this element. • Raised concern that the small setback would impact the foundations of adjacent properties. • Raised safety concern that tools could drop on adjacent properties during construction. • Raise concern of construction air pollution. • Raised privacy concerns due to the small setback. • Proposed shifting the oak grove toward her development, creating an open space between it and the proposed project.	• Section 3.10, Land Use and Planning • Section 3.11, Noise
NA	Craig McIntire-Mann	–	• Stated that Walnut Creek needs housing, but affordable housing. • Stated that the old trees are historic landmark and suggested that keeping them would be a selling point for future residents. • Raised concern about the small distance between the proposed structures and adjacent properties.	• Section 3.10, Land Use and Planning • Section 3.12, Population and Housing
NA	Matthew Bamford	5/17/2021	• Raised concern that the proposed setbacks are very close and referenced the document he sent that shows distances/buffers between buildings along Oak Road. • Stated that the northern property line of the proposed project is the front yard of his development. • Raised privacy, light, and view concerns due to the height of the proposed buildings.	• Section 3.1, Aesthetics • Section 3.10, Land Use and Planning

Agency/Organization	Author	Date	Comment Summary	Coverage in the DEIR
NA	Salman S.	5/17/2021	• Raised concerns about noise and debris and their impact on families and infants in his development	• Section 3.11, Noise
NA	Paul	5/17/2021	• Raised concerns about the setback • Requested preservation of the oak tree that faces his unit	• Section 3.3, Biological Resources • Section 3.10, Land Use and Planning
NA	Becky Klemm	5/17/2021	• Requested guidance on instructions for accessing the Scoping Meeting.	• Provided by the County
NA	Laura Bramble	5/12/2021	• Request to reschedule the Scoping Meeting due to a scheduled PG&E power shut-off for that day in her development as none of the residents would have power or internet access at that time.	• N/A
Source: Compiled by FCS 2021				

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1.3.2 - Public Review

Upon completion of the public Draft EIR, the County filed a Notice of Completion (NOC) with the State Office of Planning and Research to begin the public review period (PRC § 21161). Concurrent with the NOC, the Draft EIR has been distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as all parties requesting a copy of the Draft EIR in accordance with Public Resources Code 21092(b)(3). During the public review period, the Draft EIR, including the technical appendices, is available for review at the Contra Costa County website (www.contracosta.ca.gov/oakroad). Due to COVID-19, County facilities are currently closed to the public. Once public access to County facilities resumes, hard copies of the Draft EIR can be viewed at the following County facilities (please check with the facilities for hours of operation):

Contra Costa County
Department of Conservation and Development
30 Muir Road
Martinez, CA 94553

Walnut Creek Library
1644 North Broadway Walnut Creek, CA 94596

Office of District 4 County Supervisor, Karen Mitchoff
2151 Salvio Street, Suite R
Concord, CA 94520

Agencies, organizations, and interested parties have the opportunity to comment on the Draft EIR during the 45-day public review period. Written comments on the Draft EIR should be addressed to:

Jennifer Cruz, Principal Planner
Contra Costa County
Department of Conservation and Development
Community Development Division
30 Muir Road
Martinez, CA 94553
Tel: 925.655.2867
Email: Jennifer.Cruz@dcd.cccounty.us

Submittal of electronic comments in Microsoft Word or Adobe PDF format is encouraged. Upon completion of the public review period, written responses to all significant environmental issues raised will be prepared and made available for review by the commenting agencies at least 10 days prior to the public hearing before the Contra Costa County Board of Supervisors on the proposed project, at which the certification of the Final EIR will also be considered. Comments received and the responses to comments will be included as part of the record for consideration by decision makers for the project.

1.3.3 - Potentially Significant Environmental Issues

The NOP found that the following topical areas may contain potentially significant environmental issues that will require further analysis in the Draft EIR. These sections are as follows:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation

1.4 - Draft EIR Document Organization

This Draft EIR is organized into the following main sections:

- **Chapter ES: Executive Summary.** This Chapter includes a summary of the proposed project and alternatives to be addressed in the Draft EIR. A brief description of the areas of controversy and issues to be resolved, and overview of the MMRP, in addition to a table that summarizes the impacts, mitigation measures, and level of significance after mitigation, are also included in this Chapter.
- **Chapter 1: Introduction.** This Chapter provides an introduction and overview describing the purpose of this Draft EIR, its scope and components, and its review and certification process.
- **Chapter 2: Project Description.** This Chapter includes a detailed description of the proposed project, including its location, site, and project characteristics. A discussion of the project objectives intended uses of the Draft EIR, responsible agencies, and approvals that are needed for the proposed project are also provided.
- **Chapter 3: Environmental Impact Analysis.** This Chapter analyzes the environmental impacts of the proposed project. Impacts are organized into major topic areas. Each topic area includes a description of the environmental setting, regulatory framework, significance criteria, methodology, specific thresholds of significance, impact analysis, mitigation measures, and significance after mitigation. In addition, cumulative impacts associated with the project, including the impacts of past, present, and probable future projects is also provided. The specific environmental topics that are addressed within Chapter 3 are as follows:
  - **Section 3.1—Aesthetics:** Addresses the potential visual impacts of development intensification and the overall increase in illumination produced by the proposed project.
  - **Section 3.2—Air Quality:** Addresses potential air quality impacts associated with project implementation and emissions of criteria pollutants. In addition, the section also evaluates project emissions of toxic air contaminants.
  - **Section 3.3—Biological Resources:** Addresses potential impacts on habitat, vegetation, and wildlife; the potential degradation or elimination of important habitat; and impacts on listed, proposed, and candidate threatened and endangered species.
  - **Section 3.4—Cultural-Tribal Cultural Resources:** Addresses potential impacts on historical resources, archaeological resources, paleontological resources, tribal cultural resources, and burial sites.
  - **Section 3.5—Energy:** Addresses potential project impacts related to energy usage.
  - **Section 3.6—Geology and Soils:** Addresses the potential impacts the project may have on soils and assesses the effects of project development in relation to geologic and seismic conditions, as well as potential impacts related to paleontological or unique geologic resources.

- **Section 3.7—Greenhouse Gas Emissions:** Addresses potential project emissions of greenhouse gases.
- **Section 3.8—Hazards and Hazardous Materials:** Addresses potential for presence of hazardous materials or conditions on the project site and in the project area that may have the potential to impact human health.
- **Section 3.9—Hydrology and Water Quality:** Addresses potential impacts of the project on local hydrological conditions, including drainage areas, and changes in the flow rates.
- **Section 3.10—Land Use and Planning:** Addresses potential land use impacts associated with division of an established community and consistency with the Contra Costa County General Plan and Contra Costa County Ordinance Code.
- **Section 3.11—Noise:** Addresses potential noise impacts during construction and at project buildout from mobile and stationary sources. The section also addresses the impact of noise generation on neighboring uses.
- **Section 3.12—Population and Housing:** Addresses potential impacts related to local housing and displacement.
- **Section 3.13—Public Services and Recreation:** Addresses potential impacts upon public services, including fire protection, law enforcement, schools, parks, libraries, and recreational facilities including parks and park usage.
- **Section 3.14—Transportation:** Addresses potential impacts related to the local and regional roadway system and public transportation, bicycle, and pedestrian access.
- **Section 3.15—Utilities and Services Systems:** Addresses potential impacts related to utilities and service systems, including water supply, wastewater, solid waste, and energy providers.
- **Section 3.16—Wildfire:** Addresses potential impacts related to wildfire including lands within State Responsibility Areas and lands classified as very high fire hazard severity zones.

- **Chapter 4: Alternatives to the Proposed Project.** This Chapter compares the impacts of the proposed project with the No Project, No Build Alternative. An environmentally superior alternative is identified. In addition, alternatives initially considered but rejected from further consideration are discussed.
- **Chapter 5: Other CEQA Considerations.** This Chapter provides a summary of significant environmental impacts, including unavoidable and growth-inducing impacts as well as significant irreversible environmental changes.
- **Chapter 6: Effects Found not to be Significant.** This Chapter contains analysis of the topical sections not addressed in Chapter 3.
- **Chapter 7: Persons and Organizations Consulted/List of Preparers.** This Chapter contains a full list of persons and organizations that were consulted during the preparation of the EIR. This Chapter also contains a full list of the authors who assisted in the preparation of the EIR, by name and affiliation.

- **Appendices.** The Draft EIR appendices include notices and other procedural documents pertinent to the Draft EIR, as well as supporting technical materials. The following supporting materials and technical studies and analyses were prepared for the project in support of preparation of this Draft EIR:
  - Appendix A: NOP and EIR Public Scoping Comments
  - Appendix B: Air Quality, Greenhouse Gas Emissions, and Energy Supporting Information, prepared and compiled by FCS
  - Appendix C: Biological Resources Supporting Information, prepared and compiled by FCS
  - Appendix D: Cultural Resources and Tribal Cultural Supporting Information, prepared and compiled by FCS
  - Appendix E: Preliminary Geotechnical Exploration, prepared by ENGEO
  - Appendix F: Phase I Environmental Site Assessment, prepared by Roux Associates, Inc.
  - Appendix G: Preliminary Hydrology and Hydraulics Calculations and Stormwater Control Plan, prepared by Ruggeri-Jensen-Azar
  - Appendix H: Noise Modeling Outputs, prepared by FCS
  - Appendix I: Transportation Analysis, prepared by Hexagon Transportation Consultants, Inc.

1.5 - Documents Incorporated by Reference

As permitted by CEQA Guidelines Section 15150, this Draft EIR has referenced several technical studies, analyses, and previously certified environmental documentation. Information from the documents, which have been incorporated by reference, has been briefly summarized in the appropriate section(s). The relationship between the incorporated part of the referenced document and the Draft EIR has also been described. The documents and other sources that have been used in the preparation of this Draft EIR include but are not limited to:

- Contra Costa County General Plan
- Contra Costa County Ordinance Code
- Contra Costa County Climate Action Plan

In accordance with CEQA Guidelines Section 15150(b), the General Plan, Contra Costa County Ordinance Code, Contra Costa County Climate Action Plan, and the referenced documents and other sources used in the preparation of the Draft EIR are available for review at the County Department of Conservation and Development at the address shown in Section 1.3.2, Public Review.

CHAPTER 2: PROJECT DESCRIPTION

SummerHill Homes (applicant) proposes to construct 125 townhouse condominium units within 19 three-story buildings and associated improvements totaling approximately 293,139 of gross building square feet on a 5.94-acre site in unincorporated Contra Costa County, adjacent to the City of Walnut Creek. Contra Costa County is bordered by Alameda County to the south, Solano County to the north, San Joaquin County to the east, and Sacramento County to the northeast. The purpose of this Draft Environmental Impact Report (Draft EIR) is to identify potential environmental impacts of the proposed Oak Road Townhouse Condominiums Project (referred to herein as the proposed project) within unincorporated Walnut Creek. This Chapter provides a detailed overview of the project site location and setting, project objectives, project details, characteristics, and construction phasing. It also describes the intended uses of the Draft EIR by agencies with approval and permitting authority over the proposed project, as well as required approvals and permits.

2.1 - Project Location and Setting

2.1.1 - Location

Regional Location

Contra Costa County (County) is located in the eastern San Francisco Bay Area of California. The County is bordered to the north by Solano County, to the east by San Joaquin County, to the south by Alameda County, and to the west by Marin County and San Pablo Bay (Exhibit 2-1). The County covers 716 square miles and has historically been a suburban community serving major employment centers to the west and south.

Major roadway networks including State Route (SR) 4, SR-24, SR-160, SR-242, Interstate 680 (I-680), Interstate 580 (I-580), and Interstate 80 (I-80) provide regional access to surrounding areas. I-680 is a north/south, 12-lane highway that is the main point of access connecting the County to eastern Bay Area cities. I-80 is a north/south highway that provides access to the western portions of the County and connections to the rest of the San Francisco Bay Area. The Richmond-San Rafael Bridge (I-580), which accommodates two westbound lanes on the upper level and two to three eastbound lanes on the lower level, provides a connection between Contra Costa and Alameda Counties and Marin County.

Local Setting

The project site is located at 2740 Jones Road, southeast of the intersection of I-680 and Treat Boulevard (Exhibit 2-2). The site is within the unincorporated County, but is also within the City of Walnut's Creek Sphere of Influence (SOI).

The project site is surrounded to the east by the City of Walnut Creek, to the north by unincorporated County, to the west by I-680 and the City of Walnut Creek beyond it, and south by unincorporated County, the Contra Costa Canal, and the City of Walnut Creek (Exhibit 2-2). Specifically, the project site is located within the *Briones Valley, California* United States Geological Survey (USGS) 7.5-minute Topographic Quadrangle Map (Latitude 37° 55' 26.41" North; Longitude 122° 3' 32.14" West).

As shown in Exhibit 2-4, the project site is bound by residential uses to the north and south, by Oak Road to the east with residential uses across Oak Road, and by Jones Road to the west and north. Office uses are located north of Jones Road, while I-680 is located directly west of Jones Road. The Contra Costa Canal is approximately 470 feet south of the project site. The nearest Bay Area Rapid Transit (BART) station (Pleasant Hill/Contra Costa Centre Station) is located approximately 0.35 mile northeast of the site. I-680 is located approximately 180 feet to the west.

2.1.2 - Existing Project Site Characteristics

The 5.94-acre project site is relatively flat (approximately 90 to 95 feet above mean sea level), with a topographic gradient that slopes gently to the northeast. The site is developed with structures associated with the former Palmer School for Boys and Girls, a private K-8 school for approximately 400 students that operated from 1939 until its closure due to COVID-19 in June 2020.[1] Exhibit 2-5 depicts the location of existing buildings and structures.

The former school consists of 14 vacant buildings as well as associated structures, including classrooms, an auditorium, a front office, a paved courtyard, a grass field, tennis courts, basketball courts playgrounds, a swimming pool, parking lots and planters. Multiple storage sheds are present on the school site. After the school closure, the classrooms, located in the southern portion of the school site, are generally empty or used as storage rooms for classroom materials. Situated outside of the classrooms are rows of lockers, bathrooms, and a janitorial supply closet with a functioning boiler. A landscaped area is located behind the classrooms along the southern boundary of the property and includes planter boxes, storm drain lines, power boxes, and a partially uncovered pipe that appears to be related to storm drainage. In the southeast corner of the property is a 2-story auditorium formerly used as a storage area, containing a kitchen, stage, water heater, and empty storage rooms on the second floor.[2]

Several of the existing structures in the northern portion of the project site have been associated with residential uses, including those at 2771, 2747, and 2751 Oak Road. All but two of these structures were previously converted into storage areas for the school. To the east of these buildings is an unpaved lot and a paved driveway. These units are occupied by the property owners' family members who provide caretaker security services for the property and existing improvements. These units will be vacated in conjunction with the applicant's acquisition of the property. No other buildings are occupied and are vacant.

The project site consists of eight parcels, as shown in Exhibit 2-6 and Table 2-1.

Table 2-1: Project Site Parcels

Assessor's Parcel Number	Address	Approximate Acreage
172-012-001	Jones Road	0.14
172-012-007	2770 Jones Road	0.43
172-012-008	2747 Oak Road	0.39

[1] Roux. 2021. Phase I Environmental Site Assessment 2740 Jones Road, Walnut Creek, California. January 11, 2021.
[2] Ibid.

Assessor's Parcel Number	Address	Approximate Acreage
172-012-020	Jones Road	0.52
172-012-021	2731 Oak Road	2.97
172-012-023	2751 Oak Road	0.48
172-012-025	Oak Road	0.59
172-012-026	2771 Oak Road	0.46
Source: Contra Costa County Assessor's Office. 2021. Website: https://ccmap.cccounty.us/Html5/index.html?viewer=CCMAP. Accessed April 7, 2021.		

2.1.3 - Existing Land Use Designation and Zoning

Land Use Designation

According to the Contra Costa General Plan, the project site's land use designation is Multiple-Family Residential–High Density (MH). The MH designation allows for densities between 22.0 and 29.9 multiple-family units per net acre, with residential units up to 1,979 square feet. Primary land uses allowed within this designation include attached single-family residences (such as duplexes or duets), multiple-family residences such as condominiums, town houses, apartments, and mobile home parks, and accessory buildings and structures normally auxiliary to the primary uses. Secondary land uses which do not conflict with primary uses may also be allowed, including churches, accessory dwelling units, home occupations, and group care and/or childcare facilities.[3]

Land use designations for the site and surrounding parcels are shown in Exhibit 2-3.

Zoning

The Contra Costa zoning map identifies three residential zoning designations for the project site: Single-Family Residential (R-15), Multiple-Family Residential (M-17), and Multiple-Family Residential (M-29).[4] Table 2-2 and Exhibit 2-7 depict the zoning for the site and surrounding parcels.

According to the County Ordinance Code (Ordinance Code), Chapter 84-26.402, the following uses are permitted for M-29:[5]

1. A detached single-family dwelling on each lot and the accessory structures normally auxiliary to it.
2. Duplex.
3. Multiple-family buildings, but not including motels or hotels.

[3] Contra Costa County General Plan 2005-2020, Chapter 3: Land Use Element. 2005. Website: https://www.contracosta.ca.gov/DocumentCenter/View/30913/Ch3-Land-Use-Element?bidId=. Accessed April 7, 2021.
[4] Contra Costa County Assessor's Office. 2021. Website: https://ccmap.cccounty.us/Html5/index.html?viewer=CCMAP. Accessed April 7, 2021.
[5] Contra Costa Ordinance Code, Title 8–Zoning, Chapter 84-26. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV84LAUSDI_CH84-26M-MUFAREDI. Accessed April 14, 2021.

4. Crop and tree farming, not including retail nurseries or the raising or keeping of any animals other than ordinary household pets.
5. A foster family home or a small family home, as those terms are defined in Health and Safety Code Section 1502(a), that has obtained all required state and local agency approvals and licenses.
6. A small family childcare home or a large family childcare home, as those terms are defined in California Code of Regulations, Title 22, Section 102352(f)(1), that has obtained all required State and local agency approvals and licenses.
7. A residential care facility for the elderly, operated by a person with all required State and local agency approvals and licenses, where not more than six persons reside, or members of the licensee's family or persons employed as facility staff.
8. Accessory dwelling units in compliance with the provisions of Chapter 82-24.
9. Supportive housing, operated by a person with all required State and local agency approvals and licenses, where not more than six persons reside.
10. Transitional housing, operated by a person with all required State and local agency approvals and licenses, where not more than six persons reside.

According to the Ordinance Code, Chapter 84-28.402 and 84.28-404, all uses permitted for M-29 are permitted for M-17, with the following differences:[6]

1. Coverage. No building or structure permitted in the M-17 district shall cover more than twenty-five percent of the lot area.
2. Unit Density. The maximum number of apartment units allowed in this district is seventeen per acre which maximum may be reduced as part of development plan review and approval. For each apartment unit a minimum of twenty-five hundred square feet of land in area shall be provided.

According to the Ordinance Code, Chapter 84-12.402, the following uses are permitted for R-15:[7]

1. A detached single-family dwelling on each lot and the accessory structures and uses normally auxiliary to it.
2. Crop and tree farming.
3. Publicly owned parks and playgrounds.

[6] Contra County Ordinance Code, Title 8–Zoning, Chapter 84-28. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV84LAUSDI_CH84-28M-MUFAREDI. Accessed April 14, 2021.

[7] Contra Costa Ordinance Code, Title 8–Zoning, Chapter 84-12. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV84LAUSDI_CH84-12R-SIMIREDI. Accessed April 14, 2021.

4. A residential care facility for the elderly, operated by a person with all required state and local agency approvals or licenses, where no more than six persons reside or receive care, not including the licensee or members of the licensee's family or persons employed as facility staff.
5. A family day care home where care, protection, and supervision of twelve or fewer children in the provider's own home are provided for periods of less than twenty-four hours per day, while the parents or guardians are away.
6. Bird enclosures in compliance with the provisions of Chapter 82-50.
7. Accessory dwelling units and junior accessory dwelling units in compliance with the provisions of Chapter 82-24.
8. Urban farm animal raising and keeping in compliance with the provisions of Chapter 82-50.

Table 2-2: Project Site General Plan Land Use Designations and Zoning

Assessor's Parcel Number	General Plan Land Use Designations	Zoning
172-012-001	MH	Multiple-Family Residential (M-17)
172-012-007	MH	Multiple-Family Residential (M-17)
172-012-008	MH	Single-Family Residential (R-15)
172-012-020	MH	Multiple-Family Residential (M-17)
172-012-021	MH	Single-Family Residential (R-15)
172-012-023	MH	Single-Family Residential (R-15)
172-012-025	MH	Multiple-Family Residential (M-29)
172-012-026	MH	Single-Family Residential (R-15)
Source: Contra Costa County Assessor's Office. 2021. Website: https://ccmap.cccounty.us/Html5/index.html?viewer=CCMAP. Accessed April 7, 2021.		

2.2 - Project Objectives

The objectives of the proposed project are to:

- Develop an appropriate mix of multi-family units (including affordable units) that meets the existing General Plan land use designation and regional housing goals.
- Provide affordable housing units in accordance with the Contra Costa County Housing Element (2014).
- Locate housing in close proximity to transit in order to reduce vehicle miles traveled.
- Provide housing with a variety of floor plans and unit types to enhance the economic viability of the development for long-term sustainability.

- Retain the architectural and visual character of the neighborhood by building 3-story townhouse condominiums with roof-deck elements on selected homes fronting Oak Road and providing replacement landscaping that will mature over time.
- Replace an obsolete private school with new market rate and affordable for-sale townhouse condominium homes consistent with the General Plan and surrounding neighborhood.
- Establish physical and social connections between Jones and Oak Roads by building safe, private streets, walkable landscaped open spaces including stormwater management and green building components.
- Provide on-site open space amenities for future residents.
- Phase development to allow for managed, orderly, and economically viable growth.

2.3 - Project Components

The proposed project includes construction of 125 townhouse condominium units located in 19 three-story townhome condominium buildings. The buildings would be approximately 37 to 43 feet in height to the ridgeline, although the buildings with a roof-top deck may extend up to 45 feet in height. The 5.94-acre site would be developed with a total of approximately 237,816 square feet of new residential living area (293,139 total gross building square feet), resulting in a net density of 26.3 dwelling units per acre.

As part of the proposed project, the existing eight parcels would be reconfigured into 19 new residential parcels (1–19), ranging in size from 7,706 square feet to 17,294 square feet, as well as 13 street and court lots (A–M), ranging in size from 2,808 and 9,834 square feet.

The building site coverage area would be a maximum of 50 percent of the site (approximately 129,373 square feet). Thirteen of the 125 townhouse condominium units (10 percent) would comply with the Americans with Disabilities Act (ADA). Five-unit types are proposed, ranging in size from 1,362 to 2,250 square feet with attached 1 or 2-car garages, 3 to 4 bedrooms and 3 to 3.5 bathrooms.

- Unit type 1A (27 units) would be 1,362 net square feet and 1,811 gross square feet. This unit type would include 3 bedrooms, 3 bathrooms, and a 449-square-foot tandem 2-car garage.
- Unit type IB (6 units) would be 1, 551 net square feet and 1,840 gross square feet. This unit type would include 4 bedrooms, 3 bathrooms, and a 289-square-foot single car garage.
- Unit type 2 (20 units) would be 1,837 net square feet and 2,311 gross square feet. This unit type would include 3 bedrooms, 3.5 bathrooms, and a 474-square-foot standard 2-car garage.
- Unit type 3 (34 units) would be 2,044 net square feet and 2,493 gross square feet. This unit type would include 4 bedrooms, 3.5 bathrooms, and a 449-square-foot standard 2-car garage.
- Unit type 4 (38 units) would be 2,250 net square feet and 2,690 gross square feet. This unit type would include 4 bedrooms, 3.5 bathrooms, and a 440-square-foot standard 2-car garage.

A total of 272 on-site parking spaces would be provided with available spaces along the street frontage. Primary vehicular access would be provided from main driveways on Jones and Oak Roads, which would also provide for emergency vehicle access.

A minimum of 25 percent of the project site (approximately 92,120 square feet) would function as common landscaped open space and private open space areas. Additional common features would include internal streets, courts, walkways, and drainage improvements. Off-site improvements would include installation of parking stalls along Oak Road and Jones Road.

The proposed project would involve the demolition of all existing improvements currently present on-site, including buildings, foundations, asphalt, concrete, fence poles, and landscaping. In addition, 74 on-site trees would be removed, as shown in Exhibit 2-8, and one valley oak (*Quercus lobata*) would be relocated within the site, as shown in Exhibit 2-9. Six trees are located adjacent to the property boundaries, as shown in Exhibit 2-8, and have canopies that extend onto the site. Although construction activities would occur within the drip lines of these trees, they would be afforded protection during construction to ensure their preservation. The trees would be pruned in accordance with arborist recommendations to reduce the size of tree crown over the project site.[8]

2.3.1 - Proposed Land Use Designation and Zoning

As described previously and shown on Exhibit 2-4 and Table 2-2, the project site is designated as Multiple-Family Residential–High Density (MH).

As part of project approvals, the applicant is requesting rezoning of the site to Planned Unit District (P-1). As stated in Section 84-66.204 of the Ordinance Code, the intent of the P-1 Zoning District is to allow "diversification in the relationship of various uses, buildings, structures, lot sizes and open space while insuring [*sic*] substantial compliance with the General Plan and the intent of the Ordinance Code in requiring adequate standards necessary to satisfy the requirements of the public health, safety and general welfare. These standards shall be observed without unduly inhibiting the advantages of large-scale or special area planning."[9]

As summarized in Table 2-3, Section 84-66.602 establishes requirements for new and alterations to existing land uses, structures, and site development within the P-1 Zoning District.

Table 2-3: P-1 Zoning District Development Standards

Development Feature	Requirement
Area (Minimums)	
Residential	5 acres for residential uses except that a mobile home subdivision shall have a minimum of 10 acres.
Nonresidential	10 acres for nonresidential uses.

[8] Hort Science–Bartlett Consulting. 2021. Tree Report Oak Road Townhome Condominiums. January 11.
[9] Contra Costa County. Contra Costa County Ordinance Code, Section 84-66.204–Intent and purpose. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV84LAUSDI_CH84-66PLUNDI. Accessed April 2, 2020.

Development Feature	Requirement
Mixed	15 acres for mixed residential and nonresidential uses.
Office	No minimum for office uses that do not require heavy vehicular delivery or have easy automobile site access including some ancillary retail, service, and residential uses when consistent with the General Plan.
Density	
Residential	In computing the net development area to set residential densities, use the General Plan as a guide and exclude areas set aside for churches, schools, streets, commercial use, or other nonresidential use, but include areas set aside for common open space, outdoor recreation, or parks.
Source: Contra Costa County Ordinance Code, Sections 84-66.6 and 84-66.8.	

Section 84-66.1402 of the Contra Costa County Ordinance Code establishes the following Design Objectives for the P-1 Zoning District:

1. Building bulk, height, land coverage, visual appearance from adjacent land, and design compatibility with existing adjoining development and land which will remain, shall be considered, and controlled.
2. A development's design should successfully integrate individual buildings and building groups with the surrounding development, other physical features in the area, and existing development which will remain.
3. The design of structures should provide for harmonious composition of mass, scale, color, and textures, with special emphasis on the transition from one building type to another, termination of groups of structures, relationships to streets, exploitation of views, and integration of spaces and building forms with the topography of the site and the urban or suburban character of the area.
4. Provisions are to be made for an efficient, direct, and convenient system of pedestrian circulation, together with landscaping and appropriate treatment of any public areas or lobbies.
5. Off-street parking and loading areas should be integrated into the overall vehicular circulation system.

2.3.2 - Circulation and Access

Vehicle

Jones Road and Oak Road border the project site. Jones Road is a two-lane public street that runs north/south along the site's western boundary. Oak Road is a four-lane public street that runs north/south along the site's eastern boundary. Primary access to the site would be from two driveways: one along Jones Road and one along Oak Road.

Two parking slots between Buildings D and E would be designated as ADA parking (see Exhibit 2-10).

Fire access routes, providing 25-foot inside turning radii and 45-foot outside turning radii, would be provided through the internal loop roads around the central buildings (Buildings P, Q, R, and S). Emergency vehicle access would be provided via the two proposed driveways on Jones Road and Oak Road.

Off-site Improvements

Off-site improvements would include frontage sidewalk, driveway curb, gutter improvements including retaining existing on-street parking and street tree planting.

Transit

Bus

The project site is located with 0.5 mile of a major transit stop, the Pleasant Hill/Contra Costa Centre BART station, which is located north of the project site. Bus transit services in the vicinity of the project site are provided by several transit providers, connecting at this station. County Connection operates weekday bus routes 7, 9, 11, 14, 15, and 18.; weekend bus routes 311 and 316; and Early Bird Express routes 702 and 712. In addition, Solano Express operates their Blue and Yellow lines, Fairfield and Suisun Transit (FAST) operates their Blue line, Wheels Bus operates line 70X, and Alameda-Contra Costa Transit District (AC Transit) operates route 702.[10, 11] The closest bus stop to the project site is located at Oak Road and Walden Park, approximately 970 feet south of the project site and another at Charter Oak Circle, a short distance away. There are sidewalks on Oak Road that provide connectivity to the bus stop.

Rail

BART is a regional rail transit service that operates within the County and provides connections to Alameda, San Francisco, and San Mateo Counties. The Pleasant Hill/Contra Costa Center BART station is located approximately 0.35 mile from the project site.

Bicycle

Currently, there are no existing bike lanes on Jones Road. The Iron Horse Regional Trail, located approximately 1,500 feet east of the project site, provides a multiuse bicycle/pedestrian pathway, which provides access to the Pleasant Hill BART station. The trail runs from the City of Concord to the City of Pleasanton. There is also another bicycle/pedestrian trail, Contra Costa Canal Trail, located approximately 450–600 feet south of the project site, which crosses Oak Road and Jones Road. This trail runs from the City of Martinez, south to the Cities of Pleasant Hill and Walnut Creek, and continues north to the City of Concord. According to the City of Walnut Creek Bicycle Plan, there are plans to provide a bicycle route on Jones Road between Treat Boulevard and Walden Road. The proposed project would not affect existing and planned bicycle facilities. The project also proposes to include a bike repair space on-site.

[10] Bay Area Rapid Transit. 2019. Transit Stops. August 27. Website: https://www.actransit.org/website/uploads/HSP_PH-stops.pdf. Accessed August 26, 2021.

[11] Fairfield and Suisun Transit (FAST). 2016. Routes. Website: https://fasttransit.org/schedules-maps/. Accessed August 26, 2021.

Seven Hills School is located within a 3-mile radius of the project site. The Contra Costa Canal Trail provides a good bicycle connectivity to the project site and to Seven Hills School.

Pedestrian

Within the vicinity of the project site, sidewalks currently exist along both side of Oak Road and Treat Boulevard, and along the east side of Jones Road, allowing residents of the proposed project to easily walk to the Pleasant Hill BART station. The traffic signal at the Oak Road/Jones Road and Oak Road/Treat Boulevard intersections includes crosswalks with pedestrian signal heads to facilitate crossing the street. There are no proposed City or County pedestrian improvement plans along Jones Road or Oak Road along the project frontage, and the project would not affect existing or planned pedestrian facilities.

The Contra Costa Canal Trail and the Iron Horse Regional Trail serve pedestrian and cyclists.

The Seven Hills School is located within a 1.5-mile radius (via the Contra Costa Canal Trail) of the project site.

2.3.3 - Design, Landscaping, and Lighting

Building Design and Height

The proposed project would include 19 three-story buildings, including three buildings on Oak Road with roof decks. Building height will range from 37 feet to a maximum of 43 feet; buildings with a roof-top deck may extend up to 45 feet in height. The buildings will be setback 15 feet from Jones Road and 10 feet from Oak Road.

Exterior features of the buildings would include board and batten sidings, horizontal fiber cement lap siding, exterior plaster, architectural composition roofing shingles, metal awnings, vinyl windows, and painted metal railing. The exterior color palate would be comprised of whites and grays. Exhibit 2-11a through 2-10j show building elevations.

Landscaping

The project proposes a total of approximately 92,120 square feet of landscaped area (25 percent of the site), including a central open space area, paseo/walkways, a dog park, and private yards (see Exhibit 2-9).

Plant material will be selected to emphasize water conservation and reduced maintenance. A maximum of 25 percent of non-turf plants will have a moderate irrigation water requirement and a minimum of 50 percent of non-turf plants will have a low to very low irrigation water requirement.

A fully automated irrigation system would utilize water conserving methods. Irrigation would be installed throughout proposed bioretention areas to provide supplemental irrigation in the dry months with reduced irrigation during seasonal rainfall or wet months.

Internal courtyards between buildings would be lined with trees, and the central open space would be surrounded by trees. Trees would also be installed along all sides of the project site boundary, including a combination of evergreen screen trees and flowering accent trees of varying sizes.

Existing trees would be removed with the exception of one valley oak, which would be relocated to an undetermined on-site location.

Lighting and Signage

A monument sign is proposed at the entrance from Oak Road. The monument sign would include metal letters atop a 4-foot wall with a stone veneer finish. An 11-foot-tall structure, with pitched roof and siding matching the general architecture of the residential buildings, would be installed adjoining this wall, and a plaque with the Oak Road logo would be installed on this structure.

Proposed lighting would include exterior lighting for the buildings and pole-mounted lighting throughout the parking areas. Specifically, exterior lighting would include four new street lights along the Oak Road frontage, matching existing street lights along this street; eight private street pole lights near the two project entrances and along the public streets and sidewalks, approximately 20 feet tall with shielding to direct lighting downward; forty 3.5-foot bollard lights strategically located throughout the site along pathways, common open space and paseos; and 125 wall pack lights above the garages for each home, to illuminate the driveways. Additionally, each of the 125 residential units would have a front porch light that would be operated by the owners.

2.3.4 - Infrastructure Improvements

Domestic Water

The Contra Costa Water District would supply the project site with potable water. An existing 12-inch water line is located along Oak Road east of the project site, and an existing 8-inch water line is located along Jones Road, west and north of the project site. The proposed project would include several 6-inch water lines that would be placed between buildings. These water lines would connect to a set of 10-inch water lines that would encircle the central buildings (P, Q, R, and S). These 10-inch lines would then connect the proposed project to the existing water lines on Oak Road and/or Jones Road.

Four fire hydrants serve the project site:

- At the corner of Street B and Court C, in close proximity to the Oak Road entrance.
- At the corner of Street D and Court C, adjacent to Building K.
- Toward the west end of Street D, between Buildings P and S.
- At the corner of Street A and Street B, adjacent to Building P.

Stormwater Drainage

Contra Costa County Public Works would serve the project site. The project site is located within Drainage Area (DA) 44B. The project site is generally flat, with gentle slopes to the northeast toward Oak Road as well as to the northwest toward Jones Road. The southwestern portion of the site slopes toward Jones Road.

The majority of the existing on-site drainage is discharged or conveyed via underground storm drains to an existing 30-inch storm drain within Oak Road.[12] An existing 72-inch storm drain is located within Jones Road to the west of the site, increasing in size to 84-inch diameter within Jones Road to the north of the site. The proposed project would include the construction of a network of 12-inch to 18-inch storm drains, connecting it to these existing storm drains in Jones Road or Oak Road.

On-site storage facilities of approximately 2,800 cubic feet would be needed to mitigate the potential increase in stormwater flows generated by the proposed project and to meet the hydromodification requirements. The proposed storm drain system would include the installation of two underground storage vaults to capture, store, and release the storm flow generated by the proposed project into the existing off-site storm drainage facilities. These two vaults would be placed at the downstream ends of the on-site storm drains at the respective discharge points at Oak Road and Jones Road.[13]

Several bioretention areas for stormwater treatment would be constructed throughout the project site. Trash capture devices would be installed on each stormwater inlet.

Sanitary Sewer

Utility infrastructure for the project site is anticipated to include connections to the existing Contra Costa County's sanitary sewer system, which is operated by the Central Contra Costa County Sanitary District (Central San). Existing lateral connections would be replaced by a new on-site public main and laterals.

An existing 6-inch sanitary sewer line is located within Oak Road east of the project site, an existing 8-inch line is located within Jones Road north of the project site, and an existing 18-inch line is located within Jones Road west of the project site. The new on-site mains and laterals would connect to the existing 18-inch sewer lines in Jones Road.

Solid Waste and Recycling Collection

The Central Contra Costa Solid Waste Authority (RecycleSmart) provides solid waste and residential recycling services for areas within Contra Costa County. RecycleSmart holds franchise agreements with waste franchises that provide solid waste collection and disposal of residential and commercial solid waste. RecycleSmart would provide solid waste and recyclable materials removal services for the project site. RecycleSmart is contracted with Republic Services for the collection, transfer, and disposal of residential and commercial garbage, recycling, and organics, through a contract with Mount Diablo Recycling for the processing of residential and commercial recycling materials.[14]

An area for waste, recycling, and green bins would be located in the garages, and a set of all three bins would be provided for each unit.

[12] Ruggeri Jensen Azar. 2021. Preliminary Hydrology and Hydraulics Calculations for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.
[13] Ruggeri Jensen Azar. 2021. Preliminary Hydrology and Hydraulics Calculations for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.
[14] RecycleSmart. 2016. Website: https://www.recyclesmart.org/about. Accessed May 7, 2021.

Power and Telecommunications

Electricity services for the project would be provided by Pacific Gas and Electric Company (PG&E). Existing overhead utility lines along the proposed project frontage on Oak Road and Jones Road would be relocated underground. No gas service will be provided.

AT&T would provide phone services, and Comcast would provide phone and high-speed internet services.

2.3.5 - Phasing and Construction

For the purpose of this analysis, it is assumed that construction would be phased over a period of 4 years, with demolition activities anticipated to start during the first quarter of 2022 and building construction completed in November 2026. Construction activities would consist of building demolition, removal of existing impervious surfaces, vegetation removal, and the temporary removal and boxing (for purpose of on-site relocation) of one valley oak tree. Following demolition activities, construction would include grading, utility installation, site infrastructures improvements, including curb, gutter, sidewalk, driveways, paving, and building construction. It is anticipated all site improvements will be completed in one phase and building construction will be done in multiple phases. The demolition of the existing structures, impervious surfaces, and vegetation on the project site are anticipated to generate approximately 9,300 cubic yards of material, which would be used as fill material on-site.

2.4 - Required Actions and Approvals

Discretionary approvals and permits are required by the Lead Agency, Contra Costa County, for implementation of the proposed project and include the following:

- EIR Certification
- Rezoning
- Vesting Tentative Map
- Final Development Plan
- Tree permit

In addition, the following ministerial actions would be required by the County for implementation of the proposed project:

- Demolition permits
- Grading permits
- Building permits
- Encroachment permits (by the County and City of Walnut Creek)
- Final Map

In addition to the County as Lead Agency, a number of agencies may serve as Responsible and Trustee Agencies, pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15381 and Section 15386, respectively. This Draft EIR will provide environmental information to these

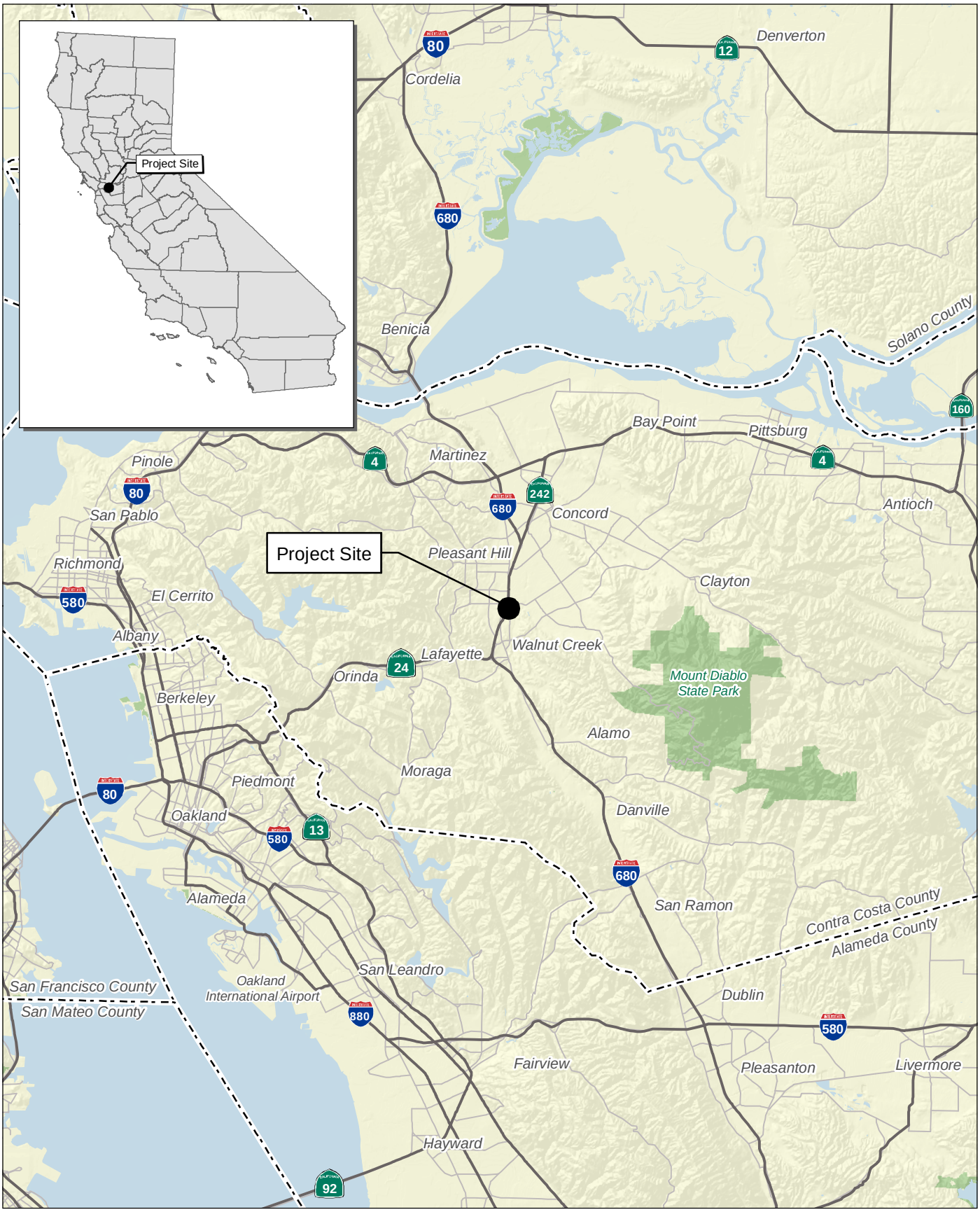
agencies and other public agencies, which may be required to grant approvals or coordinate with other agencies, as part of project implementation. These agencies may include but are not limited to the following:

- California Department of Transportation
- Contra Costa County Fire Protection District
- Bay Area Air Quality Management District
- San Francisco Bay Regional Water Quality Control Board
- Contra Costa Water District
- Central Contra Costa Sanitary District

2.5 - Intended Uses of this Draft EIR

This Draft EIR is being prepared by the County to assess the potential environmental impacts that may arise in connection with actions related to implementation of the proposed project. Pursuant to CEQA Guidelines Section 15367, Contra Costa County is the Lead Agency for the proposed project and has discretionary authority over the proposed project and project approvals. The Draft EIR is intended to address proposed public infrastructure improvements and all future development that are within the parameters of the proposed project. This document will also serve as a basis for soliciting comments and input from members of the public and public agencies regarding the proposed project. The Draft EIR will be circulated for a minimum of 45 days, during which period comments concerning the analysis contained in the Draft EIR should be sent to:

Jennifer Cruz, Principal Planner
Contra Costa County
Department of Conservation and Development
Community Development Division
30 Muir Road
Martinez, CA 94553
Tel: 925.655.2867
Fax: 925.655.2758
Email: Jennifer.Cruz@dcd.cccounty.us



Source: Census 2000 Data, The California Spatial Information Library (CaSIL).

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5 2.5 0 5 Miles

Exhibit 2-1
Regional Location Map

26480017 • 05/2021 | 2-1_regional.mxd

CONTRA COSTA COUNTY
OAK ROAD TOWNHOUSE CONDOMINIUMS
ENVIRONMENTAL IMPACT REPORT

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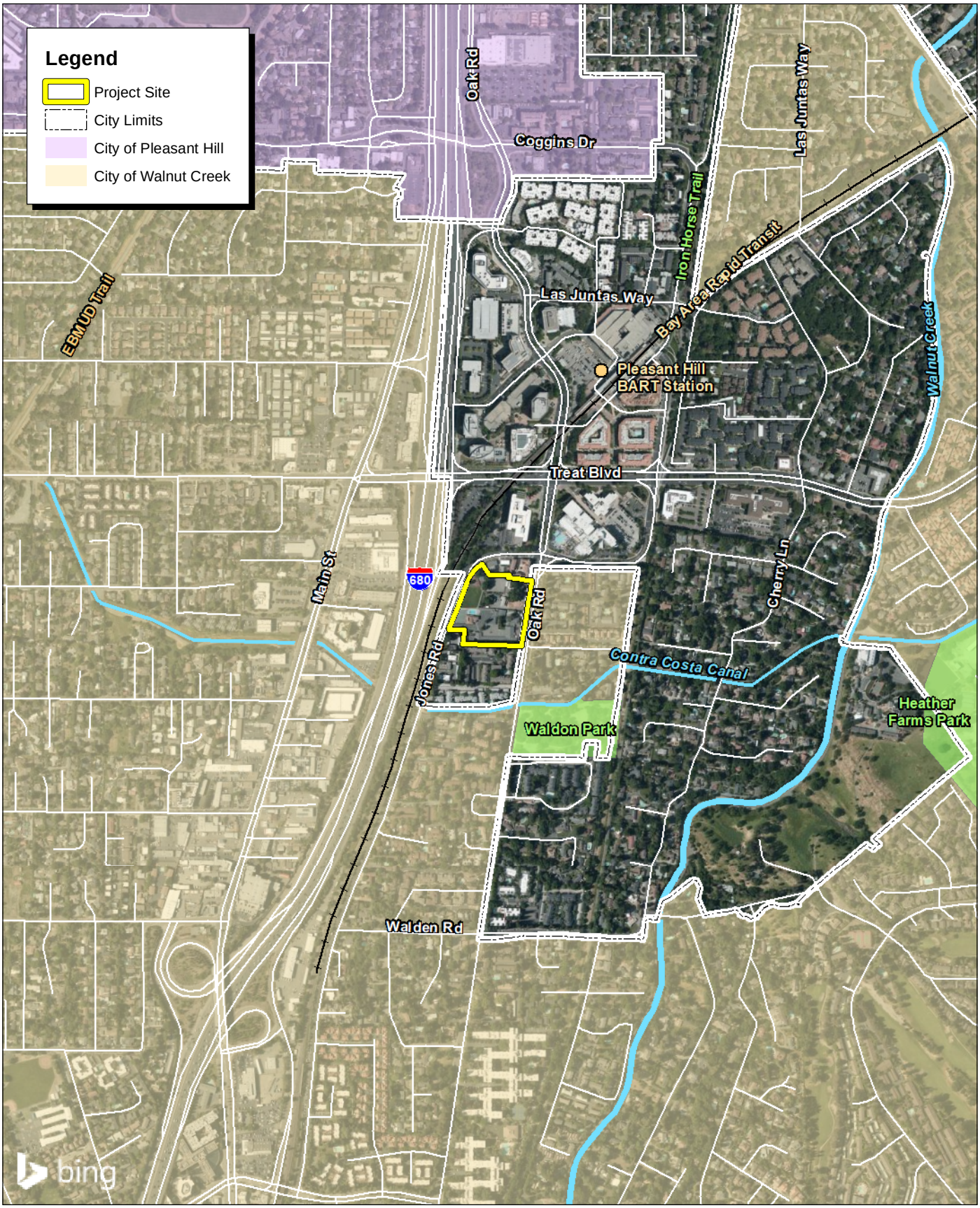

Source: Bing Aerial Imagery. County of Contra Costa.

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1,000 500 0 1,000 Feet

Exhibit 2-2a
Local Vicinity Map

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Source: Bing Aerial Imagery. County of Contra Costa.

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400 200 0 400
Feet

Exhibit 2-2b
Local Vicinity Map
Surrounding Land Uses

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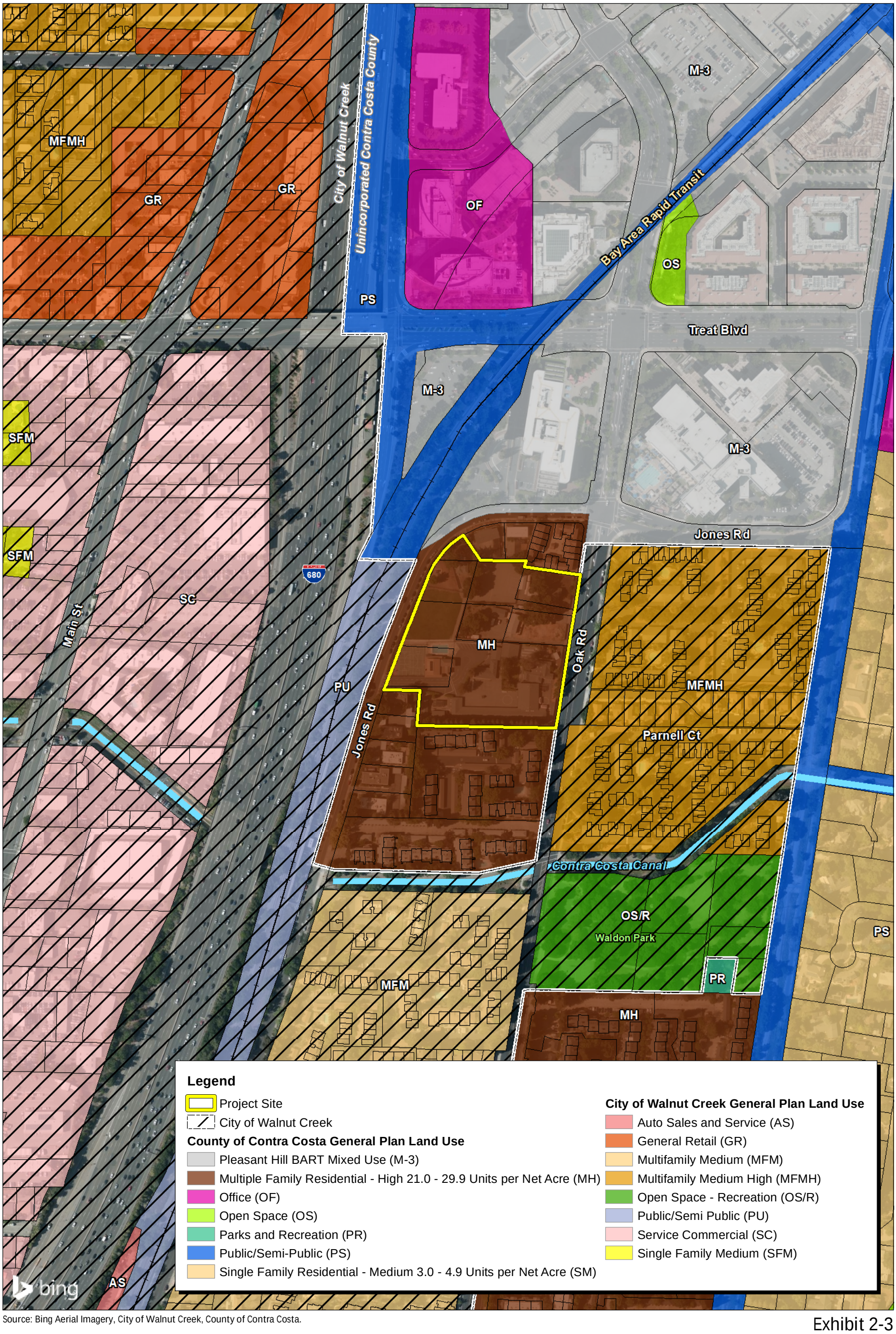

Source: Bing Aerial Imagery, City of Walnut Creek, County of Contra Costa.

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280 140 0 280 Feet

Exhibit 2-3
Existing General Plan
Land Use Designations

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Source: Urban Programmers. Google Earth Aerial Imagery.

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Exhibit 2-4
Existing Building and Structures

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Source: Bing Aerial Imagery. County of Contra Costa Parcel Data, 2021.

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120 60 0 120
Feet

Exhibit 2-5
Parcel Map

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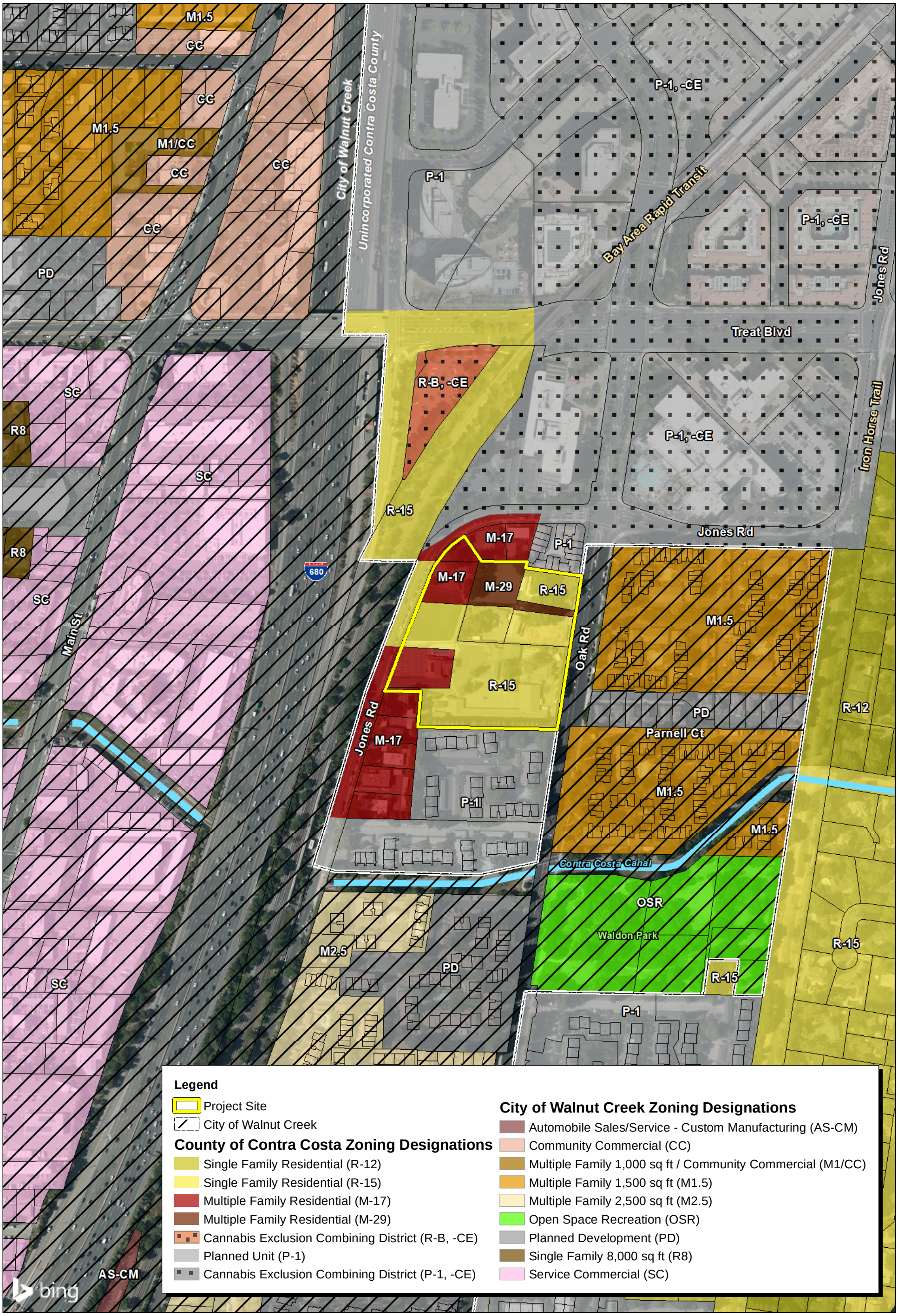

Source: Bing Aerial Imagery, City of Walnut Creek, County of Contra Costa.

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280 140 0 280
Feet

Exhibit 2-6
Existing Zoning Code Designations

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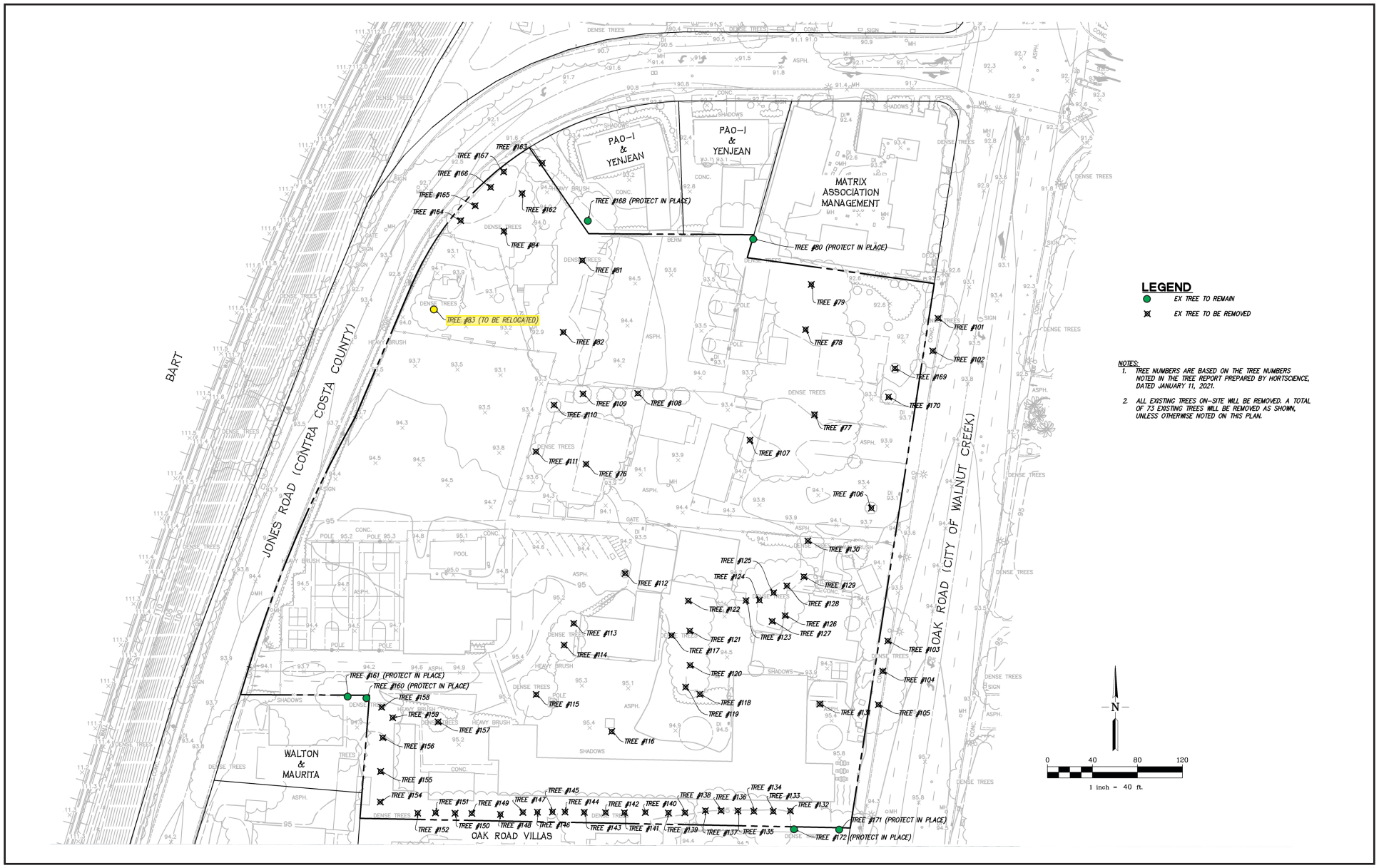

Source: Ruggeri-Jensen-Azar, March 25, 2021.

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Exhibit 2-7
Tree Disposition Plan

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Source: R3 Studios, June 3, 2021.

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Exhibit 2-8
Landscape Plan

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Source: SDG Architects, Inc., June 3, 2021.

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Exhibit 2-9
Site Plan

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ARTIST'S CONCEPTION. PLEASE REFER TO PLANS FOR PROJECT SPECIFICATIONS.

FRONT ELEVATION

0 1' 2' 3' 4' 8'

UNIT 4 UNIT 3 UNIT 2 UNIT 3 UNIT 4R

FRONT ELEVATION

UNIT 4R

RIGHT ELEVATION

MATERIALS LEGEND

1. STUCCO
2. BOARD AND BATT SIDING
3. FIBER CEMENT HORIZONTAL SIDING
4. COMPOSITION SHINGLE ROOF
5. FIBER CEMENT TRIM
6. HIGH-DENSITY FOAM TRIM
7. BRACKET
8. CORBELS
9. CORBEL AND KICKER
10. PAINTED METAL RAILING
11. METAL AWNING
12. GARAGE DOOR

UNIT 4R UNIT 3 UNIT 2 UNIT 3 UNIT 4

REAR ELEVATION

UNIT 4

LEFT ELEVATION

KEY MAP - N.T.S.

0 2' 4' 6' 8' 16'

Source: SDG Architects, Inc., June 3, 2021.

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Exhibit 2-10a
5-Unit Building Exterior Elevations (Buildings F & R)

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FRONT ELEVATION

0 1' 2' 3' 4' 8'

UNIT 4 UNIT 3 UNIT 2 UNIT 2 UNIT 3 UNIT 4R

FRONT ELEVATION

UNIT 4R

RIGHT ELEVATION

MATERIALS LEGEND
1. STUCCO
2. BOARD AND BATT SIDING
3. FIBER CEMENT HORIZONTAL SIDING
4. COMPOSITION SHINGLE ROOF
5. FIBER CEMENT TRIM
6. HIGH-DENSITY FOAM TRIM
7. BRACKET
8. CORBELS
9. CORBEL AND KICKER
10. PAINTED METAL RAILING
11. METAL AWNING
12. GARAGE DOOR

UNIT 4R UNIT 3 UNIT 2 UNIT 2 UNIT 3 UNIT 4

REAR ELEVATION

UNIT 4

LEFT ELEVATION

0 2' 4' 6' 8' 16'

Source: SDG Architects, Inc., June 3, 2021.

FIRSTCARBON SOLUTIONS™

Exhibit 2-10b
6-Unit Building Exterior Elevations (Buildings E, L, M, N & P)

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FRONT ELEVATION

0 1' 2' 3' 4' 8'

UNIT 4 UNIT 3 UNIT 2 UNIT 2 UNIT 3 UNIT 4R

FRONT ELEVATION

UNIT 4R

RIGHT ELEVATION

MATERIALS LEGEND
1. STUCCO
2. BOARD AND BATT SIDING
3. FIBER CEMENT HORIZONTAL SIDING
4. COMPOSITION SHINGLE ROOF
5. FIBER CEMENT TRIM
6. HIGH-DENSITY FOAM TRIM
7. BRACKET
8. CORBELS
9. CORBEL AND KICKER
10. PAINTED METAL RAILING
11. METAL AWNING
12. GARAGE DOOR

UNIT 4R UNIT 3 UNIT 2 UNIT 2 UNIT 3 UNIT 4

REAR ELEVATION

UNIT 4

LEFT ELEVATION

KEY MAP - N.T.S.

0 2' 4' 6' 8' 16'

Source: SDG Architects, Inc., June 3, 2021.

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Exhibit 2-10c
6-Unit Building Exterior Elevations (Building I)

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FRONT ELEVATION

UNIT 4 UNIT 3 UNIT 4R

FRONT ELEVATION

UNIT 4R

RIGHT ELEVATION

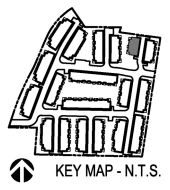
MATERIALS LEGEND
1. STUCCO
2. BOARD AND BATT SIDING
3. FIBER CEMENT HORIZONTAL SIDING
4. COMPOSITION SHINGLE ROOF
5. FIBER CEMENT TRIM
6. HIGH-DENSITY FOAM TRIM
7. BRACKET
8. CORBELS
9. CORBEL AND KICKER
10. PAINTED METAL RAILING
11. METAL AWNING
12. GARAGE DOOR

UNIT 4R UNIT 3 UNIT 4

REAR ELEVATION

UNIT 4

LEFT ELEVATION



0 2' 4' 6' 8' 16'

Source: SDG Architects, Inc., June 3, 2021.

FIRSTCARBON SOLUTIONS™

Exhibit 2-10d
3-Unit Building Exterior Elevations (Building G)

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ARTIST'S CONCEPTION. PLEASE REFER TO PLANS FOR PROJECT SPECIFICATIONS.

FRONT ELEVATION

0 1' 2' 3' 4' 8'

UNIT 4 UNIT 3 UNIT 3 UNIT 4R

FRONT ELEVATION

UNIT 4R

RIGHT ELEVATION

MATERIALS LEGEND

1. STUCCO
2. BOARD AND BATT SIDING
3. FIBER CEMENT HORIZONTAL SIDING
4. COMPOSITION SHINGLE ROOF
5. FIBER CEMENT TRIM
6. HIGH-DENSITY FOAM TRIM
7. BRACKET
8. CORBELS
9. CORBEL AND KICKER
10. PAINTED METAL RAILING
11. METAL AWNING
12. GARAGE DOOR

UNIT 4R UNIT 3 UNIT 3 UNIT 4

REAR ELEVATION

UNIT 4

LEFT ELEVATION

KEY MAP - N.T.S.

0 2' 4' 6' 8' 16'

Source: SDG Architects, Inc., June 3, 2021.

FIRSTCARBON SOLUTIONS™

Exhibit 2-10e
4-Unit Building Exterior Elevations (Building H)

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FRONT ELEVATION

0 1' 2' 3' 4' 8'

UNIT 4R UNIT 3 UNIT 2 UNIT 2 UNIT 2 UNIT 3 UNIT 4

FRONT ELEVATION

UNIT 4R

RIGHT ELEVATION

MATERIALS LEGEND
1. STUCCO
2. BOARD AND BATT SIDING
3. FIBER CEMENT HORIZONTAL SIDING
4. COMPOSITION SHINGLE ROOF
5. FIBER CEMENT TRIM
6. HIGH-DENSITY FOAM TRIM
7. BRACKET
8. CORBELS
9. CORBEL AND KICKER
10. PAINTED METAL RAILING
11. METAL AWNING
12. GARAGE DOOR

UNIT 4R UNIT 3 UNIT 2 UNIT 2 UNIT 2 UNIT 3 UNIT 4

REAR ELEVATION

UNIT 4

LEFT ELEVATION

0 2' 4' 6' 8' 16'

Source: SDG Architects, Inc., June 3, 2021.

FIRSTCARBON SOLUTIONS™

Exhibit 2-10f
7-Unit Building Exterior Elevations (Building J)

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FRONT ELEVATION

0 1' 2' 3' 4' 8'

UNIT 4 UNIT 3R UNIT 1B UNIT 1BR UNIT 1BR UNIT 3 UNIT 4R

FRONT ELEVATION

UNIT 4R

RIGHT ELEVATION

MATERIALS LEGEND
1. STUCCO
2. BOARD AND BATT SIDING
3. FIBER CEMENT HORIZONTAL SIDING
4. COMPOSITION SHINGLE ROOF
5. FIBER CEMENT TRIM
6. HIGH-DENSITY FOAM TRIM
7. BRACKET
8. CORBELS
9. CORBEL AND KICKER
10. PAINTED METAL RAILING
11. METAL AWNING
12. GARAGE DOOR

UNIT 4R UNIT 3 UNIT 1BR UNIT 1BR UNIT 1B UNIT 3R UNIT 4

REAR ELEVATION

UNIT 4

LEFT ELEVATION

KEY MAP - N.T.S.

0 2' 4' 6' 8' 16'

Source: SDG Architects, Inc., June 3, 2021.

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Exhibit 2-10g
7-Unit Building Exterior Elevations (Building K)

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ARTIST'S CONCEPTION. PLEASE REFER TO PLANS FOR PROJECT SPECIFICATIONS.

FRONT ELEVATION

0 1' 2' 3' 4' 8'

UNIT 4 UNIT 1A UNIT 1A UNIT 1AR UNIT 1AR UNIT 1AR UNIT 1AR UNIT 4R

FRONT ELEVATION

UNIT 4R

RIGHT ELEVATION

MATERIALS LEGEND
1. STUCCO
2. BOARD AND BATT SIDING
3. FIBER CEMENT HORIZONTAL SIDING
4. COMPOSITION SHINGLE ROOF
5. FIBER CEMENT TRIM
6. HIGH-DENSITY FOAM TRIM
7. BRACKET
8. CORBELS
9. CORBEL AND KICKER
10. PAINTED METAL RAILING
11. METAL AWNING
12. GARAGE DOOR

UNIT 4R UNIT 1AR UNIT 1AR UNIT 1AR UNIT 1AR UNIT 1A UNIT 1A UNIT 4

REAR ELEVATION

UNIT 4

LEFT ELEVATION

0 2' 4' 6' 8' 16'

Source: SDG Architects, Inc., June 3, 2021.

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Exhibit 2-10h
8-Unit Building Exterior Elevations (Buildings A, B, C, & O)

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ARTIST'S CONCEPTION. PLEASE REFER TO PLANS FOR PROJECT SPECIFICATIONS.

FRONT ELEVATION

0 1' 2' 3' 4' 8'

UNIT 4 UNIT 1A UNIT 1B UNIT 1BR UNIT 1AR UNIT 1BR UNIT 1AR UNIT 4R

FRONT ELEVATION

UNIT 4R

RIGHT ELEVATION

MATERIALS LEGEND

1. STUCCO
2. BOARD AND BATT SIDING
3. FIBER CEMENT HORIZONTAL SIDING
4. COMPOSITION SHINGLE ROOF
5. FIBER CEMENT TRIM
6. HIGH-DENSITY FOAM TRIM
7. BRACKET
8. CORBELS
9. CORBEL AND KICKER
10. PAINTED METAL RAILING
11. METAL AWNING
12. GARAGE DOOR

UNIT 4R UNIT 1AR UNIT 1BR UNIT 1AR UNIT 1BR UNIT 1B UNIT 1A UNIT 4

REAR ELEVATION

UNIT 4

LEFT ELEVATION

0 2' 4' 6' 8' 16'

Source: SDG Architects, Inc., June 3, 2021.

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Exhibit 2-10i
8-Unit Building Exterior Elevations (Building D)

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ARTIST'S CONCEPTION. PLEASE REFER TO PLANS FOR PROJECT SPECIFICATIONS.

FRONT ELEVATION

FRONT ELEVATION

MATERIALS LEGEND
1. STUCCO
2. BOARD AND BATT SIDING
3. FIBER CEMENT HORIZONTAL SIDING
4. COMPOSITION SHINGLE ROOF
5. FIBER CEMENT TRIM
6. HIGH-DENSITY FOAM TRIM
7. BRACKET
8. CORBELS
9. CORBEL AND KICKER
10. PAINTED METAL RAILING
11. METAL AWNING
12. GARAGE DOOR

UNIT 4R

RIGHT ELEVATION

REAR ELEVATION

MATERIALS LEGEND
1. STUCCO
2. BOARD AND BATT SIDING
3. FIBER CEMENT HORIZONTAL SIDING
4. COMPOSITION SHINGLE ROOF
5. FIBER CEMENT TRIM
6. HIGH-DENSITY FOAM TRIM
7. BRACKET
8. CORBELS
9. CORBEL AND KICKER
10. PAINTED METAL RAILING
11. METAL AWNING
12. GARAGE DOOR

UNIT 4

LEFT ELEVATION

Source: SDG Architects, Inc., June 3, 2021.

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Exhibit 2-10j
9-Unit Building Exterior Elevations (Buildings S & Q)

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CHAPTER 3: ENVIRONMENTAL IMPACT ANALYSIS

Organization of Issue Areas

This chapter sets forth the physical and regulatory environmental setting and addresses the environmental impacts of the proposed project with respect to 16 environmental resource areas. The discussions of the environmental setting describe the present physical conditions, or baseline conditions, in the project area. The baseline used for the analysis of environmental impacts under the California Environmental Quality Act (CEQA) reflects the conditions present at the time the Notice of Preparation (NOP) for this Draft Environmental Impact Report (Draft EIR) was published. The potential impacts of the proposed project are compared against the existing baseline conditions for each environmental resource.

Issues Addressed in this Draft EIR

The proposed project is analyzed in this Draft EIR with respect to the following 16 environmental resource areas:

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

Format of the Environmental Analysis

Each resource area analyzed in this chapter includes the subsections summarized below.

Introduction

This subsection summarizes what will be discussed in the respective environmental topic section, states what informational documents are used as the basis for the section, and indicates what related comments, if any, were received during the EIR public scoping period.

Environmental Setting

This subsection describes the existing, baseline physical conditions of the project site and surroundings (e.g., existing land uses, transportation conditions, noise environment) with respect to each resource topic at the time the NOP was issued. Conditions are described in sufficient detail and breadth to allow a general understanding of the environmental impacts of the proposed project.

Regulatory Framework

This subsection describes the relevant federal, State, and local regulatory requirements that are directly applicable to the environmental topic being analyzed.

Impacts and Mitigation Measures

This subsection evaluates the potential for the proposed project to result in direct and indirect adverse impacts on the existing physical environment, with consideration of both short-term and long-term impacts. The analysis covers all phases of the proposed project, including construction and operation. The significance thresholds for environmental impacts are defined at the beginning of this subsection, and the discussion of the approach to the analysis explains how the significance thresholds have been applied to evaluate the impacts of the proposed project.

Indirect impacts are discussed only for those resources for which they have the potential to occur (e.g., cultural resources, air quality, and biological resources). Both project-level and cumulative impacts are analyzed. Project-level impacts could result from actions related to implementation of the project. Cumulative impacts could result from implementation of the proposed project in combination with other cumulative projects in the study area. As discussed in "Cumulative Impacts," below, the projects listed in Table 3-1, in conjunction with the proposed project, are considered the cumulative scenario for the analysis of cumulative impacts.

Impacts are analyzed and the respective assessment and findings are included in this Draft EIR, applying the following levels of significance:

- **No impact.** A conclusion of "no impact" is reached if no potential exists for impacts or if the environmental resource does not occur in the project area or the area of potential impacts.
- **Less than significant impact.** This determination applies if the impact does not exceed the defined significance criteria or would be eliminated or reduced to a less than significant level through compliance with existing local, State, and federal laws and regulations. No mitigation is required for impacts determined to be less than significant.
- **Less than significant impact with mitigation.** This determination applies if the proposed project would result in a significant impact, exceeding the established significance criteria, but feasible mitigation is available that would reduce the impact to a less than significant level.
- **Significant and unavoidable impact.** This determination applies if the proposed project would result in an adverse impact that exceeds the established significance criteria, and no feasible mitigation is available to reduce the impact to a less than significant level. Therefore, the residual impact would be significant and unavoidable.
- **Significant and unavoidable impact with mitigation.** This determination applies if the proposed project would result in an adverse impact that exceeds the established significance criteria, and although feasible mitigation might lessen the impact, the residual impact would be significant, and, therefore, the impact would be unavoidable.

Impacts are defined in terms of their context and intensity. Context is related to the uniqueness of a resource; intensity refers to the severity of the impact. Where applicable, Best Management Practices (BMPs) or project improvement measures, or both, are incorporated into the proposed project to limit the potential for a significant impact. Where necessary, mitigation measures are identified for significant impacts to limit the degree or lower the magnitude of the impact; rectify the impact by repairing, rehabilitating, or restoring the affected environment; or compensate for the impact by replacing or providing substitute resources or environments. These impacts conclude with a finding of "less than significant impact with mitigation." Where no mitigation measures are necessary, relevant impacts are concluded to be "less than significant impact" or to have "no impact."

As part of the impact analysis, mitigation measures are identified, where feasible, for impacts considered significant or potentially significant consistent with CEQA Guidelines Section 15126.4, which states that an EIR "shall describe feasible measures which could minimize significant adverse impacts." CEQA requires that mitigation measures have an essential nexus and be roughly proportional to the significant impact identified in the EIR. The project sponsor is required to implement all identified mitigation measures identified in this chapter, and the lead agency (in this case, Contra Costa County) is responsible for overseeing the project sponsor's implementation of such mitigation measures. Pursuant to CEQA Guidelines Section 15126.4, mitigation measures are not required for environmental impacts that are found not to be significant.

Impacts are numbered and shown in bold type. The corresponding mitigation measures, where identified, are numbered and indented, and follow the impact statements. Impacts and mitigation measures are numbered consecutively within each topic and include an abbreviated reference to the impact section (e.g., "LAND" for Land Use and Planning). The following abbreviations are used for individual topics:

- Aesthetics, Light, and Glare (AES)
- Air Quality (AIR)
- Biological Resources (BIO)
- Cultural Resources and Tribal Cultural Resources (CUL)
- Energy (ENER)
- Geology and Soils (GEO)
- Greenhouse Gas Emissions (GHG)
- Hazards and Hazardous Materials (HAZ)
- Hydrology and Water Quality (HYD)
- Population and Housing (POP)
- Land Use and Planning (LAND)
- Noise (NOI)
- Public Services (PUB) and Recreation (REC)
- Transportation (TRANS)
- Utilities and Service Systems (UTIL)
- Wildfire (WILD)

Cumulative Impacts

The discussion of cumulative impacts in this subsection analyzes the cumulative impacts of the proposed project, taken together with other past, present, and reasonably foreseeable future projects producing related impacts. The goal of this analysis is to determine whether the overall long-term impacts of all such projects would be cumulatively significant, and to determine whether the project itself would cause a "cumulatively considerable" incremental contribution to any such cumulatively significant impacts. To determine whether the overall long-term impacts of all such projects would be cumulatively significant, the analysis generally considers the following:

- The area in which impacts of the proposed project would be experienced.
- The impacts of the proposed project that are expected in the area.
- Other past, proposed, and reasonably foreseeable projects that have had or are expected to have impacts in the same area.
- The impacts or expected impacts of these other projects.
- The overall impact that can be expected if the individual impacts from each project are allowed to accumulate.

"Cumulative impacts" refers to two or more individual impacts that, when considered together, are considerable, or that compound or increase other environmental impacts (CEQA Guidelines § 15355). Cumulative impacts can result from individually minor but collectively significant impacts taking place over time (40 Code of Federal Regulations [CFR] 1508.7). If the analysis determines that the potential exists for the project, taken together with other past, present, and reasonably foreseeable future projects, to result in a significant or adverse cumulative impact, the analysis then determines whether the project's incremental contribution to any significant cumulative impact is itself significant (i.e., "cumulatively considerable"). The cumulative impact analysis for each individual resource topic is presented in each resource section of this chapter immediately after the description of the direct project impacts and identified mitigation measures.

Table 3-1 lists the relevant cumulative projects considered for the environmental analysis, and Exhibit 3-1 shows the locations of the cumulative projects (Projects 1 through 24).

Table 3-1: Cumulative Projects

No.	Project	Characteristics	Project Development			
			Residential Units	Non-Residential Building Square Footage	Location	Status
Contra Costa County						
1	Spieker Senior Continuing Care Community Project	Continuing Care Retirement Community consisting of 354 independent living units, 100-unit health center, maintenance building, parking structure, clubhouse, and recreation building.	354	–	APN's 172-080-007 and 172-150-012	Deemed complete on 1/22/2021. It is anticipated that the NOP being distributed in Late June or early July 2021.
2	85 Ariey Lane	Four single-family residential lots from a 6.18-acre lot.	4	–	85 Ariey Lane, Lafayette	Incomplete (pending General Plan amendment and rezoning).
City of Walnut Creek						
3	Bank of America	Construction of 8,534-square-foot bank building/ parking at vacant, former HMS Endeavor site (Shadelands).	–	8,534	2153 Oak Grove Road, Walnut Creek	–
4	John Muir Hospital Employee Parking Lot	A new 500-stall employee surface parking lot on the vacant site.	–	–	230 La Casa Via, Walnut Creek	–
5	1501 North California Boulevard (Mixed Use)	A 4-story mixed-use building consisting of 6,000 square feet of ground-level commercial with 27 condominium units above and underground parking.	27	6,000	1501 North California Boulevard, Walnut Creek	–
6	699 Ygnacio Valley Road	Construct a new 5-story, mixed-use development containing 96, 100 percent affordable residential units over ground floor commercial space.	96	–	699 Ygnacio Valley Road, Walnut Creek	–
7	7-Eleven/Unocal Remodel	Redevelop existing service station site and construct a new convenience store and a new canopy above four fuel pumps.	–	2,810	690 Ygnacio Valley Road, Walnut Creek	–
8	John Muir Medical Center Outpatient Building	A new 155,000-square-foot medical office building on the main campus replacing the two existing Tuolumne buildings.	–	–	175-177 La Casa Via, Walnut Creek	–

No.	Project	Characteristics	Project Development			
			Residential Units	Non-Residential Building Square Footage	Location	Status
9	Walden Townhomes	Demolish an existing single-family home and build seven unit (3-story) multi-family townhomes.	–	–	1394 Walden Road, Walnut Creek	–
10	Senior Housing and Residential Care Facility	Construct multi-family residential units and a residential care facility within the Shadelands Business Park.	–	–	2800 Mitchell Drive, Walnut Creek	–
11	One Planet Office Building/Café	Demolition of existing hair salon and construction of a 4-story office building with a café on the ground floor and underground parking.	–	–	1613 North Main Street, Walnut Creek	–
12	North California and Lacassie	Traffic signal modifications.	–	–	North California Boulevard and Lacassie Avenue, Walnut Creek	In design. Start year: 2021.
13	Bancroft Avenue Bridge Widening	Widen existing bridge to meet current design standards.	–	–	Bancroft Avenue, Walnut Creek	Start year: 2021.
City of Pleasant Hill						
14	Downtown Cleaveland Multi-family Residential Project	Construct 210 multi-family residential units, associated amenities, a roof deck, below grade parking, and installation of an on-site pedestrian network.	189	–	85 Cleaveland Road, Pleasant Hill	Approved.
15	Pawha Subdivision	Subdivision for a two-lot subdivision.	2	–	Manor Drive, Pleasant Hill	Approved, Building Permit under review.
16	Schmitt New Residence	New single-family residence.	1	–	574 Creekside Road, Pleasant Hill	Approved, Building Permit issued.
17	Crvarich Residence	Single-family residence.	1	–	150 Jackson Way, Pleasant Hill	Approved, Building Permit issued.
18	Tracy Single-family Residence	New single-family residence.	1	–	204 Poshard Street, Pleasant Hill	Approved, Building Permit issued.
19	Gonsalves Minor Subdivision	Three-lot subdivision.	3	–	2161 Pleasant Hill Road, Pleasant Hill	Incomplete.

No.	Project	Characteristics	Project Development			
			Residential Units	Non-Residential Building Square Footage	Location	Status
20	Khashabi Residence	New single-family residence.	1	–	257 Douglas Lane, Pleasant Hill	Approved.
21	Boskovic Minor Subdivision	Minor subdivision – 1 new lot (lot split).	1	–	425 Roberta Avenue, Pleasant Hill	Approved.
22	Eva Single-family Residence	New single-family residence.	1	–	195 Cortsen Road, Pleasant Hill	Approved.
23	490 Golf Club Specific Plan	82 Senior Affordable Housing Project.	82	–	490 Golf Club Road, Pleasant Hill	Specific Plan Approved, Specific Entitlement Application have been submitted.
24	Starbucks	Commercial Building.	–	2,500 replacing existing vacant building	999 Contra Costa Boulevard, Pleasant Hill	Under review.

Sources:
Contra Costa County Department of Conservation and Development. 2021.

City of Walnut Community Development Department Project Pipeline. 2021. Website: https://www.walnut-creek.org/home/showpublisheddocument?id=4970. March 31. Accessed May 21, 2021.

City of Walnut Creek Department of Public Works. 2021. Capital Investment Projects. Website: https://walnutcreek.maps.arcgis.com/apps/MapSeries/index.html?appid=72991305eca34f8bb542cdc696bec479. Accessed May 21, 2021.

City of Pleasant Hill Planning Division. 2021. Status of Major Planning Applications Under Review for Land Use Entitlements. Website: https://www.ci.pleasant-hill.ca.us/DocumentCenter/View/709/Current-Planning-Project-Status?bidId=. May. Accessed June 10, 2021.

Fujimoto, Troy. City Planner, City of Pleasant Hill. Personal communication: email July 1, 2021.

California Office of Planning and Research CEQAnet Web Portal. 2021. Website: https://ceqanet.opr.ca.gov/. Accessed May 10, 2021.

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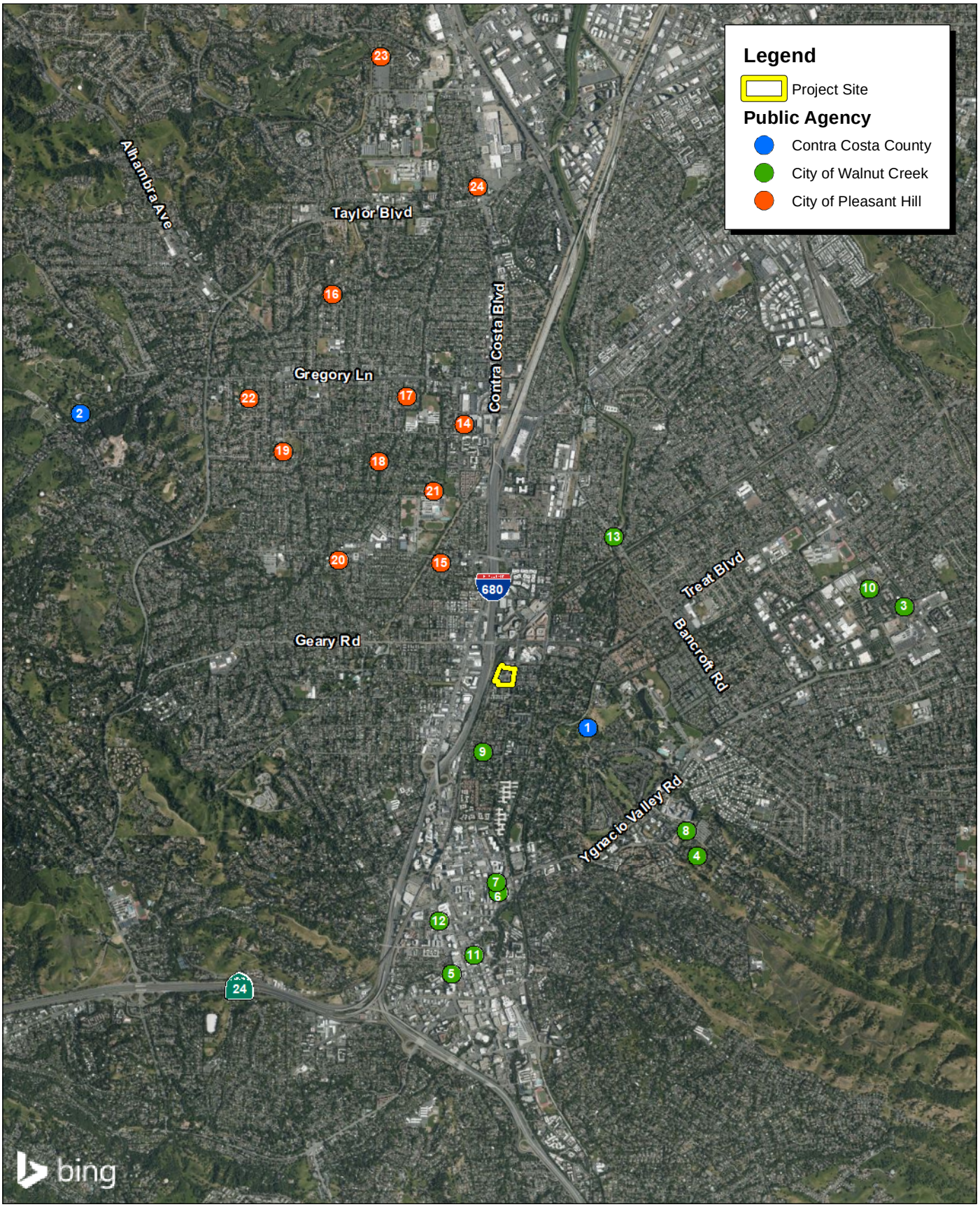

Source: Bing Aerial Imagery. County of Contra Costa.

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4,000 2,000 0 4,000 Feet

Exhibit 3.1
Cumulative Projects Location Map

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3.1 - Aesthetics, Light, and Glare

3.1.1 - Introduction

This section describes the existing aesthetics, light, and glare conditions in the project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to aesthetics that could result from implementation of the proposed project. Information included in this section is based upon photo inventory (Exhibit 3.1-1), as well as the Contra Costa County General Plan (General Plan) and the Contra Costa County Ordinance Code (Ordinance Code).

During the Notice of Preparation (NOP) comment period, the following comments were received related to the proposed project regarding aesthetics:

- Privacy, light and shadow, and view concerns due to the proposed heights of Buildings F, G, and H; stated concerns regarding light pollution.
- The proposed project would destroy the artistic style of the project site.
- The neighboring residents are asking for larger setback due to privacy, light, views, and shadows concerns.
- The proposed project would eliminate views, and inquired about compensation for reduction in property value due to loss of view.
- Aesthetics concerns.
- Aesthetics concerns because the buildings are too close; concern that the small distance between buildings would impact light.
- Proposal to shift the oak grove toward the Oak Treat Court development, creating an open space between it and the proposed project.
- Privacy, light, and view concerns due to the height of the proposed buildings.

3.1.2 - Environmental Setting

Visual Character

Visual character in the California Environmental Quality Act (CEQA) context is an impartial description of the defining physical features, landscape patterns, and distinctive physical qualities within a landscape. Visual character is informed by the composition of land, vegetation, water, and structure and their relationship (or dominance) to one another, and by prominent elements of form, line, color, and texture that combine to define the composition of views. Visual character-defining resources and features within a landscape may derive from notable landforms, vegetation, land uses, building design and façade treatments, transportation facilities, overhead utility structures and lighting, historic structures or districts, or panoramic open space.

Contra Costa County

Contra Costa County (County) includes a variety of topographical features such as the San Francisco Bay, Delta estuary complex, and is within the Central Coast Range Geomorphic Province of California.

The County covers a total of 805 square miles of land and water, with elevations ranging from 30 feet below sea level in eastern Contra Costa to low lying and relatively flat coastal terrain along the San Francisco Bay/Delta estuary complex, to major ridgelines along the Diablo Range, a subdivision of the Pacific Coast Ranges, including the summit of Mount Diablo, which rises to an elevation of 3,849 feet above mean sea level, making it the most prominent topographical feature in the County.

The physical environment of the County ranges from urban to rural. The western and central County areas are characterized by urban and suburban city development. The eastern County area is characterized primarily by agricultural and open space areas.

Project Site

The project site is in central Contra Costa County, southeast of the intersection of Interstate 680 (I-680) and Treat Boulevard, and adjacent to the City of Walnut Creek. The project site is relatively flat in elevation and contains several 1- and 2-story buildings, a paved courtyard, a grass field, tennis courts, basketball courts playgrounds, a swimming pool, and associated parking lots and landscaping areas. The site is completely developed and has limited, if any, natural habitat. Numerous mature trees are present on-site. No creeks or wetlands are present on-site.

The project site is bound by existing residential areas to the north and south, by Oak Road to the east with a residential area across Oak Road, and by Jones Road to the west. I-680 is located just to the west of Jones Road with a commercial area along its western side. The Contra Costa Canal is approximately 450-600 feet south of the project site (Exhibit 2-3).

Scenic Resources

Scenic resources typically involve prominent, unique, and identifiable natural features in the environment (e.g., trees, rock outcroppings, islands, ridgelines, channels of water, and aesthetically appealing open space) and cultural features or resources (e.g., regional or architecturally distinctive buildings, or structures that serve as a focal point of interest).

Contra Costa County

The Open Space Element of the General Plan identifies the main scenic resources within the County as the scenic ridges, hillsides, and rock outcroppings, such as San Pablo Ridge, Pinole Ridge, Sobrante Ridge, Lime Ridge, and Shell Ridge, as well as the San Francisco Bay/Delta estuary system.[1]

The General Plan also identifies scenic routes as they afford publicly available views. A scenic route is defined in the General Plan as a road, street, or freeway that traverses a scenic corridor of relatively high visual or cultural value. It consists of both the scenic corridor and the public right-of-way.[2]

[1] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan Land Use Element. January 18. Website: https://www.contracosta.ca.gov/DocumentCenter/View/30918/Ch8-Conservation-Element?bidId=. Accessed April 9, 2021.

[2] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan Transportation Element. January 18. Website: https://www.contracosta.ca.gov/DocumentCenter/View/30915/Ch5-Transportation-and-Circulation-Element?bidId=. Accessed June 11, 2021.

The section of I-680 that runs north–south adjacent to the project site is not defined by the General Plan as a Scenic Highway, Expressway, or Route. The General Plan identifies the following Scenic Highways and Expressways in the vicinity of the project site:[3]

- State Route 24 (SR-24) between its intersection with I-680 (approximately 1.9 miles from the project site) and the Alameda County Line to the west.
- I-680 between its intersection with SR-24 and the Alameda County Line to the southeast.
- SR-242 between its split from I-680 (approximately 2.4 miles north of the project site) and SR-4 to the north.

Project Site

There are no scenic resources, as defined by the General Plan, located on the project site. The nearest designated scenic resource to the project site is Diablo Ridge located approximately 2.35 miles to the southeast, approximately 3.95 miles to the east, and approximately 7.45 miles to the northeast.

Views

Views may be generally described as panoramic vistas from publicly accessible locations of a large geographic area for which the field of vision may be wide and/or may extend into the distance. Examples of distinctive views include urban skylines, valleys, mountain ranges, or large bodies of water.

Contra Costa County

SR-24 and the portion of I-680 located south of the SR-24 junction, are officially designated State Scenic Highways and are identified as such in Figure 5-4 of the General Plan.[4,5] I-580 from the western Contra Costa County Line to the Albany City Limits and SR-4 from Hercules to Bay Point are eligible State Scenic Highways and designated as Scenic Highways in Figure 5-4 of the General Plan. Mount Diablo, rising to an elevation of 3,849 feet, is the most prominent topographical feature in the County. San Pablo Ridge, Pinole Ridge, and Sobrante Ridge are all designated as scenic ridgeways by the General Plan. The San Francisco Bay and Delta estuary complex, including San Pablo Bay and the shores of Suisan Bay, are designated scenic waterways by the General Plan.[6]

Project Site

Photographs depicting existing views are shown in Exhibit 3.1-1.

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[3] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan Transportation Element. January 18. Website: https://www.contracosta.ca.gov/DocumentCenter/View/30915/Ch5-Transportation-and-Circulation-Element?bidId=. Accessed June 11, 2021.

[4] California Department of Transportation. 2020. List of eligible and officially designated State Scenic Highways. October 14. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed April 9, 2021.

[5] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan Transportation and Circulation Element. January 18. Website: https://www.contracosta.ca.gov/DocumentCenter/View/30915/Ch5-Transportation-and-Circulation-Element?bidId=. Accessed April 9, 2021.

[6] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan Open Space Element. January 18. Website: https://www.contracosta.ca.gov/DocumentCenter/View/30918/Ch8-Conservation-Element?bidId=. Accessed April 27, 2021.

Views of scenic resources such as Mount Diablo and scenic ridgelines are obstructed by existing development and vegetation. Very distant views of a ridgeline are visible for pedestrians and drivers traveling south on Oak Road, although existing development, such as buildings, roadways, and vegetation largely obstructs this view.

Light and Glare

In the context of the CEQA Guidelines, light is nighttime illumination that stimulates sight and makes things visible, and glare is difficulty seeing in the presence of bright light such as direct or reflected sunlight.

Project Site and Vicinity

The project site was formerly a private K-8 school. Several vacant buildings and supporting structures are still present on-site and contribute to existing sources of nighttime security lighting as well as daytime glare.

The primary sources of nighttime light in the surrounding area are streetlights on Oak Road and Jones Road and from vehicle headlights traveling along surrounding roadways and I-680, as well as exterior lighting associated with surrounding homes. The streetlights bordering the project site along Oak Road and Jones Road also contribute to nighttime illumination. Surrounding homes and apartment buildings contribute to daytime glare within the project area.

3.1.3 - Regulatory Framework

Federal

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

State

California Scenic Highway Program

The State Legislature created the California Scenic Highway Program, maintained by the California Department of Transportation (Caltrans), in 1963. The purpose of the State Scenic Highway Program 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 through 263. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been officially designated. The status of a proposed State Scenic Highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway.

Title 24 of the California Code of Regulations Building Energy Efficiency Standards

California Building Standards Code (California Code of Regulations [CCR], Title 24)—including Title 24, Part 6—includes Section 132 of the Building Energy Efficiency Standards, which regulates lighting characteristics, such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone. The classification is based on population figures of the 2000 Census. Areas can be designated as LZ1 (dark), LZ2 (rural), or LZ3 (urban). Lighting requirements for dark and rural areas are stricter in order to protect the areas from new sources of light pollution and light trespass.

Local

Contra Costa County General Plan

Land Use Element

The General Plan Land Use Element establishes the following goals and policies related to aesthetics:

Goal 3-C To encourage aesthetically and functionally compatible development, which reinforces the physical character and desired images of the county.

Goal 3-J To encourage a development pattern that promotes the individuality and unique character of each community in the county.

Policies

Policy 3-18 Flexibility in the design of projects shall be encouraged in order to enhance scenic qualities and provide for a varied development pattern.

Policy 3-188 Achieve an upgrading of the visual appearance and unity of the area through architectural and landscape requirements and utility undergrounding.

Policy 3-188-b Limit activities which may result in noise, glare, or vibrations beyond the designated industrial areas.

Open Space Element

The General Plan Open Space Element establishes the following goals and policies related to aesthetics:

Goal 9-F To preserve the scenic qualities of the San Francisco Bay/Delta estuary system and the Sacramento-San Joaquin River/Delta shoreline.

Policies

Policy 9-4 Where feasible and desirable, major open space components shall be combined and linked to form a visual and physical system in the county.

Policy 9-5 The visual identities of urban communities shall be preserved through the maintenance of existing open space areas between cities and/or communities.

Policy 9-12 In order to conserve the scenic beauty of the county, developers shall generally be required to restore the natural contours and vegetation of the land after grading and other land disturbance. Public and private project shall be designed to minimize damage to significant trees and other visual landmarks.

Policy 9-14 Extreme topographic modification, such as filling in canyons or removing hilltops shall be avoided. Clustering and planned unit development approaches to development shall be encouraged. All future development plans, whether large or small scale, shall be based on identifying safe and suitable sites for buildings, roads and driveways. Exemptions to this policy are appropriate for mining, landfill, and public projects in open space areas.

Policy 9-24 The appearance of the county shall be improved by eliminating negative features such as non-conforming signs and overhead utility lines, and by encouraging aesthetically-designed facilities with adequate setbacks and landscaping.

Policy 9-25 Maintenance of the scenic waterways of the county shall be ensured through public protection of the marshes and riparian vegetation along the shorelines and delta levees, as otherwise specified in this Plan.

Contra Costa County Ordinance Code

The County Zoning Map zones the site Multiple-Family Residential (M-17 and M-29) and Single-Family Residential (R-15). The proposed project includes a request to rezone the entire site to P-1.

Planned Unit District (P-1)

As stated in Chapter 84-66.204, the intent of the P-1 district is to allow "diversification in the relationship of various uses, buildings, structures, lot sizes and open space while insuring (*sic*) substantial compliance with the general plan and the intent of the county code in requiring adequate standards necessary to satisfy the requirements of the public health, safety and general welfare. These standards shall be observed without unduly inhibiting the advantages of large-scale or special area planning."[7]

As summarized in Table 3.1-1, Article 84-66.602 establishes requirements for new and alterations to existing land uses, structures, and site development within the P-1 Zoning District.

Table 3.1-1: P-1 District Development Standards

Development Feature	Requirement
Area (Minimums)	
Residential	5 acres for residential uses except that a mobile home subdivision shall have a minimum of 10 acres.
Nonresidential	10 acres for nonresidential uses.

[7] Contra Costa County. 2021. Contra Costa County Ordinance Code, Chapter 84-66.204-Intent and Purpose. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV84LAUSDI_CH84-66PLUNDI. May 28. Accessed June 10, 2021.

Development Feature	Requirement
Mixed	15 acres for mixed residential and nonresidential uses.
Office	No minimum for office uses which do not require heavy vehicular delivery or have easy automobile site access including some ancillary retail, service and residential uses when consistent with the Contra Costa County General Plan.
Density	
Residential	In computing the net development area to set residential densities, use the General Plan as a guide and exclude areas set aside for churches, schools, streets, commercial use, or other nonresidential use, but include areas set aside for common open space, outdoor recreation or parks.
Source: Contra Costa County Ordinance Code, Articles 84-66.6 and 84-66.8 (2018).	

Chapter 816-6—Tree Protection and Preservation

The Tree Protection and Preservation Ordinance of the County (Chapter 816-6) provides for the preservation of protected trees and requires a permit for activities such as trenching, grading or fill within the drip line of any protected tree, or the removal, destruction, trimming or topping of any protected tree. [8] Heritage trees are defined as a tree 72 inches or more in circumference measured 4.5 feet above natural grade, or any tree or group of trees particularly worthy of protection and specifically designated as such by the Board of Supervisors. No replacement ratio for removed or affected trees is identified in the ordinance.

Section 76-4.612—Public Nuisance Lighting

The Public Nuisance Lighting Ordinance requires that lighting fixtures be installed, controlled, or directed so that the light will not glare or be blinding to pedestrians or vehicular traffic or on adjoining property. [9]

3.1.4 - Impacts and Mitigation Measures

Significance Criteria

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

Except as provided in Public Resources Code Section 21099, would the project:

a) Have a substantial adverse effect on a scenic vista?

[8] Contra Costa County. Contra Costa County Ordinance Code, Section 816-6 – Tree Protection and Preservation. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV816TR_CH816-6TRPRPR. Accessed June 10.2021.

[9] Contra Costa County. Contra Costa County Ordinance Code, Section 76-4.612 - Public nuisance lighting. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT7BURE_DIV76ELCO_CH76-4MO_ART76-4.2RE_76-4.612PUNULI. Accessed May 18, 2021.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State Scenic Highway?

c) 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?

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Approach to Analysis

This analysis provides a discussion of the visual impacts associated with the proposed project and the area surrounding the project site. Several variables affect the degree of visibility, visual contrast, and ultimately project impacts: (1) scale and size of facilities, (2) viewer types and activities, (3) distance and viewing angle, and (4) influences of adjacent scenery or land uses. Viewer response and sensitivity vary depending on viewer attitudes and expectations.

As part of this analysis, FCS conducted a field visit of the project site to observe and document the existing visual quality and character of the project site as well as the surrounding areas. Photographs depicting existing views of the project site and vicinity are shown in Exhibit 3.1-1. The General Plan and Ordinance Code were also evaluated to determine applicable policies and design requirements for the project.

Light and Glare

The analysis of light and glare impacts in this section focuses on the nature and magnitude of changes in light and glare conditions of the project site and surrounding area. If the light and glare conditions of the proposed project and the existing environment are similar, then the visual compatibility would be high. If the light and glare conditions of the proposed project strongly contrast with the existing light and glare or applicable policies and guidelines, then light and glare compatibility would be low and significant impacts may result. Relevant urban design policies and guidelines are used to provide conclusions regarding the significance of project- and cumulative-level light and glare impacts.

Specific Thresholds of Significance

The County does not have quantitative thresholds for evaluation of aesthetics; however, the following qualitative thresholds are used to evaluate the significance of aesthetics impacts resulting from implementation of the proposed project.

- Block existing views from a County-designated scenic roadway toward a County-designated scenic resource (e.g., ridgeline).
- Be inconsistent with the character of the plan area or existing development in the surrounding area or would substantially alter existing natural topography.

- Increase existing nighttime light or daytime glare sources in the plan area or vicinity in a manner that would substantially affect nighttime or daytime views.
- Reduce sunlight or introduce shadows to public parks and plazas, routinely usable outdoor spaces associated with recreational land uses, pedestrian-oriented commercial spaces such as outdoor eating areas, and existing solar facilities.

Impact Evaluation

Scenic Vistas

Impact AES-1: The proposed project would not have a substantial adverse effect on a scenic resource as identified in the General Plan.

There are no scenic resources, as defined by the General Plan, located on the project site. The nearest designated scenic resource to the project site is Diablo Ridge, located approximately 2.35 miles to the southeast, approximately 3.95 miles to the east, and approximately 7.45 miles to the northeast. The nearest scenic roads designated by the General Plan are I-680 and SR-24, which intersect approximately 1.9 miles south of the site. A significant impact would occur if construction of the proposed project would have a substantial adverse effect on a scenic vista,[10] as defined and identified in the General Plan. Due to the distance and intervening development, the project site is not visible from either of these scenic routes.[11]

Construction

Construction equipment would be present on the project site intermittently throughout the construction period and could be visible from scenic resources, although since its presence would be temporary, it would not result in a substantial impact to views from any scenic resources or routes. As the project site does not contain any designated scenic resources and is not visible from the nearest designated scenic routes, I-680 and SR-24, removal of the buildings and vegetation would not adversely impact existing views within the project vicinity. Therefore, impacts due to construction would be less than significant.

Operation

The General Plan's Open Space Element includes provisions to prohibit development on scenic ridges, hillsides and rock outcroppings where structures would interrupt the skyline, as well as alteration of slopes greater than 26 percent. There are no scenic ridges, hillsides, or rock outcroppings on the project site, nor are any scenic resources visible from the project site. As such, implementation of the project would not result in a substantial adverse effect on a scenic vista.

Level of Significance

Less than significant impact.

[10] A scenic vista is defined as a view point that provides expansive views of a highly valued landscape for the benefit of the general public.

[11] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan Transportation and Circulation Element. January 18. Website: https://www.contracosta.ca.gov/DocumentCenter/View/30915/Ch5-Transportation-and-Circulation-Element?bidId=. Accessed April 27, 2021.

Scenic Highways

Impact AES-2: The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State Scenic Highway.

Construction

A significant impact would occur if construction of the proposed project would substantially damage scenic resources as seen from a designated scenic highway. The nearest officially Designated State Scenic Highways are I-680 and SR-24 at their intersection, located approximately 1.9 miles south of the project site; because of the distance to these resources and intervening development, the project site is not visible from either route. In addition, there are no scenic resources, as designated by the General Plan located on the project site. Thus, demolition, grading, and other construction activities would not result in adverse impacts to scenic resources. Therefore, no temporary construction impact related to scenic resources within a State Scenic Highway would occur.

Operation

A significant impact would occur if operation of the proposed project would substantially damage scenic resources as seen from a designated scenic highway.

There are no officially designated State Scenic Highways or County scenic roadways in or adjacent to the project site. The nearest designated scenic routes are I-680 and SR-24 at their intersection, approximately 1.9 miles south of the project site. There are no scenic resources, as defined by the General Plan, located on the project site, of which a view would be available from a scenic highway or roadway. Given the absence of scenic highways proximate to the project site, the lack of designated scenic resources (i.e., ridgelines, hillsides, rock outcroppings) on the project site, and the presence of intervening development between the project site and the nearest scenic highways, the proposed project would not adversely affect views from a State Scenic Highway. Thus, impacts related to scenic resources within a State Scenic Highway would be less than significant.

Level of Significance

Less than significant impact.

Visual Character

Impact AES-3: The proposed project is in an urbanized area and would not conflict with applicable zoning and other regulations governing scenic quality.

Construction

Construction of the proposed project would include building demolition, removal of existing impervious surfaces, and vegetation removal. Construction would also include certain off-site improvements (frontage sidewalk, driveway curb, gutter improvements including retaining existing on-street parking and street tree planting). Thus, the construction could temporarily affect the existing visual character or quality of the project site and area. Considering the residential character of the project site surroundings, construction activities could temporarily affect existing visual character or quality of the project site and area. However, the area surrounding the project site

has a transit-oriented residential character with multi-family apartments located to the north and to the south. The construction of the project would temporarily affect visual character and quality of the area. However, construction-related impacts related to degradation of existing visual character or quality of the project site and area would be temporary and less than significant.

Operation

The analysis of operational impacts addresses both consistency with zoning and other regulations governing scenic quality, as well as changes to the existing visual character and quality.

The proposed project would change the visual character of the site. The buildings, impervious surfaces, and vegetation would be removed and the site would be developed with 125 townhome condominiums, surface parking, and associated landscaping. The proposed buildings would be 3-stories and approximately 37-43 feet in height. The exterior of the buildings would be composed of standard home-construction materials such as vinyl, metal, glass, and cement, with exterior color schemes of white and gray. Existing residential development in the surrounding area consists newer 3-story apartment buildings, as well as older 2-story apartments, and a few single-family dwellings. The proposed project as designed reflects higher density development in keeping with recent development in proximity to the Bay Area Rapid Transit (BART) Pleasant Hill/Contra Costa Centre station, including the newer Oak Treat Court buildings at the corner of Oak Road and Jones Road, constructed in 2003. The proposed project would be consistent with the character of the surrounding area, as it continues to transition toward higher density multi-family residential uses.

The General Plan designates the site as Multiple-Family Residential–High Density (MH). As part of project implementation, the zoning of the project site would be changed to Planned Unit District (P-1). The P-1 Zoning District is intended to support large-scale integrated development in compliance with the General Plan designations. The proposed project would be consistent with the Design Objectives identified in Section 84-66.1402 of the Ordinance Code related to the P-1 Zoning District. For example, the buildings bulk, height, land coverage, and visual appearance is compatible with existing adjoining development. In addition, the design of the buildings provides for harmonious composition of mass, scale, color, and textures.

The proposed project also includes implementation of a landscaping plan, including the planting approximately 250 trees and hundreds of shrubs, vines, and groundcover to replace trees proposed for removal in accordance with the expected permit requirements, expected to be issued as stated in Section 816.6 of the Ordinance Code. The establishment of trees and other plantings would support the transition of the site to reflect the residential character of surrounding properties. Therefore, impacts related to consistency with applicable scenic quality regulations and visual quality and character would be less than significant.

Level of Significance

Less than significant impact.

Light and Glare

Impact AES-4: The proposed project could create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Construction

Impacts related to degradation of existing visual character or quality of the project site and area are limited to operational impacts. No respective construction impacts would occur.

Operation

The proposed project would have a significant impact if substantial light or glare would adversely affect nighttime or daytime views, respectively, in the area. The proposed project would result in 125 townhouse condominiums with associated windows, as well as exterior lighting and signage.

As noted in the existing setting section, the site is surrounded by residential uses, as well as Oak Road and Jones Road, all of which contribute to the existing daytime glare and nighttime lighting of the area. The proposed project would result in the development of residential uses that would include nighttime security lighting consistent with surrounding uses. Potential sources of light associated with the proposed project would consist of typical sources of lighting associated with a residential development and from vehicles traveling to and from the project site. Exterior lighting would be located around and within the project site. Lampposts would be evenly dispersed within the project site, with safety lighting, as needed throughout the site.

In accordance with Section 76-4.612—Public Nuisance Lighting, the proposed project would be required to ensure that lighting fixtures be installed, controlled, or directed so that the light would not glare or be blinding to pedestrians or vehicular traffic or on adjoining property. Therefore, lighting impacts would be less than significant.

Glare resulting from the proposed residences' windows would be minimal and would be partially obscured by landscaping, depending on the time of day and the location of the reflecting light source. Furthermore, residential glass typically has a low reflectivity rate. Glare may also occur from on-site vehicles; however, such glare would be transient, depending upon the time of day and location of the vehicle.

Glare resulting from the proposed residences' windows would be minimal and would be partially obscured by landscaping, depending on the time of day and the location of the reflecting light source. Furthermore, residential glass typically has a low reflectivity rate. In addition, Mitigation Measure (MM) AES-4 requires exterior lighting be directed downward and away from adjacent properties and public/private right-of-way to prevent glare. As such, glare impacts would be less than significant with mitigation.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM AES-4 Prepare Final Lighting Plan

At least 30 days prior to applying for a building permit, the applicant shall submit for review and approval by the Department of Conservation and Development, Community Development Division a Final Lighting Plan. Exterior lighting must be directed downward and away from adjacent properties and public/private right-of-way to prevent glare or excessive light spillover.

Level of Significance After Mitigation

Less than significant impact.

3.1.5 - Cumulative Impacts

The geographic scope of the cumulative aesthetics analysis is the visible area surrounding the project site. The analysis also considers the foreseeable development projects listed in Table 3-1 (See Chapter 3, Environmental Setting) in the unincorporated County and surrounding cities, in addition to the proposed project.

Visual Character and Views

The development projects listed in Table 3-1 are mostly residential and commercial in nature. The proposed project and the projects listed in Table 3-1 propose urban development. None of the Cumulative Projects would be located within the same visible area as the proposed project.

The proposed project and Cumulative Projects 1 and 2 would be subject to the same County codes and guidelines related to building heights, setbacks, undergrounding of utilities, landscaping, signage, and permitted land uses. Cumulative Projects 3–13 would be subject to the codes and guidelines associated with the City of Walnut Creek related to building heights, setbacks, undergrounding of utilities, landscaping, signage, and permitted land uses. Cumulative Projects 14–24 would be subject to the codes and guidelines associated with the City of Pleasant Hill related to building heights, setbacks, undergrounding of utilities, landscaping, signage, and permitted land uses. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to visual character and views.

Light and Glare

The development projects listed in Table 3-1 are mostly residential and commercial in nature. The project and the projects listed in Table 3-1 propose urban development. None of the Cumulative Projects would be located within the same visible area. The nearest Cumulative Projects is Project 9, located approximately 0.4 mile and several blocks away from the proposed project, and therefore would not contribute to light and glare in the vicinity of the proposed project. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to light and glare.

Level of Cumulative Significance

Less than significant impact.

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Source: SDG Architects, Inc., June 3, 2021.

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Exhibit 3.1-1
Existing Site and Surrounding Context

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3.2 - Air Quality

3.2.1 - Introduction

This section describes existing air quality conditions regionally and locally as well as the relevant regulatory framework. This section also evaluates the possible impacts related to air quality that could result from implementation of the proposed project. Information in this section is based on project-specific air quality modeling results included in Appendix B. The following comments related to Air Quality were received during the Notice of Preparation (NOP) scoping period:

- The commenter states concern associated with demolition and construction such as pollutants release, subsidence, runoff, and foundation damage.
- The commenter states that construction and occupation would affect the community's air quality due to constant release of pollutants and greenhouse gases.
- The commenter states that release of asbestos during demolition would cause permanent damage to the community.
- The commenter states that the proposed project would exacerbate current congestion, noise, and air quality issues at the Treat Boulevard intersection.
- The commenter states that roof decks could lead to pollution, fire, safety, and noise concerns.
- The commenter states that the 15-foot setback is a concern for the neighboring residents due to foundations, noise, pollution, safety, and privacy concerns.
- The commenter raised concerns about air quality, air pollution, odor, and smells.
- The commenter raised concerns about air pollution.
- The commenter raised concern of construction air pollution.

3.2.2 - Environmental Setting

Regional Geography and Climate

Contra Costa County (County) is located within the San Francisco Bay Area Air Basin (Air Basin). The Air Basin is approximately 5,600 square miles in area and consists of nine counties that surround the San Francisco Bay, including all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties; the southwestern portion of Solano County; and the southern portion of Sonoma County. The San Francisco Bay Area (Bay Area) has a Mediterranean climate characterized by mild, dry summers and mild, moderately wet winters; moderate daytime onshore breezes, and moderate humidity.

A semi-permanent, high-pressure area centered over the northeastern Pacific Ocean dominates the summer climate of the West Coast. Because this high-pressure cell is persistent, storms rarely affect the California coast during the summer. Thus, the conditions that persist along the coast of California during summer are a northwest airflow and negligible precipitation. A thermal low-pressure area from the Sonoran-Mojave Desert also causes air to flow onshore over the Bay Area much of the summer.

The steady northwesterly flow around the eastern edge of the Pacific High (a high-pressure cell) exerts stress on the ocean surface along the West Coast. This induces upwelling of cold water from below the surface. Upwelling produces a band of cold water off San Francisco that is approximately 80 miles wide. During July, the surface waters off San Francisco are 3°F (degrees Fahrenheit) cooler than those off Vancouver, British Columbia, more than 900 miles to the north. Air approaching the California coast, already cool and moisture-laden from its long trajectory over the Pacific, is further cooled as it flows across this cold bank of water near the coast, thus accentuating the temperature contrast across the coastline. This cooling is often sufficient to produce condensation–a high incidence of fog and stratus clouds along the Northern California coast in summer.

In summer, the northwest winds to the west of the Pacific coastline are drawn into the interior through the gap in the western Coast Ranges, known as the Golden Gate, and over the lower portions of the San Francisco Peninsula. Immediately to the south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more nearly from the west as they stream through the Golden Gate. This channeling of the flow through the Golden Gate[1] produces a jet that sweeps eastward but widens downstream, producing southwest winds at Berkeley and northwest winds at San José; a branch also curves eastward through the Carquinez Straits and into the Central Valley. Wind speeds may be locally strong in regions where air is channeled through a narrow opening such as the Golden Gate, the Carquinez Strait, or San Bruno Gap. For example, the average wind speed at San Francisco International Airport from 3:00 a.m. to 4:00 p.m. in July is about 20 miles per hour (mph), compared with only about 8 mph at San José and less than 7 mph at the Farallon Islands.

The sea breeze between the coast and the Central Valley[2] commences near the surface along the coast in late morning or early afternoon; it may first be observed only through the Golden Gate. Later in the day, the layer deepens and intensifies while spreading inland. As the breeze intensifies and deepens, it flows over the lower hills farther south along the peninsula. This process frequently can be observed as a bank of stratus clouds "rolling over" the coastal hills on the west side of the Bay. The depth of the sea breeze depends in large part upon the height and strength of the inversion. The generally low elevation of this stable layer of air prevents marine air from flowing over the coastal hills. It is unusual for the summer sea breeze to flow over terrain exceeding 2,000 feet in elevation.

In winter, the Air Basin experiences periods of storminess, moderate-to-strong winds, and periods of stagnation with very light winds. Winter stagnation episodes are characterized by outflow from the Central Valley, nighttime drainage flows in coastal valleys, weak onshore flows in the afternoon, and otherwise light and variable winds.

A primary factor in air quality is the mixing depth (the vertical air column available for dilution of contaminant sources). Generally, the temperature of air decreases with height, creating a gradient from warmer air near the ground to cooler air at elevation caused by the sun converting large amounts of energy to sensible heat at the ground, which in turn warms the air at the surface. The warm air rises in the atmosphere, where it expands and cools. Sometimes, however, the temperature of air actually increases with height. This condition is known as temperature inversion

[1] A strait on the West Coast of North America that connects the San Francisco Bay to the Pacific Ocean.
[2] A flat valley that dominates the geographical center of California stretching 450 miles from north-northwest to south-southeast, inland from and parallel to the Pacific Ocean coast. It is bound by the Sierra Nevada to the east and the Coast Range to the west.

because the temperature profile of the atmosphere is "inverted" from its usual state. Over the Air Basin, the frequent occurrence of temperature inversions limits mixing depth and, consequently, limits the availability of air for dilution.

Air Pollutant Types, Sources, and Effects

Criteria Air Pollutants

Concentrations of criteria air pollutants are used as indicators of air quality conditions. Air pollutants are termed criteria air pollutants if they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. According to the United States Environmental Protection Agency (EPA), criteria air pollutants are ozone, particulate matter (PM_{10} and $PM_{2.5}$), nitrogen dioxide (NO_2), carbon monoxide (CO), lead, and sulfur dioxide (SO_2). Table 3.2-1 provides a summary of the types, sources, and effects of criteria air pollutants of national and California concern.

Table 3.2-1: Description of Criteria Pollutants of National and California Concern

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Ozone	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between reactive organic gases (ROG), nitrous oxides (NO_X), and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (ROG and NO_X) are mobile sources (on-road and off-road vehicle exhaust).	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.
Particulate matter (PM_{10}) Particulate matter ($PM_{2.5}$)	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter, (one micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal, and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.	• Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. • Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Nitrogen dioxide (NO_2)	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides—NO_X (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4, and N_2O_5). NO_X is a precursor to ozone, PM_{10}, and $PM_{2.5}$ formation. NO_X can react with compounds to form nitric acid and related small particles and result in particulate matter (PM) related health effects.	NO_X is produced in motor vehicle internal combustion engines and fossil-fuel-fired electric utility and industrial boilers. Nitrogen dioxide forms quickly from NO_X emissions. NO_2 concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contributions to atmospheric discoloration; increased visits to hospital for respiratory illnesses.
Carbon monoxide (CO)	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential woodburning, and natural sources.	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.
Sulfur dioxide (SO_2)	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 parts per million (ppm), the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO_X) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below State and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM_{10}.	Human caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethyl sulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Lead (Pb)	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded State or federal standards at any monitoring station since 1982.	Lead ore crushing, lead ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.

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Toxic Air Contaminants

Concentrations of toxic air contaminants (TAC) are also used as indicators of air quality conditions. TACs are defined as air pollutants that may cause or contribute to an increase in mortality or serious illness or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at very low concentrations. TACs can cause long-term health effects (such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage) or short-term acute affects (such as eye watering, respiratory irritation, runny nose, throat pain, or headaches). For TACs that may cause cancer, all concentrations present some risk. In other words, there is no threshold level below which some adverse health impacts are not expected to occur. This contrasts with the criteria pollutants such as nitrogen dioxide and carbon dioxide for which acceptable levels of exposure can be determined and for which the State and federal governments have set ambient air quality standards.

TACs are separated into carcinogens and noncarcinogens based on the nature of the physiological effects associated with exposure to a particular TAC. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. Cancer risk is typically expressed as excess cancer cases per million exposed individuals, typically over a lifetime exposure or other prolonged duration. For non-carcinogenic substances, there is generally an assumed safe level of exposure below which no negative health impact is believed to occur. These levels may vary depending on the specific pollutant. Acute and chronic exposure to noncarcinogens is expressed as a hazard index (HI), which is the ratio of expected exposure levels to an acceptable reference exposure levels.

To date, the California Air Resources Board (ARB) has designated nearly 200 compounds as TACs. The ARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risk from TACs can be attributed to a relatively few compounds, the most important being diesel particulate matter (DPM) from diesel-fueled engines. Common TACs of national and California concern include DPM, reactive organic gases (ROG), benzene, asbestos, hydrogen sulfide, sulfates, visibility-reducing particulates, vinyl chloride, and lead. Table 3.2-2 provides a summary of the types, sources, and effects of TACs of national and California concern.

Table 3.2-2: Description of Toxic Air Contaminants of National and California Concern

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Diesel Particulate Matter (DPM)	DPM is a source of $PM_{2.5}$—diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total PM mass, which consists of compounds	Diesel exhaust is a major source of ambient PM pollution in urban environments. Typically, the main source of DPM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical	Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
	such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust.	generators, and various pieces of stationary construction equipment.	among those suffering from respiratory problems. Human studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.
ROGs	ROGs, or volatile organic compounds (VOC), are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably.	Indoor sources of ROGs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of ROGs are from combustion and fuel evaporation. A reduction in ROG emissions reduces certain chemical reactions that contribute to the formulation of ozone. ROGs are transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.	Although health-based standards have not been established for ROGs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of ROGs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many ROGs have been classified as TACs.
Benzene	Benzene is a ROG. It is a clear or colorless light-yellow, volatile, highly flammable liquid with a gasoline-like odor. The EPA has classified benzene as a "Group A" carcinogen.	Benzene is emitted into the air from fuel evaporation, motor vehicle exhaust, tobacco smoke, and from burning oil and coal. Benzene is used as a solvent for paints, inks, oils, waxes, plastic, and rubber. Benzene occurs naturally in gasoline at 1 to 2 percent by volume. The primary route of human exposure is through inhalation.	Short-term (acute) exposure of high doses from inhalation of benzene may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation, and at higher levels, loss of consciousness can occur. Long-term (chronic) occupational exposure of high doses has caused blood disorders, leukemia, and lymphatic cancer.
Asbestos	Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three	Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States.	Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
	most common types of asbestos are chrysotile, amosite, and crocidolite.		non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present.
Hydrogen Sulfide	Hydrogen sulfide (H_2S) is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide. Anthropogenic sources include the combustion of sulfur containing fuels (oil and coal).	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.
Sulfates	Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.	(a) Decrease in ventilatory function. (b) Aggravation of asthmatic symptoms. (c) Aggravation of cardio-pulmonary disease. (d) Vegetation damage. (e) Degradation of visibility. (f) Property damage.
Visibility-reducing Particles	Suspended PM is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter (1 micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal; and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.	• Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravates existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. • Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Vinyl Chloride	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, the California Air Resources Board (ARB) identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.
Lead (Pb)	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded State or federal standards at any monitoring station since 1982.	Lead ore crushing, lead ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.

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Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
United States Environmental Protection Agency (EPA). 2020. Particulate Matter (PM) Pollution. Health and Environmental Effects of Particulate Matter (PM). Website: https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm. Accessed June 9, 2021. United States Environmental Protection Agency (EPA). 2020. Health Effects Notebook for Hazardous Air Pollutants. Website: www.epa.gov/ttn/atw/hlthef/hapindex.html. Accessed June 9, 2021. United States Environmental Protection Agency (EPA). 2021. Indoor Air Quality (IAQ). Volatile Organic Compounds' Impact on Indoor Air Quality. Website: https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality. Accessed June 9, 2021. United States Environmental Protection Agency (EPA). 2021. Health Effects of Ozone Pollution. Website: https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution. Accessed June 9, 2021.			

Community Risk

To reduce exposure to TACs, the ARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) to provide guidance regarding the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when siting sensitive receptors near existing pollution sources. The ARB's recommendations were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity substantially increases exposure and the potential for adverse health effects. Three carcinogenic TACs constitute the majority of the known health risks from motor vehicle traffic—DPM from trucks and benzene and 1,3-butadiene from passenger vehicles. ARB recommendations are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following ARB minimum distance separations.

Air Quality

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features. Atmospheric conditions such as wind speed, wind direction, and air temperature inversions interact with the physical features of the landscape to determine the movement and dispersal of air pollutant emissions and, consequently, their effect on air quality.

Regional Air Quality

The Bay Area Air Quality Management District (BAAQMD) is the regional agency with jurisdiction for regulating air quality within the nine county Air Basin, which includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the western portion of Solano County, and the southern portion of Sonoma County.

Air Pollutant Standards and Attainment Designations

Air pollutant standards have been identified by the EPA and the ARB for the following six criteria air pollutants that affect ambient air quality: ozone, NO_2, CO, SO_2, lead, and particulate matter (PM), which is subdivided into two classes based on particle size: PM with aerodynamic diameters equal to

or less than 10 microns (PM_{10}), and PM with aerodynamic diameters equal to or less than 2.5 microns ($PM_{2.5}$). These air pollutants are called "criteria air pollutants," because they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. California has also established standards for TACs such as visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. Table 3.2-3 presents the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) for these aforementioned air pollutants. Note that there are no State or federal ambient air quality standards for ROGs, benzene, or DPM.

Table 3.2-3: Federal and State Air Quality Standards in the Air Basin

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]
Ozone	1 Hour	0.09 ppm	—
	8 Hour	0.070 ppm	0.070 ppm[f]
Nitrogen dioxide[b] (NO_2)	1 Hour	0.18 ppm	0.100 ppm
	Annual	0.030 ppm	0.053 ppm
Carbon monoxide (CO)	1 Hour	20 ppm	35 ppm
	8 Hour	9.0 ppm	9 ppm
Sulfur dioxide[c] (SO_2)	1 Hour	0.25 ppm	0.075 ppm
	3 Hour	—	0.5 ppm
	24 Hour	0.04 ppm	0.14 (for certain areas)
	Annual	—	0.030 ppm (for certain areas)
Lead[e]	30-day	1.5 µg/m^3	—
	Quarter	—	1.5 µg/m^3
	Rolling 3-month average	—	0.15 µg/m^3
Particulate matter (PM_{10})	24 hour	50 µg/m^3	150 µg/m^3
	Mean	20 µg/m^3	—
Particulate matter ($PM_{2.5}$)	24 Hour	—	35 µg/m^3
	Annual	12 µg/m^3	12.0 µg/m^3
Visibility-reducing particles	8 Hour	See note below[d]	
Sulfates	24 Hour	25 µg/m^3	—
Hydrogen sulfide	1 Hour	0.03 ppm	—
Vinyl chloride[e]	24 Hour	0.01 ppm	—

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]

Notes:
ppm = parts per million (concentration) µg/m^3 = micrograms per cubic meter Annual = Annual Arithmetic Mean
30-day = 30-day average Quarter = Calendar quarter

[a] Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3-Hour SO_2, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[b] To attain the 1-hour nitrogen dioxide 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 parts per billion (0.100 ppm).

[c] 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 part per billion (ppb). The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

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

[e] The 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.

[f] The EPA Administrator approved a revised 8-hour ozone standard of 0.07 ppb on October 1, 2015. The new standard went into effect 60 days after publication of the Final Rule in the Federal Register. The Final Rule was published in the Federal Register on October 26, 2015, and became effective on December 28, 2015.

Source:
California Air Resources Board (ARB). 2016. Ambient Air Quality Standards. May 4. Website: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf. Accessed June 9, 2021.

Air quality monitoring stations operated by the ARB and BAAQMD measure ambient air pollutant concentrations in the Air Basin. In general, the Air Basin experiences low concentrations of most pollutants compared to federal or State standards.

Both the EPA and ARB use ambient air quality monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and initiate planning efforts for improvement. The three basic designation categories are non-attainment, attainment, and unclassified. "Attainment" status refers to those regions that are meeting federal and/or State standards for a specified criteria pollutant. "Non-attainment" refers to regions that do not meet federal and/or State standards for a specified criteria pollutant. "Unclassified" refers to regions where there is not enough data to determine the region's attainment status for a specified criteria air pollutant. Each standard has a different definition, or "form" of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

Table 3.2-4 shows the current attainment designations for the Air Basin. The Air Basin is designated as non-attainment for the State ozone, PM_{10}, and $PM_{2.5}$, standards, and the national ozone and $PM_{2.5}$ standards.

Table 3.2-4: San Francisco Bay Area Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone	Non-attainment	Non-attainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	N/A
PM_{10}	Non-attainment	Unclassified
$PM_{2.5}$	Non-attainment	Non-attainment
Sulfates	Attainment	N/A
Hydrogen Sulfates	Unclassified	N/A
Visibility-reducing Particles	Unclassified	N/A
Lead	N/A	Attainment

Notes: N/A = information not available.
Source: Bay Area Air Quality Management District (BAAQMD). 2017. Air Quality Standards and Attainment Status. January 5. Website: http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status. Accessed June 9, 2021.

Air Quality Index

The health impacts of the various air pollutants of concern can be presented in a number of ways. The clearest comparison is to the State and federal ozone standards. If concentrations are below the standard, it is safe to say that no health impact would occur to anyone. When concentrations exceed the standard, impacts will vary based on the amount by which the standard is exceeded. The EPA developed the Air Quality Index (AQI) as an easy-to-understand measure of health impacts compared with concentrations in the air. Table 3.2-5 provides a general description of the health impacts of ozone at different concentrations.

Table 3.2-5: Air Quality Index and Health Effects from Ozone

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI 0–50: Good	**Sensitive Groups**: Children and people with asthma are the groups most at risk.
Concentration 0–54 ppb	**Health Effects Statements**: None.
	Cautionary Statements: None.
AQI 51–100: Moderate	**Sensitive Groups**: Children and people with asthma are the groups most at risk.
Concentration 55–70 ppb	**Health Effects Statements**: Unusually sensitive individuals may experience respiratory symptoms.
	Cautionary Statements: Unusually sensitive people should consider limiting prolonged outdoor exertion.

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI 101–150: Unhealthy for Sensitive Groups Concentration 71–85 ppb	**Sensitive Groups**: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults, and people with respiratory disease, such as asthma.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
AQI 151–200: Unhealthy Concentration 86–105 ppb	**Sensitive Groups**: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
AQI 201–300: Very Unhealthy Concentration 106–200 ppb	**Sensitive Groups**: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.
Source: Air Now. N.d. AQI Calculator: AQI to Concentration Calculator. Website: https://www.airnow.gov/aqi/aqi-calculator. Accessed March 17, 2021.	

Local Air Quality

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features. Atmospheric conditions such as wind speed, wind direction, and air temperature inversions interact with the physical features of the landscape to determine the movement and dispersal of air pollutant emissions and, consequently, their effect on air quality.

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. The air quality monitoring station closest to the project site is the Concord-2975 Treat Boulevard Air Monitoring site, which is located approximately 2 miles northeast of the project site. Table 3.2-6 summarizes the recorded ambient air data at the representative monitoring stations for years 2017 through 2019, which is the most current data available at the time of this writing. As

Table 3.2-6 shows, the recorded data show exceedances of the California standards for ozone (1-hour and 8-hour) and PM_{10}, and national standards for 8-hour ozone, $PM_{2.5}$, and PM_{10} on multiple occasions from 2016 to 2018. No exceedances of either the State or national standards were recorded for CO, NO_2, or SO_2. No recent monitoring data for the County or the Air Basin was available for CO or SO_2. Generally, no monitoring is conducted for pollutants that are no longer likely to exceed ambient air quality standards.

Table 3.2-6: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2017	2018	2019
Ozone(1)	1 Hour	Max 1 Hour (ppm)	0.082	**0.077**	0.092
		Days > State Standard (0.09 ppm)	0	0	0
	8 Hour	Max 8 Hour (ppm)	0.070	0.061	0.074
		Days > State Standard (0.07 ppm)	0	0	2
		Days > National Standard (0.070 ppm)(2)	0	0	2
CO	8 Hour	Max 8 Hour (ppm)	ND	ND	ND
		Days > State Standard (9.0 ppm)	ND	ND	ND
		Days > National Standard (9 ppm)	ND	ND	ND
NO_2(1)	Annual	Annual Average (ppm)	0.006	0.006	0.005
	1 Hour	Max 1 Hour (ppm)	0.040	0.038	0.040
		Days > State Standard (0.18 ppm)	0	0	0
SO_2	Annual	Annual Average (ppm)	ND	ND	ND
	24 Hour	Max 24 Hour (ppm)	ND	ND	ND
		Days > State Standard (0.04 ppm)	ND	ND	ND
Inhalable coarse particles (PM_{10})(1)	Annual	Annual Average (µg/m^3)	ID	**16.2**	ID
	24 Hour	24 Hour (µg/m^3)	41	**105**	**36**
		Days > State Standard (50 µg/m^3)	ID	**11.5**	ID
		Days > National Standard (150 µg/m^3)	ID	0	0
Fine particulate matter ($PM_{2.5}$)(1)	Annual	Annual Average (µg/m^3)	12	ID	6.8
	24 Hour	24 Hour (µg/m^3)	**89.4**	**159.2**	**28.2**
		Days > National Standard (35 µg/m^3)	6	**14.2**	0

Air Pollutant	Averaging Time	Item	2017	2018	2019
Notes: > = exceed ppm = parts per million µg/m^3 = micrograms per cubic meter ID = insufficient data ND = no data max = maximum **Bold** = exceedance State Standard = California Ambient Air Quality Standard National Standard = National Ambient Air Quality Standard (1) Concord-2975 Treat Boulevard Air Monitoring site (2) On October 1, 2015, the EPA strengthened the NAAQS for ground-level ozone to 70 parts per million through the adoption of a new standard. The Final Rule went into effect on December 28, 2015. Source: California Air Resources Board (ARB). 2018. iADAM: Select 8 Summary. Website: https://www.arb.ca.gov/adam/select8/sc8start.php. Accessed June 9, 2021.					

Air Pollution Sensitive Receptors

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others are. Land uses such as residences, schools, day care centers, hospitals, nursing and convalescent homes, and parks are considered the most sensitive to poor air quality, because the population groups associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than that for other land uses. Therefore, these groups are referred to as sensitive receptors. Exposure assessment guidance typically assumes that residences would receive exposure to air pollution 24 hours per day, 350 days per year, for 70 years. The BAAQMD defines sensitive receptors as children, adults, and seniors occupying or residing in residential dwellings, schools, day care centers, hospitals, and senior-care facilities.

Project Vicinity

The project site is surrounded by existing residences to the south, east, and north of the project site. The closest off-site air pollution sensitive receptors in the vicinity of the project site include multi-family apartments north and south of the project site as well as single-family residences east of the project site across Oak Road. It is important to note that these receptors do not necessarily represent the maximally impacted sensitive receptor as the combination of prevailing meteorological conditions, emission source location, and receptor location all influence what receptor is most impacted by air pollutants.

Project Site

The 5.94-acre project site consists of eight existing legal parcels; refer to Exhibit 2-5 in Section 2, Project Description. The project site is relatively flat (approximately 90 and 95 feet above mean sea level). The regional topographic gradient slopes gently to the northeast. The site is developed with structures associated with the former Palmer School for Boys and Girls, a private K-8 school that operated at the project site from 1939 until its closure due to COVID-19 in June 2020.

The former school consists of 14 vacant buildings and associated structures, including classrooms, an auditorium, a front office, a paved courtyard, a grass field, tennis courts, basketball courts playgrounds, a swimming pool, parking lots and planters. Multiple storage sheds are present on the school site. The classrooms, located in the southern portion of the school site, are generally empty

or used as storage rooms for classroom materials. Situated outside of the classrooms are rows of lockers, bathrooms, and a janitorial supply closet with a boiler. A landscaping area behind the classrooms along the southern boundary of the project site includes planter boxes, storm drain lines, and power boxes, and a partially uncovered pipe which appears to be related to storm drainage. In the southeast corner of the project site is a 2-story auditorium formerly used as a storage area containing a kitchen, stage, water heater, and empty storage rooms on the second floor.

Structures in the northern portion of the project site are associated with previous residential uses that were converted into storage areas for the school; these structures are all now vacant. East of these buildings is an unpaved lot.

Existing Air Pollutant Emissions

Project Site Vicinity

The primary sources of air pollutants (both criteria air pollutant and TACs) in the project site vicinity include the various surrounding residential properties, building-related energy use, and motor-related vehicle trips associated with the local business use, particularly on the major nearby roadways, Oak Road, Treat Boulevard, and Highway 680. Other sources of emissions include space and water heating, landscape maintenance, and any surrounding commercial uses which have the potential to contain BAAQMD-permitted stationary source equipment or store, produce, decommission, or otherwise handle hazardous materials.

Project Site

The project site consists of vacant buildings and does not produce any air pollutants.

The project site is located in an area identified by the BAAQMD Community Air Risk Evaluation (CARE) Program as containing a high-risk for concentrated air pollutants and toxins.[3] The CARE Program was established by California State Assembly Bill (AB) 617 (C. Garcia. Chapter 136, Statutes of 2017) which requires the ARB, Air Quality Management Districts (AQMDs), and communities to establish and enforce community-scaled emissions and air pollution monitoring programs in high-risk areas for non-vehicular air pollutants and TACs to meet updated air quality standards. The main focus of the CARE Program is to reduce additional air pollutant exposure in communities that are already severely impacted by air pollution. The project site and East Walnut Creek area are subject to AB 617 and are closely monitored by regional community air pollution monitoring programs.

3.2.3 - Regulatory Framework

Federal

Clean Air Act

Congress established much of the basic structure of the Clean Air Act (CAA) in 1970 and made major revisions in 1977 and 1990. The CAA addresses six common air pollutants (also known as criteria pollutants). These are PM, ground-level ozone, CO, sulfur oxides, nitrogen oxides, and lead. The EPA

[3] Bay Area Air Quality Management District (BAAQMD). 2020. Community Air Risk Evaluation Program. Website: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program. Accessed June 9, 2021.

calls these pollutants criteria air pollutants because it regulates them by developing human health-based and/or environmentally based criteria (science-based guidelines) for setting permissible levels. The set of limits based on human health are called primary standards. Another set of limits intended to prevent environmental and property damage are called secondary standards.[4] The federal standards are called NAAQS. The air quality standards provide benchmarks for determining whether air quality is healthy at specific locations and whether development activities will cause or contribute to a violation of the standards. The criteria pollutants are:

- Ozone
- Nitrogen dioxide (NO_2)
- Lead
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Carbon monoxide (CO)
- Sulfur dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the EPA is tasked with updating the standards as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.

The CAA also requires each state to prepare an Air Quality Plan (AQP) referred to as a State Implementation Plan (SIP). The federal CAA Amendments of 1990 added requirements for states with non-attainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies.

EPA Emission Standards for New Off-Road Equipment

Before 1994, there were no standards to limit the amount of emissions from off-road equipment. In 1994, the EPA established emission standards for hydrocarbons, NO_X, CO, and PM to regulate new pieces of off-road equipment. These emission standards came to be known as Tier 1. Since that time, the EPA and ARB have adopted increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards. Each adopted emission standard was phased in over time. New engines built in and after 2015 across all horsepower sizes must meet Tier 4 final emission standards. In other words, new manufactured engines cannot exceed the emissions established for Tier 4 final emissions standards.

State

California Air Quality Control Plan (State Implementation Plan)

An SIP is a document prepared by each State describing existing air quality conditions and measures intended to attain and maintain federal standards. The SIP for the State of California is administered by the ARB, which has overall responsibility for Statewide air quality maintenance and air pollution prevention. California's SIP incorporates individual federal attainment plans for regional air districts—an air district prepares their federal attainment plan and sends it to the ARB for approval and incorporation into the California SIP.

[4] United States Environmental Protection Agency (EPA). 2017. Clean Air Act Requirements and History. Website: https://www.epa.gov/clean-air-act-overview/clean-air-act-requirements-and-history. Accessed June 9, 2021.

Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms for attaining and maintaining air quality standards.

Areas designated non-attainment must develop AQPs and regulations to achieve standards by specified dates, depending on the severity of the exceedances. For much of the country, implementation of federal motor vehicle standards and compliance with federal permitting requirements for industrial sources are adequate to attain air quality standards on schedule. For many areas of California, however, additional State and local regulation is required to achieve the standards.

California Clean Air Act

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the federal CAA at the time. California's air quality problems were and continue to be some of the most severe in the nation, and required additional actions beyond the federal mandates. The ARB administers the CAAQS for the 10 air pollutants designated in the CCAA. The 10 State air pollutants are the six federal standards listed above as well as visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The EPA authorized California to adopt its own regulations for motor vehicles and other sources that are more stringent than similar federal regulations implementing the CAA. Generally, the planning requirements of the CCAA are more stringent than the federal CAA; therefore, consistency with the CAA will also demonstrate consistency with the CCAA.

Other ARB responsibilities include but are not limited to overseeing local air district compliance with California and federal laws; approving local AQPs; submitting SIPs to the EPA; monitoring air quality; determining and updating area designations and maps; conducting basic research aimed at providing a better understanding between emissions and public well-being, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

California Health and Safety Code Section 39655 and California Code of Regulations Title 17 Section 93000 (Substances Identified as Toxic Air Contaminants)

The ARB identifies substances as TACs as defined in Health and Safety Code Section 39655 and listed in Title 17, Section 93000 of the California Code of Regulations, "Substances Identified As Toxic Air Contaminants." A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. In general, for those TACs that may cause cancer, regulatory agencies set thresholds below which adverse health impacts are not expected to occur. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the State and federal governments have set ambient air quality standards. According to the California Almanac of Emissions and Air Quality, the majority of the estimated health risk from TACs for the State of California can be attributed to relatively few compounds, the most important of which is DPM from diesel-fueled engines.

California Low Emission Vehicle Program

The ARB first adopted Low Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 SIP. In 2012, the ARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program, include more stringent emission standards for model years 2017 through 2025 for both criteria pollutants and greenhouse gas (GHG) emissions for new passenger vehicles.[5]

California On-Road Heavy-Duty Vehicle Program

The ARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, and test procedures. The ARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.[6]

California In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, the ARB adopted a regulation to reduce DPM and NO_X emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The ARB is enforcing that part of the rule with fines up to $10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NO_X emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements, making the first compliance deadline January 1, 2014, for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501-5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses, and to privately and publicly owned school buses with a gross vehicle weight rating greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks.[7]

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[5] California Air Resources Board (ARB). 2021. California's Greenhouse Gas Vehicle Emission Standards under Assembly Bill 1493 of 2002 (Pavley). Website: http://www.arb.ca.gov/cc/ccms/ccms.htm. Accessed June 9, 2021.

[6] California Air Resources Board (ARB). 2021. The California Almanac of Air Quality and Emissions—2013 Edition. Website: http://www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm. Accessed June 9, 2021.

[7] California Air Resources Board (ARB). 2014. FINAL REGULATION ORDER. Title 13, California Code of Regulations. Division 3: Air Resources Board. Chapter 1: Motor Vehicle Pollution Control Devices. Website: https://ww3.arb.ca.gov/msprog/onrdiesel/documents/tbfinalreg.pdf?_ga=2.106485507.1633282906.1617298673-611272733.1590599157. Accessed June 9, 2021.

California Airborne Toxic Control Measures for Asbestos

The ARB has adopted Airborne Toxic Control Measures (ATCM) for sources that emit a particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology to minimize emissions.

In July 2001, the ARB approved an ATCM for construction, grading, quarrying and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of Best Management Practices (BMPs) to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification and engineering controls prior to grading, quarrying, or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than one acre in size. These projects require the submittal of a "Dust Mitigation Plan" and approval by the ARB prior to the start of a project.

Construction sometimes requires the demolition of existing buildings where construction occurs. Asbestos is also naturally occurring. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, is associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

The ARB has an ATCM for construction, grading, quarrying, and surface mining operations, requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. The measure applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely found. Areas are subject to the regulation if they are identified on maps published by the United States Geological Survey (USGS) as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The measure also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity. Review of USGS maps indicates that no ultramafic rock has been found near the project site with areas more likely to contain naturally occurring asbestos approximately 3 miles southeast of the project site in the area around Shell Ridge Open Space and Diablo Foothills Regional Park.[8]

Verified Diesel Emission Control Strategies

The EPA and the ARB tiered off-road emission standards only apply to new engines and off-road equipment can last several years. The ARB has developed Verified Diesel Emission Control Strategies (VDECS), which are devices, systems, or strategies used to achieve the highest level of pollution

[8] United States Geological Survey. 2011. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California. Website: https://pubs.usgs.gov/of/2011/1188/. Accessed June 21, 2021.

control from existing off-road vehicles, to help reduce emissions from existing engines. VDECS are designed primarily for the reduction of DPM emissions and have been verified by ARB. There are three levels of VDECS, the most effective of which is the Level 3 VDECS. Tier 4 engines are not required to install VDECS because they already meet the emissions standards for lower tiered equipment with installed controls.

California Diesel Risk Reduction Plan

The ARB Diesel Risk Reduction Plan has led to the adoption of new State regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines, and vehicles to reduce DPM emissions in 2020 by about 90 percent overall from year 2000 levels. The projected emission benefits associated with the full implementation of this plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010, and 85 percent by 2020.[9]

Tanner Air Toxics Act and Air Toxics Hot Spots Information and Assessment Act

TACs in California are primarily regulated through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588), also known as the Hot Spots Act. To date, the ARB has identified more than 21 TACs, and has adopted the EPA's list of Hazardous Air Pollutants (HAPs) as TACs.

Carl Moyer Memorial Air Quality Standards Attainment Program

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program), a partnership between the ARB and local air districts, issues grants to replace or retrofit older engines and equipment with engines and equipment that exceed current regulatory requirements to reduce air pollution. Money collected through the Carl Moyer Program complements California's regulatory program by providing incentives to effect early or extra emission reductions, especially from emission sources in environmental justice communities and areas disproportionately affected by air pollution. The program has established guidelines and criteria for the funding of emissions reduction projects. Within the Air Basin, the BAAQMD administers the Carl Moyer Program. The program has established guidelines and criteria for the funding of emissions reduction projects and has established cost-effectiveness criteria for funding emission reductions projects, which under the final 2017 Carl Moyer Program Guidelines are $30,000 per weighted ton of NO_X, ROG, and PM.[10]

Regional

BAAQMD California Environmental Quality Act Air Quality Guidelines

The BAAQMD is the primary agency responsible for ensuring that air quality standards (NAAQS and CAAQS) are attained and maintained in the Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The BAAQMD prepares plans to attain ambient air quality standards in the Air Basin, and prepares ozone attainment plans for the national ozone standard, clean air plans for the California standard, and PM plans to fulfill federal air quality planning requirements. The BAAQMD also

[9] California Air Resources Board (ARB). 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October. Website: http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf. Accessed June 9, 2021.

[10] California Air Resources Board (ARB). 2017. The Carl Moyer Program Guidelines: 2017 Revisions – Volume I. June 20. Website: https://ww2.arb.ca.gov/sites/default/files/classic/msprog/moyer/guidelines/2017/2017_cmpgl.pdf. Accessed June 9, 2021.

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, the CAA Amendments of 1990, and the CCAA.

The BAAQMD developed quantitative thresholds of significance for its California Environmental Quality Act (CEQA) Guidelines in 2010, which were also included in its updated 2011 Guidelines. The BAAQMD's adoption of the 2010 thresholds of significance was later challenged in court. In an opinion issued on December 17, 2015, related to the BAAQMD CEQA Guidelines, the California Supreme Court held that CEQA does not generally require an analysis of the impacts of locating development in areas subject to environmental hazards unless the proposed project would exacerbate existing environmental hazards. The California Supreme Court also found that CEQA requires the analysis of exposing people to environmental hazards in specific circumstances, including the location of development near airports, schools near sources of toxic contamination, and certain exemptions for infill and workforce housing. The California Supreme Court also held that public agencies remain free to voluntarily conduct this analysis not required by CEQA for their own public projects (*CBIA v. BAAQMD (2016) 2 Cal. App.5th 1067, 1083*).

In view of the California Supreme Court's opinion, the BAAQMD published a new version of its CEQA Guidelines in May 2017. The BAAQMD CEQA Guidelines state that local agencies may rely on thresholds designed to reflect the impact of locating development near areas of toxic air contamination where such an analysis is required by CEQA, or where the agency has determined that such an analysis would assist in making a decision about the proposed project. However, the thresholds are not mandatory, and agencies should apply them only after determining that they reflect an appropriate measure of a project's impacts. The BAAQMD's guidelines for implementation of the thresholds are for informational purposes only, to assist local agencies.

BAAQMD Particulate Matter Plan

To fulfill federal air quality planning requirements, the BAAQMD adopted a $PM_{2.5}$ emissions inventory for year 2010 at a public hearing on November 7, 2012. The Bay Area Clean Air Plan also included several measures for reducing PM emissions from stationary sources and woodburning. On January 9, 2013, the EPA issued a Final Rule determining that the Bay Area has attained the 24-hour $PM_{2.5}$ NAAQS, suspending federal SIP planning requirements for the Air Basin.[11] Despite this EPA action, the Air Basin will continue to be designated as non-attainment for the national 24-hour $PM_{2.5}$ standard until the BAAQMD submits a redesignation request and a maintenance plan to the EPA, and the EPA approves the proposed redesignation.

The Air Basin is designated non-attainment for the State PM_{10} and $PM_{2.5}$ standards, but it is currently unclassified for the federal PM_{10} standard and non-attainment for federal $PM_{2.5}$ standards. The EPA lowered the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006, and designated the Air Basin as non-attainment for the new $PM_{2.5}$ standard effective December 14, 2009.

[11] United States Environmental Protection Agency (EPA). 2013. Determination of Attainment for the San Francisco Bay Area Non-attainment Area for the 2006 Fine Particle Standard; California; Determination Regarding Applicability of Clean Air Act Requirements. January 9. Website: https://www.govinfo.gov/content/pkg/FR-2013-01-09/pdf/2013-00170.pdf. Accessed June 9, 2021.

On December 8, 2011, the ARB submitted a "clean data finding" request to the EPA on behalf of the Bay Area. If the clean data finding request is approved, then EPA guidelines provide that the region can fulfill federal $PM_{2.5}$ SIP requirements by preparing either a redesignation request and a $PM_{2.5}$ maintenance plan, or a "clean data" SIP submittal. Because peak $PM_{2.5}$ levels can vary from year to year based on natural, short-term changes in weather conditions, the BAAQMD believes that it would be premature to submit a redesignation request and $PM_{2.5}$ maintenance plan at this time. Therefore, the BAAQMD will prepare a "clean data" SIP to address the required elements, including:

- An emission inventory for primary $PM_{2.5}$, as well as precursors to secondary PM formation
- Amendments to the BAAQMD's New Source Review regulation to address $PM_{2.5}$

BAAQMD 2017 Clean Air Plan

On May 2017, the BAAQMD adopted the final Bay Area 2017 Clean Air Plan. The BAAQMD prepared the 2017 Clean Air Plan in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). The goals of the 2017 Clean Air Plan are to reduce regional air pollutants and climate pollutants to improve the health of Bay Area residents for the next decades. The 2017 Clean Air Plan aims to lead the region into a post-carbon economy, continue progress toward attaining all State and federal air quality standards, and eliminate health risk disparities from air pollution exposure in Bay Area communities. The Plan includes 85 distinct control measures to help the region reduce air pollutants and has a long-term strategic vision that forecasts what a clean air Bay Area will look like in year 2050. The 2017 Clean Air Plan envisions a future whereby the year 2050:

- Buildings will be energy efficient—heated, cooled and powered by renewable energy.
- Transportation will be a combination of electric vehicles, both shared and privately owned; autonomous public transit fleets; with a large share of trips by bicycling, walking, and transit.
- The Bay Area will be powered by clean, renewable electricity and will be a leading incubator and producer of clean energy technologies leading the world in the carbon-efficiency of our products.
- Bay Area residents will have developed a low-carbon lifestyle by driving electric vehicles, living in zero net energy homes, eating low-carbon foods, and purchasing goods and services with low-carbon content.
- Waste will be greatly reduced, waste products will be re-used or recycled, and all organic waste will be composted and put to productive use.

The focus of control measures includes aggressively targeting the largest source of GHG, ozone pollutants and PM emissions—transportation. This includes more incentives for electric vehicle infrastructure, off-road electrification projects such as Caltrain and shore power at ports, and reducing emissions from trucks, school buses, marine vessels, locomotives, and off-road equipment. Additionally, the BAAQMD will continue to work with regional and local governments to reduce Vehicle Miles Traveled (VMT) through the further funding of rideshare, bike and shuttle programs.

BAAQMD Regulations

Regulation 2, Rule 5 (New Source Review Permitting)

The BAAQMD regulates backup emergency generators, fire pumps, and other sources of TACs through its New Source Review (Regulation 2, Rule 5) permitting process.[12] Although emergency generators are intended for use only during periods of power outages, monthly testing of each generator is required; however, the BAAQMD limits testing to no more than 50 hours per year. Each emergency generator installed is assumed to meet a minimum of Tier 2 emission standards (before control measures). As part of the permitting process, the BAAQMD limits the excess cancer risk from any facility to no more than 10 per 1-million-population for any permits that are applied for within a 2-year period and would require any source that would result in an excess cancer risk greater than 1 per 1 million to install Best Available Control Technology (BACT) for Toxics.

Regulation 8, Rule 3 (Architectural Coatings)

This rule governs the manufacture, distribution, and sale of architectural coatings and limits the ROG content in paints and paint solvents. Although this rule does not directly apply to the proposed project, it does dictate the ROG content of paint available for use during the construction.

Regulation 8, Rule 15 (Emulsified and Liquid Asphalts)

Although this rule does not directly apply to the proposed project, it does dictate the reactive organic gases content of asphalt available for use during the construction through regulating the sale and use of asphalt and limits the ROG content in asphalt.

Regulation 1, Rule 301 (Odorous Emissions)

The BAAQMD is responsible for investigating and controlling odor complaints in the Bay Area. The agency enforces odor control by helping the public to document a public nuisance. Upon receipt of a complaint, the BAAQMD sends an investigator to interview the complainant and to locate the odor source if possible. The BAAQMD typically brings a public nuisance court action when there are a substantial number of confirmed odor events within a 24-hour period. An odor source with five or more confirmed complaints per year, averaged over 3 years is considered to have a substantial effect on receptors.

Several BAAQMD regulations and rules apply to odorous emissions. Regulation 1, Rule 301 is the nuisance provision that states that sources cannot emit air contaminants that cause nuisance to a number of persons. Regulation 7 specifies limits for the discharge of odorous substances where the BAAQMD receives complaints from 10 or more complainants within a 90-day period. Among other things, Regulation 7 precludes discharge of an odorous substance that causes the ambient air at or beyond the property line to be odorous after dilution with four parts of odor-free air, and specifies maximum limits on the emission of certain odorous compounds.

Plan Bay Area

On July 18, 2013, ABAG and the MTC approved the Plan Bay Area. The Plan Bay Area includes integrated land use and transportation strategies for the region and was developed through OneBayArea, a joint initiative between ABAG, BAAQMD, MTC, and the San Francisco Bay

[12] Bay Area Air Quality Management District (BAAQMD). 2016. NSR [New Source Review] Permitting Guidance. Website: http://www.baaqmd.gov/permits/permitting-manuals/nsr-permitting-guidance. Accessed June 9, 2021.

Conservation and Development Commission. The plan's transportation policies focus on maintaining the extensive existing transportation network and utilizing these systems more efficiently to handle density in Bay Area transportation cores.[13] Assumptions for land use development come from local and regional planning documents. Emission forecasts in the Bay Area Clean Air Plan rely on projections of VMT, population, employment, and land use projections made by local jurisdictions during development of Plan Bay Area. The Plan Bay Area 2040 was adopted July 2017 and updates Plan Bay Area.

Plan Bay Area 2040, published by the MTC and ABAG, is a long-range integrated transportation and land use/housing strategy through 2040 for the Bay Area. Plan Bay Area 2040 functions as the sustainable communities' strategy mandated by Senate Bill (SB) 375. As a regional land use plan, Plan Bay Area 2040 aims to reduce per capita GHG emissions through the promotion of more compact, mixed-use residential and commercial neighborhoods located near transit. Plan Bay Area 2040 is a limited and focused update that builds upon a growth pattern and strategies developed in the original Plan Bay Area (adopted by MTC in 2013) but with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last 4 years.

Contra Costa County

Contra Costa County General Plan

The Contra Costa County General Plan (General Plan) establishes goals, objectives, and policies associated with air quality. Those goals and policies that are relevant to this analysis are below.

Transportation and Circulation Element

Goal 5-D To maintain and improve air quality above air quality standards.

Goal 5-I To encourage use of transit.

Goal 5-J To reduce single-occupant auto commuting and encourage walking and bicycling.

Goal 5-L To reduce GHG emissions from transportation sources through provision of transit, bicycle, and pedestrian facilities.

Policies

Policy 5-3 Transportation facilities serving new urban development shall be linked to and compatible with existing and planned roads, bicycle facilities, pedestrian facilities and pathways of adjoining areas, and such facilities shall use presently available public and semi-public right-of-way where feasible.

Policy 5-4 Development shall be allowed only when transportation performance criteria are met and necessary facilities and/or programs are in place or committed to be developed within a specified period of time.

[13] Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC). 2013. Plan Bay Area. Website: https://www.planbayarea.org/previous-plan. Accessed June 9, 2021.

Policy 5-23 All efforts to develop alternative transportation systems to reduce peak period traffic congestion shall be encouraged.

Policy 5-24 Use of alternative forms of transportation, such as transit, bike, and pedestrian modes, shall be encouraged in order to provide basic accessibility to those without access to a personal automobile and to help minimize automobile congestion and air pollution.

Policy 5-25 Improvement of public transit shall be encouraged to provide for increased use of local, commuter and intercity public transportation.

Conservation Element

Goal 8-K To encourage the use of renewable resources where they are compatible with the maintenance of environmental quality.

Goal 8-L To reduce energy use in the County to avoid risks of air pollution and energy shortages which could prevent orderly development.

Goal 8-AA To meet Federal Air Quality Standards for all air pollutants.

Goal 8-AC To restore air quality in the area to a more healthful level.

Goal 8-AD To reduce the percentage of Average Daily Traffic (ADT) trips occurring at peak hours.

Policies

Policy 8-1 Resource utilization and development shall be planned within a framework of maintaining a healthy and attractive environment.

Policy 8-98 Development and roadway improvements shall be phased to avoid congestion.

Policy 8-101 A safe, convenient, and effective bicycle and trail system shall be created and maintained to encourage increased bicycle use and walking as alternatives to driving.

Policy 8-102 A safe and convenient pedestrian system shall be created and maintained in order to encourage walking as an alternative to driving.

Policy 8-103 When there is a finding that a proposed project might significantly affect air quality, appropriate mitigation measures shall be imposed.

Implementation Measure 8-dn

> Consistent with the uses and ranges of density specified in [the General Plan], particularly those in the Land Use Element and the Growth Management Element, encourage development that would reduce long distance commuting, positively affect the desired jobs/housing balance, or promote alternative forms of transportation.

3.2.4 - Impacts and Mitigation Measures

Significance Criteria

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

a) Conflict with or obstruct implementation of the applicable air quality plan?

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?

c) Expose sensitive receptors to substantial pollutant concentrations?

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

BAAQMD Significance Criteria

The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and GHGs.

In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of the CEQA Guidelines. These thresholds are designed to establish the level at which the BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The updated BAAQMD CEQA Air Quality Guidelines were amended in June 2011 to include a risk and hazards threshold for new receptors and modified procedures for assessing impacts related to risk and hazard impacts. However, this later amendment regarding risk and hazards was the subject of the December 17, 2015, California Supreme Court decision (*California Building Industry Association v BAAQMD (2015) 62 Cal.4th 369*), which clarified that CEQA generally does not require an evaluation of impacts of the environment on a project's future users or residents. The California Supreme Court also found that CEQA requires the analysis of exposing people to environmental hazards in specific circumstances, including the location of development near airports, schools near sources of toxic contamination, and certain exemptions for infill and workforce housing. Additionally, it also held that public agencies remain free to conduct this analysis regardless of whether it is required by CEQA. To account for these updates, the BAAQMD published a new version of the

Guidelines dated May 2017, which includes revisions made to address the Supreme Court's opinion.[14] This latest version of the BAAQMD CEQA Guidelines was used to prepare the analysis in this Draft EIR.

Regional Significance Criteria

The BAAQMD's criteria for regional significance for projects that exceed the screening thresholds are shown in Table 3.2-7. Criteria for both the construction and operational phases of the proposed project are shown.

Table 3.2-7: BAAQMD Regional (Mass Emissions) Air Pollutant Significance Thresholds

	Construction Phase	Operational Phase	
Pollutant	Average DailyEmissions (pounds/day)	Average DailyEmissions (pounds/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NO_X	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
PM_{10} and $PM_{2.5}$ Fugitive Dust	Best Management Practices	None	None

Notes:
ROG = reactive organic gas
NO_X = oxides of nitrogen
PM_{10} = particulate matter, including dust, 10 micrometers or less in diameter
$PM_{2.5}$ = particulate matter, including dust, 2.5 micrometers or less in diameter
Source: Bay Area Air Quality Management District (BAAQMD) 2017. May. California Environmental Quality Act (CEQA) Air Quality Guidelines.

If a project were to exceed the emissions in Table 3.2-7, emissions would cumulatively contribute to the non-attainment status and would contribute to elevating health effects associated with these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with PM include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants. However, for projects that exceed the emissions in Table 3.2-7, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in non-attainment—since mass emissions are not correlated with concentrations of emissions—or how many additional individuals in the Air Basin would be affected by the health effects cited above.

[14] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed June 9, 2021.

The BAAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of emissions in the Air Basin, and at the present time, it has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health, which would allow the lead agency to reasonably evaluate how the project's air quality impacts could cause any health impacts, as required by S*ierra Club v. County of Fresno* (Friant Ranch, LP) (2018) 6 Cal. 5th 502, Case No. S21978. Ozone concentrations are dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the NAAQS and CAAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. To achieve the health-based standards established by the EPA, the air districts prepare air quality management plans that detail regional programs to attain the AAQS. However, if a project within the BAAQMD exceeds the regional significance thresholds, the proposed project could contribute to an increase in health effects in the basin until the attainment standards are met in the Air Basin.

Consistency with Air Quality Plan

The applicable air quality plan is BAAQMD's 2017 Bay Area Clean Air Plan, which identifies measures to:

- Reduce emissions and reduce ambient concentrations of air pollutants.
- Safeguard public health by reducing exposure to the air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily affected by air pollution.
- Reduce GHG emissions to protect the climate.

A project would be determined to conflict with or obstruct implementation of an applicable air quality plan if it would result in substantial new regional emissions not foreseen in the air quality planning process.

Local CO Hotspots

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the CAAQS for CO, which is 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). However, with the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the Air Basin is in attainment of the CAAQS and NAAQS, and CO concentrations in the Air Basin have steadily declined. Because CO concentrations have improved, the BAAQMD does not require a CO hotspot analysis if the following criteria are met:

- The project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.

- The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersection to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).[15]

Community Risk and Hazards

The BAAQMD's significance thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level.

The proposed project would generate TACs and $PM_{2.5}$ during construction activities that could elevate concentrations of air pollutants at the nearby school and residential sensitive receptors. The thresholds for construction-related local community risk and hazard impacts are the same as for project operations. The BAAQMD has adopted screening tables for air toxics evaluation during construction.[16] Construction-related TAC and $PM_{2.5}$ impacts should be addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site receptors, as applicable.[17]

Since the County does not have a qualified risk reduction plan, a site-specific analysis of TACs and $PM_{2.5}$ impacts on sensitive receptors was conducted. The thresholds identified below are applied to the proposed project's construction and operational phases.

Community Risk and Hazards: Project

Project-level emissions of TACs or $PM_{2.5}$ from individual sources that exceed any of the thresholds listed below are considered a potentially significant community health risk:

- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic, or acute) HI greater than 1.0 would be a significant cumulatively considerable contribution.
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$ from a single source would be a significant cumulatively considerable contribution.

[15] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed June 9, 2021.

[16] Bay Area Air Quality Management District (BAAQMD). 2010. Air Toxics NSR Program, Health Risk Screening Analysis Guidelines. Website: https://www.baaqmd.gov/~/media/Files/Engineering/Air%20Toxics%20Programs/hrsa_guidelines.ashx. Accessed June 9, 2021.

[17] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed June 9, 2021.

Community Risk and Hazards: Cumulative

Cumulative sources represent the combined total risk values of each of the individual sources within the 1,000-foot evaluation zone. A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source or location of a receptor, plus the contribution from the proposed project, meets any of these conditions:

- Has excess cancer risk levels of more than 100 in one million or a chronic non-cancer HI (from all local sources) greater than 10.0.
- Exceeds 0.8 µg/m^3 annual average $PM_{2.5}$.

In February 2015, Office of Environmental Health Hazard Assessment (OEHHA) adopted new health risk assessment guidance that includes several efforts to be more protective of children's health. These updated procedures include the use of age sensitivity factors to account for the higher sensitivity of infants and young children to cancer-causing chemicals, and age-specific breathing rates.[18]

Odors

The BAAQMD thresholds for odors are qualitative based on BAAQMD Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health, or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury, or damage to business or property. Under BAAQMD's Rule 1-301, the BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants. Table 3.2-8 shows the screening distances for various land uses that are considered to have objectionable odors.[19]

Table 3.2-8: BAAQMD Odor Screening-level Distances Thresholds

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles

[18] Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments. February. Website: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed June 9, 2021.

[19] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed June 9, 2021.

Land Use/Type of Operation	Project Screening Distance
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 mile
Source: Bay Area Air Quality Management District (BAAQMD) 2017.	

Approach to Analysis

Emission factors represent the emission rate of a pollutant over a given time or activity; for example, grams of NO_X per VMT or grams of NO_X per horsepower hour of equipment operation. The ARB has published emission factors for on-road mobile vehicles/trucks in the EMission FACtors (EMFAC) mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. Activity levels are a measure of how active a piece of equipment is and can be represented as the amount of material processed, elapsed time that a piece of equipment is in operation, horsepower of a piece of equipment used, or VMT per day. An air emissions model (or calculator) combines the emission factors and the various levels of activity and outputs the emissions for the various pieces of equipment.

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was developed in collaboration with the South Coast Air Quality Management District and other air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with construction and operation from a variety of land uses.

The modeling follows BAAQMD guidance where applicable from its CEQA Air Quality Guidelines. The models used in this analysis are summarized as follows:

- Construction criteria pollutant and precursor emissions: CalEEMod, Version 2016.3.2
- Operational criteria pollutant and precursor emissions: CalEEMod, Version 2016.3.2
- Construction TAC emission air dispersion assessment: EPA AERMOD dispersion model, Version 18081

The following criteria air pollutants and precursors are assessed in this analysis:

- Reactive organic gas (ROG)
- Nitrogen oxides (NO_X)
- Carbon monoxide (CO)
- Particulate matter equal to or less than 10 microns in diameter (PM_{10})
- Particulate matter equal to or less than 2.5 microns in diameter ($PM_{2.5}$)

Note that the proposed project would emit ozone precursors ROG and NO_X. However, the proposed project would not directly emit ozone since it is formed in the atmosphere during the photochemical reactions of the ozone precursors.

Project-specific data included the size of the project site and the construction schedule. For the purpose of this analysis, construction of the proposed project was assumed to begin in September 2022 and continue through November 2023. These data also included estimated project trip generation and trip length provided by Hexagon Transportation Consultants, Inc.[20] (see Appendix I). Data specific to the BAAQMD included use of architectural coatings with 100 grams per liter (g/l) ROG content, consistent with BAAQMD Regulation 8 Rule 3.

Construction-related Criteria Pollutants

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from both on-site and off-site activities. On-site emissions consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil. Additionally, paving operations and application of architectural coatings would release ROG emissions. Off-site emissions result from motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM_{10} and $PM_{2.5}$).

Equipment Tiers and Emission Factors

Equipment tiers refer to a generation of emission standards established by the EPA and ARB that apply to diesel engines in off-road equipment. The “tier” of an engine depends on the model year and horsepower rating; generally, the newer a piece of equipment is, the greater the tier it is likely to have. Excluding engines greater than 750 horsepower, Tier 1 engines were manufactured generally between 1996 and 2003. Tier 2 engines were manufactured between 2001 and 2007. Tier 3 engines were manufactured between 2006 and 2011. Tier 4 engines are the newest and some incorporate hybrid electric technology; they have been manufactured since 2007.

Construction emissions are generally calculated as the product of an activity factor and an emission factor. The activity factor for construction equipment is a measure of how active a piece of equipment is and can be represented as the amount of material processed, elapsed time that a piece of equipment is in operation, horsepower of a piece of equipment used, or the amount of fuel consumed in a given amount of time. The emission factor relates the process activity to the amount of pollutant emitted. Examples of emission factors include grams of emissions per miles traveled and

[20] Hexagon Transportation Consultants, Inc. 2021. Transportation Analysis for the Summerhill Homes Townhome Condo Site Residential Redevelopment at 2740 Jones Road in Walnut Creek, California.

grams of emissions per horsepower hour. The operation of a piece of equipment is tempered by its load factor which is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity. This analysis uses the CalEEMod default load factors for off-road equipment.

Operation-related Criteria Pollutants

The operational phase emissions are based on development of the proposed project. The modeling accounts for the average daily vehicle and VMT, energy usage, water demand, and wastewater and solid waste generation. For purposes of this analysis, hours of operation for the proposed project are 24 hours per day, 7 days per week.

Transportation

CalEEMod Version 2016.3.2 was used to quantify mobile source emissions using derived vehicle emission rates based on vehicle emissions data obtained from the ARB EMFAC2021 web database. The project-specific daily trip generation rate for Multi-family Housing–Midrise (Institute of Transportation Engineers Land Use Code 221) were provided by Hexagon Transportation Consultants.[21] Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate. Default trip lengths and trip types specified by CalEEMod for each input land use were used for the emissions estimates. The proposed project is estimated to generate 1,180 gross daily vehicle trips, with 93 gross trips occurring during the AM peak-hour and 124 gross trips during the PM peak-hour.

Other Operational Emissions

Solid Waste Disposal. Indirect emissions from waste generation are based on the CalEEMod default solid waste generation rates, which are based on data from the California Department of Resources, Recycling, and Recovery (CalRecycle).

Water/Wastewater. GHG emissions from this sector are associated with the embodied energy used to supply water, treat water, distribute water, and then treat wastewater and fugitive GHG emissions from wastewater treatment. Indoor water consumption is based on CalEEMod default indoor water use rates.

Area Sources. Area and stationary sources are based on the CalEEMod defaults for use of consumer products and cleaning supplies.

Energy. CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rates were modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on Pacific Gas and Electric's (PG&E) 2008 emissions rate. However, in 2019, PG&E published emissions rates for 2010 through 2017, which showed the emission rate for delivered electricity had been

[21] Hexagon Transportation Consultants, Inc. 2021. Transportation Analysis for the Summerhill Homes Townhome Condo Site Residential Redevelopment at 2740 Jones Road in Walnut Creek, California.

reduced to 210 pounds CO_2 per megawatt of electricity delivered in the year 2017.[22] This intensity factor was used in the model, and it was assumed that all powered was supplied by PG&E. The project is designed be all-electric construction in the new homes with no natural gas provided. Each home will have roof-top solar panels. The number and orientation of the panels will vary from unit to unit.

Construction- and Operation-related Toxic Air Contaminants

TACs are air pollutants in minuscule amounts in the air that, if a person receives exposure to them, could increase the chances of experiencing health problems. Exposures to TAC emissions can have both chronic long-term (over a year or longer) and acute short-term (over a period of hours) health impacts. Construction-period TAC emissions could contribute to increased health risks to nearby residents or sensitive receptors.

The County assessed the potential health impacts to surrounding sensitive receptors resulting from TAC emissions during project construction. The TACs of greatest concern are those that cause serious health problems or affect many people. Health problems can include cancer, respiratory irritation, nervous system problems, and birth defects. Some health problems occur soon after a person inhales TACs. These immediate effects may be minor, such as watery eyes; or they may be serious, such as life-threatening lung damage. Other health problems may not appear until many months or years after a person's first exposure to the TAC. Cancer is one example of a delayed health problem.

Fine particle pollution can be emitted directly or formed secondarily in the atmosphere. $PM_{2.5}$ health impacts are important because their size can be deposited deeply in the lungs causing respiratory effects. For purposes of this analysis, exhaust emissions of DPM, are represented as exhaust emissions of $PM_{2.5}$. Studies indicate that DPM poses the greatest health risk among airborne TACs. A 10-year research program conducted by the ARB demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic long-term health risk. DPM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although diesel-fueled, internal combustion engines emit DPM, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. The CalEEMod emissions model has been used to estimate construction-related emissions.

Odors

The impact analysis qualitatively evaluates the types of land uses proposed to evaluate whether major sources of anticipated odors would be present and, if so, whether those sources would likely generate objectionable odors. According to the BAAQMD's CEQA Air Quality Guidelines, a project that involves the siting of a new odor source would consider the screening-level distances and the complaint history of the odor sources, described below. Projects that would site a new odor source farther than the screening-level distances provided in Table 3.2-8 would not likely result in a significant odor impact.

[22] Pacific Gas and Electric Company (PG&E). 2019. Corporate Responsibility and Sustainability Report. Website: http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf. Accessed June 16, 2021.

Impact Evaluation

Air Quality Management Plan Consistency

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

Impact Analysis

The BAAQMD is responsible for reducing emissions from area, stationary, and mobile sources in the Air Basin to achieve NAAQS and CAAQS. The BAAQMD 2017 Clean Air Plan is a regional and multiagency effort to reduce air pollution in the Air Basin. A consistency determination with the BAAQMD plays an important role in local agency project review by linking local planning and individual projects to the 2017 Clean Air Plan. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the proposed project under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the 2017 Clean Air Plan.

The regional emissions inventory for the Air Basin is compiled by the BAAQMD. Regional population, housing, and employment projections developed by ABAG are based, in part, on cities and counties' general plan land use designations. These projections form the foundation for the emissions inventory of the 2017 Clean Air Plan. These demographic trends are incorporated into Plan Bay Area, compiled by ABAG and the MTC to determine priority transportation projects and VMT in the Bay Area. The 2017 Clean Air Plan strategy is based on projections from local general plans. Projects that are consistent with the local general plan are considered consistent with the regional air quality plan. Large projects that exceed regional employment, population, and housing planning projections have the potential to be inconsistent with the regional inventory compiled as part of the 2017 Clean Air Plan.

A project would be judged to conflict with or obstruct the 2017 Clean Air Plan implementation if it would result in substantial new regional emissions not foreseen in the air quality planning process. The BAAQMD does not provide a numerical threshold of significance for project-level consistency analysis with AQPs. Therefore, the following criteria will be used for determining a project's consistency with the AQP.

- **Criterion 1:** Does the project support the primary goals of the AQP?
- **Criterion 2:** Does the project include applicable control measures from the AQP?
- **Criterion 3:** Does the project disrupt or hinder implementation of any AQP control measures?

Criterion 1

The primary goals of the 2017 Clean Air Plan, the current AQP to date, are to:

- Attain air quality standards;
- Reduce population exposure to unhealthy air and protecting public health in the Bay Area; and
- Reduce GHG emissions and protect the climate.

A measure for determining whether the proposed project supports the primary goals of the AQP is if the proposed project would result in 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 or the interim emission reductions specified in the AQPs. The development of the AQP is based, in part, on the general plan land use determinations of the various cities and counties that constitute the Air Basin. As described in Impact LAND-2, the General Plan designates the project site as Multiple-Family Residential High (MH). The MH designation allows for densities between 22.0 and 29.9 multiple-family units per net acre. Primary land uses include attached single-family residences, multiple-family residences including condominiums, town houses, and apartments, as well as accessory buildings and structures ancillary to the primary uses.

The proposed project would develop 125 townhouse condominiums, resulting in a total of 237,816 square feet of net new habitable construction on 5.94 acres or a net density of 26.3 dwelling unit per acre. Therefore, the density and use would be consistent with the General Plan land use designation and the proposed project would not require a General Plan Amendment. The proposed project includes construction of 125 townhouse condominium units located in 19 three-story townhome condominium buildings. As the project site is 5.94 acres, the proposed project would introduce a residential density of approximately 21 units per acre, which is within the currently allowed density for the site. As such, the proposed project would not introduce a greater amount of population growth than what was envisioned by the General Plan and, subsequently, the AQP. Therefore, the anticipated population growth facilitated by the proposed project was anticipated in the 2017 Clean Air Plan and the project would not conflict with the goals contained in the AQP.

Moreover, as further discussed under Impacts AIR-2 and AIR-3, the proposed project's construction and operational-related emissions would not exceed BAAQMD's project-level thresholds and would, therefore, not create a localized violation of State or federal air quality standards with implementation of Mitigation Measure (MM) AIR-2 and MM AIR-3. Therefore, the proposed project would be consistent with Criterion 1 with implementation of mitigation measures, as identified under Impact AIR-2 and AIR-3. The proposed project is therefore consistent with Criterion 1 after incorporation of identified mitigation.

Criterion 2

The 2017 Clean Air Plan contains 85 control measures that describe specific actions to reduce air pollutants and GHGs at the local, regional, and global levels. Along with the traditional stationary, area, mobile source, and transportation control measures, the 2017 Clean Air Plan contains several control measures designed to protect the climate, promote mixed use, and compact development to reduce vehicle emissions and exposure to pollutants from stationary and mobile sources. The 2017 Clean Air Plan also includes an account of the implementation status of control measures identified in the 2010 Clean Air Plan.

Table 3.2-9 lists the relevant Clean Air Plan policies to the proposed project and evaluates the proposed project's consistency with the policies. As shown below, the proposed project would be consistent with applicable measures.

Table 3.2-9: Consistency with 2017 Clean Air Plan Control Measures

Type	Measure Number/Title	Consistency Analysis
Stationary Source Control Measure	SS 1–Fluid Catalytic Cracking in Refineries SS 2–Equipment Leaks SS 3–Cooling Towers SS 4–Refinery Flares SS 5–Sulfur Recovery Units SS 6–Refinery Fuel Gas SS 7–Sulfuric Acid Plants SS 8–Sulfur Dioxide from Coke Calcining SS 9–Enhanced NSR Enforcement for Changes in Crude Slate SS 10–Petroleum Refining Emissions Tracking SS 11–Petroleum Refining Facility-Wide Emission Limits SS 12–Petroleum Refining Climate Impacts Limit SS 13–Oil and Gas Production, Processing and Storage SS 14–Methane from Capped Wells SS 15–Natural Gas Processing and Distribution SS 16–Basin-Wide Methane Strategy SS 17–GHG BACT Threshold SS 18–Basin-Wide Combustion Strategy SS 19–Portland Cement SS 20–Air Toxics Risk Cap and Reduction from Existing Facilities SS 21–New Source Review for Toxics SS 22–Stationary Gas Turbines SS 23–Biogas Flares SS 24–Sulfur Content Limits of Liquid Fuels SS 25–Coatings, Solvents, Lubricants, Sealants and Adhesives SS 26–Surface Prep and Cleaning Solvent SS 27–Digital Printing SS 28–LPG, Propane, Butane SS 29–Asphaltic Concrete SS 30–Residential Fan Type Furnaces SS 31–General Particulate Matter Emission Limitation SS 32–Emergency Backup Generators SS 33–Commercial Cooking Equipment SS 34–Wood Smoke SS 35–PM from Bulk Material Storage, Handling and Transport, Including Coke and Coal SS 36–PM from Trackout SS 37–PM from Asphalt Operations SS 38–Fugitive Dust SS 39–Enhanced Air Quality Monitoring SS 40–Odors	Stationary sources are regulated directly by the BAAQMD, which routinely adopts/revises rules or regulations to implement the stationary source control measures to reduce stationary source emissions. Therefore, any new stationary sources associated with the proposed project would be required to comply with BAAQMD's regulations. Based on the proposed residential use for the project site, it is not anticipated that the proposed project would result in any new major stationary source emissions. Additionally, in the event stationary equipment is installed on-site, it is anticipated that the equipment would be small-quantity emitters and would require review by BAAQMD for permitted sources of air which would ensure consistency with the 2017 Clean Air Plan.

Type	Measure Number/Title	Consistency Analysis
Transportation Control Measures	TR 1–Clean Air Teleworking Initiative TR 2–Trip Reduction Programs TR 3–Local and Regional Bus Service TR 4–Local and Regional Rail Service TR 5–Transit Efficiency and Use TR 6–Freeway and Arterial Operations TR 7–Safe Routes to Schools and Safe Routes to Transit TR 8–Ridesharing, Last-Mile Connection TR 9–Bicycle and Pedestrian Access and Facilities TR 10–Land Use Strategies TR 11–Value Pricing TR 12–Smart Driving TR 13–Parking Policies TR 14–Cars and Light Trucks TR 15–Public Outreach and Education TR 16–Indirect Source Review TR 17–Planes TR 18–Goods Movement TR 19–Medium and Heavy-Duty Trucks TR 20–Ocean Going Vessels TR 21–Commercial Harbor Craft TR 22–Construction, Freight and Farming Equipment TR 23–Lawn and Garden Equipment	Transportation (TR) control measures are strategies to reduce vehicle trips, vehicle use, VMT, vehicle idling, and traffic congestion for the purpose of reducing motor vehicle emissions. Although most of the TR control measures are implemented at the regional level—that is, by MTC or Caltrans—the 2017 Clean Air Plan relies on local communities to assist with implementation of some measures. The proposed project would be required under the 2019 California Building Code, Title 24, Part 11, Chapter 4, to provide electrical raceways to accommodate future electric vehicle charging infrastructure.
Energy and Climate Control Measures	EN 1–Decarbonize Electricity Production EN 2–Renewable Energy Decrease Electricity Demand	The Energy and Climate (EN) control measures are intended to reduce energy use as a means of reducing adverse air quality emissions. The proposed project would be subject to the requirements of the 2019 California Building Code, Title 24, Part 6, Subchapter 8, which consist of photovoltaics (PV) system requirements to provide on-site renewable electricity for the proposed project. Compliance with the 2019 Building Energy Efficiency Standards would also improve energy efficiency by 10.7 percent and 1 percent for electricity and natural gas, respectively, compared to the 2016 Building Energy Efficiency Standards. Therefore, implementation of the proposed project would not conflict with these EN control measures.

Type	Measure Number/Title	Consistency Analysis
Buildings Control Measures	BL 1–Green Buildings BL 2–Decarbonize Buildings BL 3–Market-Based Solutions BL 4–Urban Heat Island Mitigation	The Buildings (BL) control measures focus on working with local governments to facilitate adoption of best greenhouse gas (GHG) emissions control practices and policies. As discussed above for the EN control measures, the proposed buildings would comply with 2019 Building Energy Efficiency Standards. Therefore, the proposed project would not conflict with the BL measures.
Agriculture ControlMeasures	AG 1–Agricultural Guidance and Leadership AG 2–Dairy Digesters AG 3–Enteric Fermentation AG 4–Livestock Waste	Agricultural (AG) practices in the Bay Area account for a small portion, roughly 1.5 percent, of the Bay Area GHG emissions inventory. The GHGs from agriculture include methane, nitrous oxide, and carbon dioxide. The proposed project would not involve any agricultural activities or operations.
Natural and WorkingLands Control Measures	NW 1–Carbon Sequestration in Rangelands NW 2–Urban Tree Planting NW 3–Carbon Sequestration in Wetlands	The control measures for the Natural and Working Lands (NW) sector focus on increasing carbon sequestration on rangelands and wetlands. The proposed project would include the planting of various ornamental and shade trees throughout the project site.
Waste Management Control Measures	WA 1–Landfills WA 2–Composting and Anaerobic Digesters WA 3–Green Waste Diversion WA 4–Recycling and Waste Reduction	The Waste Management (WA) control measures include strategies to increase waste diversion rates through efforts to reduce, reuse, and recycle. The proposed project would comply with the requirements of AB 341. Additionally, the proposed project would reduce construction waste by 75 percent and use 30 percent recycled content during construction of the proposed facility. Therefore, the proposed project would not conflict with these WA control measures.
Water Control Measures	WR 1–Limit GHGs from publicly owned treatment works (POTWs) WR 2–Support Water Conservation	The 2017 Clean Air Plan includes measures to reduce water use. The proposed project would include water efficiency measures required under CALGreen.

Type	Measure Number/Title	Consistency Analysis
Super GHG ControlMeasures	SL 1–Short-Lived Climate Pollutants SL 2–Guidance for Local Planners SL 3–GHG Monitoring and Emissions Measurements Network	Super-GHGs include methane, black carbon, and fluorinated gases. These compounds are sometimes referred to as short-lived climate pollutants because their lifetime in the atmosphere is generally short. Measures to reduce super-GHGs are addressed on a sector-by-sector basis in the 2017 Clean Air Plan. The proposed project is residential in nature and would not consist of industrial processes typically associated with the generation of super-GHGs. Therefore, the proposed project would not conflict with this measure.
Further Study ControlMeasures	FSM SS 1–Internal Combustion Engines FSM SS 2–Boilers, Steam Generator and Process Heaters FSM SS 3–GHG Reductions from non Cap-and-Trade Sources FSM SS 4–Methane Exemptions from Wastewater Regulation FSM SS 5–Controlling start-up, shutdown, maintenance, and malfunction (SSMM) Emissions FSM SS 6–Carbon Pollution Fee FSM SS 7–Vanishing Oils and Rust Inhibitors FSM SS 8–Dryers, Ovens and Kilns FSM SS 9–Omnibus Rulemaking to Achieve Continuous Improvement FSM BL 1–Space Heating FSM AG 1–Wineries	The majority of the Further Study Control Measures (FSM) apply to sources regulated directly by the BAAQMD. Because the BAAQMD is the implementing agency, any new sources of stationary and area sources in the project site would be required to comply with these additional study control measures in the 2017 Clean Air Plan.

Notes:
AG = Agricultural
BL = Buildings
EN = Energy and Climate
FSM = Further Study Measures
NW = Natural and Working Lands
SL = Super GHG (Short-Lived)
SS = Stationary Sources
TR = Transportation
WA = Waste Management
WR = Water Control Measures
Source: Bay Area Air Quality Management District (BAAQMD). 2017, April 19. Final 2017 Clean Air Plan, Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. Website: http://www.baaqmd.gov/plans-and-climate/air-qualityplans/plans-under-development. Accessed June 9, 2021.

In summary, the proposed project would not conflict with or hinder BAAQMD from implementing the control measures in 2017 Clean Air Plan and impacts would be less than significant.

Criterion 3

The proposed project would not preclude extension of a transit line or bike path, propose excessive parking beyond parking requirements, or otherwise create an impediment or disruption to implementing any AQP control measures. Table 3.2-9 in Criterion 2 illustrates that the proposed project would incorporate several AQP control measures as project design features. Considering this information, the proposed project would not disrupt or hinder the implementation of any AQP control measures. Therefore, the proposed project would be consistent with Criterion 3.

Summary

As discussed above, the proposed project would be consistent with all three criteria after the incorporation of identified mitigation. Thus, the proposed project would not conflict with the 2017 Clean Air Plan. Therefore, impacts associated with conflicting with or obstructing implementation of the 2017 Clean Air Plan would be less than significant with mitigation incorporated.

Level of Significance

Less than significant impact.

Cumulative Criteria Pollutant Emissions

Impact AIR-2:	**The proposed project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.**

Impact Analysis

In developing thresholds of significance for criteria air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively significant. As such, if a project exceeds the identified thresholds of significance, its emissions would be significant in terms of both project- and cumulative-level impacts, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Thus, this impact analysis and discussion is related to the project- and cumulative-level effect of the project's regional criteria air pollutant emissions.

The region is non-attainment for the federal and State ozone standards, the State PM_{10} standards, and the federal and State $PM_{2.5}$ standards. Potential impacts would result in exceedances of State or federal standards for NO_X or particulate matter (PM_{10} and $PM_{2.5}$). NO_X emissions are of concern because of potential health impacts from exposure to NO_X emissions during both construction and operation and as a precursor in the formation of airborne ozone. PM_{10} and $PM_{2.5}$ are of concern during construction, because of the potential to emit exhaust emissions from the operation of off-road construction equipment and fugitive dust during earth-disturbing activities (construction fugitive dust).

ROG emissions are also important, because of their participation in the formation of airborne ozone. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly, and young children.

By its nature, air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The non-attainment status of regional pollutants is a result of past and present development within the Air Basin, and this regional impact is a cumulative impact. In other words, new development projects (such as the proposed project) within the Air Basin would contribute to this impact only on a cumulative basis. No single project would be sufficient in size, by itself, to result in non-attainment of regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively significant when taken in combination with past, present, and future development projects.

The cumulative analysis focuses on whether a specific project would result in cumulatively significant emissions. According to Section 15064(h)(4) of the CEQA Guidelines, the existence of significant cumulative impacts caused by other projects alone does not constitute substantial evidence that the project's incremental effects would be cumulatively significant. Rather, the determination of cumulative air quality impacts for construction and operational emissions is based on whether the proposed project would result in regional emissions that exceed the BAAQMD regional thresholds of significance for construction and operations on a project level. The thresholds of significance represent the allowable amount of emissions each project can generate without generating a cumulatively significant contribution to regional air quality impacts. Therefore, a project that would not exceed the BAAQMD thresholds of significance on the project level also would not be considered to result in a cumulatively significant impact with regard to regional air quality and would not be considered to result in a significant impact related to cumulative regional air quality.

Construction

Project construction activities, such as grading, excavation, and travel on unpaved surfaces would generate dust, can lead to elevated concentrations of PM_{10} and $PM_{2.5}$. The operation of construction equipment results in exhaust emissions, which include ROG and NO_X. Table 3.2-10 presents construction-period emissions that would result from implementation of the proposed project.

Table 3.2-10: Construction Emissions

Category		Criteria Pollutant Emissions (pounds per day)			
		ROG	NO_X	PM_{10} (Exhaust Only)	$PM_{2.5}$ (Exhaust Only)
Before Mitigation Measures					
Daily Construction Emissions (pounds per day)	2022	2.51	23.35	1.19	1.04
	2023	19.52	15.03	0.79	0.67
	Average	14.91	17.29	0.90	0.77
BAAQMD Significance Thresholds (pounds per day)		54	54	82	54
Significant Impact?		**No**	**No**	**No**	**No**

Category	Criteria Pollutant Emissions (pounds per day)			
	ROG	NO_X	PM_{10} (Exhaust Only)	$PM_{2.5}$ (Exhaust Only)
Notes: Assumed 88 workdays in 2022 and 242 workdays in 2023. ROG = reactive organic gases NOx = nitrogen oxides PM_{10} = particulate matter, including dust, 10 micrometers or less in diameter $PM_{2.5}$ = particulate matter, including dust, 2.5 micrometers or less in diameter BAAQMD = Bay Area Air Quality Management District Source: Appendix B.				

As indicated in Table 3.2-10, predicted construction-period emissions would not exceed the BAAQMD significance thresholds. Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if BMPs are implemented to reduce these emissions. MM AIR-2 would implement BAAQMD-recommended BMPs to reduce fugitive dust (PM_{10} and $PM_{2.5}$).

Operation

Operational air emissions from the proposed project would be generated primarily from autos driven by future residents and guests. Evaporative emissions (e.g., ROG) from architectural coatings and maintenance products (classified as consumer products) are typical emissions from residential projects. The Air Quality and Greenhouse Gas Assessment[23] (Appendix B) prepared for the proposed project estimated long-term operational emissions associated with the proposed project using the CalEEMod emissions modeling program and the EMFAC2021 mobile source emission rate program.

Table 3.2-11 shows average daily emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the proposed project. The operational period emissions would not exceed the BAAQMD significance thresholds. For informational purposes, the emissions generated during the operation of prior Palmer School were estimated and included here. As shown in Table 3.2-11, emissions from the proposed project are anticipated to be less than the prior school use operation for all analyzed pollutants except ROG.

[23] Illingworth & Rodkin, Inc. 2021. Oak Road Townhouse Condominiums Air Quality & Greenhouse Gas Assessment. May 17.

Table 3.2-11: Operational Emissions

Category	Criteria Pollutant Emissions in Pounds per Day				Criteria Pollutant Emissions in Tons per Year			
	ROG	NO_x	PM_{10}	$PM_{2.5}$	ROG	NO_x	PM_{10}	$PM_{2.5}$
2024 Operational Emissions	10	2.2	3.0	0.8	1.82	0.40	0.55	0.14
Palmer School Operational Emission	*4.52*	*3.5*	*4.5*	*1.2*	*0.83*	*0.63*	*0.83*	*0.21*
BAAQMD Significant Thresholds	54	54	82	54	10	10	15	10
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
Analysis assumes 365-day operation.
ROG = reactive organic gases
NO_x = nitrogen oxides
PM_{10} = inhalable particulate matter
$PM_{2.5}$ = fine particulate matter
BAAQMD = Bay Area Air Quality Management District
Source: Appendix B.

Local Carbon Monoxide Impacts

The CO emissions from traffic generated by the project are a concern at the local level. Congested intersections can result in high, localized concentrations of CO.

The BAAQMD recommends a screening analysis to determine whether a project has the potential to contribute to a CO hotspot. The screening criteria identify when site-specific CO dispersion modeling is necessary. The proposed project would result in a less than significant impact to air quality for local CO if the following screening criteria are met:

1. The project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

As indicated in the Transportation Analysis prepared by Hexagon Transportation Consultants, Inc.,[24] the studied intersection near the project site which currently experiences the greatest level of vehicle traffic is the intersection of Oak Road and Treat Boulevard, which experiences an estimated

[24] Hexagon Transportation Consultants, Inc, 2021. Transportation Analysis for the Summerhill Homes Townhome Condo Site Residential Redevelopment at 2740 Jones Road in Walnut Creek, California.

6,016 vehicle trips during the AM peak-hour and 5,142 vehicle trips during the PM peak-hour. As discussed in the Transportation Analysis, the proposed project is estimated to generate a total of 93 AM peak-hour vehicle trips and 124 PM peak-hour vehicle trips. Conservatively assuming that all peak-hour vehicle trips generated by the proposed project would travel through the intersection of Oak Road and Treat Boulevard, the Existing Plus Project traffic volumes would be 6,109 AM peak-hour trips and 5,266 PM peak-hour trips. Therefore, the proposed project would not cause any intersections near the proposed project to experience traffic volumes of 44,000 vehicles per hour. Furthermore, the adjacent roadways are not located in an area where vertical or horizontal atmospheric mixing is substantially limited. Based on the above criteria, the proposed project would not cause an exceedance of the CO screening criteria and would have a less than significant impact related to CO.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM AIR-2 Apply Construction Best Management Practices

The contractor shall implement the following enhanced Best Management Practices (BMPs):

1. During site preparation and grading, all exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt tracked out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
7. Post a publicly visible sign with the telephone number of the Project Manager to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
8. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.

9. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
10. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
11. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
12. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
13. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6-to-12-inch compacted layer of wood chips, mulch, or gravel.
14. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.
15. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 2 minutes. Clear signage shall be provided for construction workers at all access points.

Level of Significance After Mitigation

Less than significant impact.

Sensitive Receptors Exposure to Toxic Air Contaminant Concentrations

Impact AIR-3:	**The proposed project could expose sensitive receptors to substantial pollutant concentrations.**

This impact addresses whether the proposed project would expose air pollution sensitive receptors to TACs such as construction-related asbestos during disturbance, construction-generated fugitive dust (PM_{10} and $PM_{2.5}$), construction-related TACs, construction-generated DPM, operational-related TACs, or operational CO hotspots. The modeling assumptions and methodology for the construction health risk assessment are provided in Appendix B.

As a residential project, the proposed project itself would be considered a sensitive receptor once operational. The project site is surrounded by existing residences to the south, east, and north of the project site. The closest off-site air pollution sensitive receptors in the vicinity of the project site include multi-family apartments north and south of the project site as well as single-family residences east of the project site across Oak Road.

Construction

Construction Asbestos Exposure

Asbestos from Demolition

Structures to be demolished sometimes contain asbestos-containing materials (ACM). Demolition of existing buildings and structures would be subject to BAAQMD Regulation 11, Rule 2 (Asbestos

Demolition, Renovation, and Manufacturing). BAAQMD Regulation 11, Rule 2 is intended to limit asbestos emissions from demolition or renovation of structure and the associated disturbance of ACM generated or handled during these activities. The rule addresses the national emissions standards for asbestos along with some additional requirements. The rule requires the lead agency and its contractors to notify BAAQMD of any regulated renovation or demolition activity. This notification includes a description of structures and methods utilized to determine whether ACMs are potentially present. All ACM found on-site must be removed prior to demolition or renovation activity in accordance with BAAQMD Regulation 11, Rule 2, including specific requirements for surveying, notification, removal, and disposal of ACMs. Therefore, projects that comply with BAAQMD Regulation 11, Rule 2 would ensure that ACM would be removed and disposed of appropriately and safely. By complying with BAAQMD Regulation 11, Rule 2, thereby minimizing the release of airborne asbestos emissions, demolition activity would not result in a significant impact to air quality.

Naturally Occurring Asbestos

The USGS published a guide for generally identifying areas that are likely to contain naturally occurring asbestos. The associated USGS map indicates that there are several locations within the County that are likely to contain naturally occurring asbestos; however, none of these sites are located within a 1-mile vicinity of the project site.[25] Therefore, it can be reasonably concluded that the proposed project would not expose sensitive receptors to naturally occurring asbestos during project construction. This impact would be less than significant.

Construction Fugitive Dust

Activities associated with earthmoving activities and construction would generate short-term emissions of fugitive dust resulting in increased dust fall and locally elevated levels of PM_{10} and $PM_{2.5}$ downwind of construction activity. Construction dust has the potential for creating a nuisance at nearby properties. As addressed under Impact AIR-2, MM AIR-2 is included to ensure that the BAAQMD BMPs would be implemented to reduce fugitive dust emissions from construction activities to less than significant. Implementation of MM AIR-2 would ensure impacts related to generation of localized fugitive dust during construction of the proposed project would be less than significant with mitigation.

Project-specific Construction TACs

A Health Risk Assessment (HRA) is a guide that helps to determine whether current or future exposures to a chemical or substance in the environment could affect the health of a population. In general, risk depends on the following factors:

- Identify the TACs that may be present in the air.
- Estimate the amount of TACs released from all sources, or the source of particular concern, using air samples or emission models.

[25] United States Geological Survey. 2011. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California. Website: https://pubs.usgs.gov/of/2011/1188/. Accessed June 21, 2021.

- Estimate concentrations of TACs in air in the geographic area of concern by using dispersion models with information about emissions, source locations, weather, and other factors.
- Estimate the number of people exposed to different concentrations of the TAC at different geographic locations.

During construction, the proposed project would result in the emissions of TACs that could potentially impact nearby sensitive receptors. TACs are the air pollutants of most concern as it relates to sensitive receptors, as they have the greatest potential to pose a carcinogenic and non-carcinogenic (such as asthma and bronchitis) hazard to human health. The BAAQMD has defined health risk significance thresholds, as previously discussed. These thresholds are represented as a cancer risk to the public and a non-cancer hazard from exposures to TACs. Cancer risk represents the probability (in terms of risk per million individuals) that an individual would contract cancer resulting from exposure to TACs continuously over a period of several years.

Construction DPM Emissions

The DPM construction emissions (as $PM_{2.5}$ exhaust emissions) were estimated using CalEEMod Version 2016.3.2. On-site DPM emissions would be generated by off-road construction equipment and the off-site DPM emissions would be generated by trips associated with the hauling of material, vendor trips, and worker vehicle traffic.

Air Dispersion Modeling Results

The EPA AERMOD air dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at sensitive receptors (i.e., residents) in the vicinity of the proposed project site. As presented in the memo prepared by Illingworth & Rodkin, Inc. (see Appendix B), the highest concentration of construction-related DPM and fugitive $PM_{2.5}$, and thus the maximally exposed individual (MEI), was located at a multi-family residence adjacent to the northern project boundary. As shown in Table 3.2-12, the unmitigated incremental increase in cancer risk from construction was 16.3 per million at the MEI. The maximum annual $PM_{2.5}$ concentration from construction was 0.45 µg/m^3. Both exceed their respective BAAQMD single-source thresholds of greater than 10 in a million and greater than 0.3 µg/m^3 for $PM_{2.5}$ concentration. Therefore, as discussed below, MM AIR-3 would be required to reduce the generation of DPM during project construction to reduce health risk impacts to less than significant.

Table 3.2-12: Construction Risk Impacts at the Off-site Residential MEIs

Scenario		Cancer Risk (per million)	Annual $PM_{2.5}$ (µg/m^3)	Hazard Index
Project Construction	Unmitigated	16.3 (infant)	0.45	0.01
	Mitigated	1.8 (infant)	0.19	<0.01
BAAQMD Single-Source Thresholds		**>10.0**	**>0.3**	**>1.0**
Exceed Threshold?	Unmitigated	Yes	Yes	No
	Mitigated	No	No	No

Scenario	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Notes: BAAQMD = Bay Area Air Quality Management District $PM_{2.5}$ = particulate matter, including dust, 2.5 micrometers or less in diameter $\mu g/m^3$ = micrograms per cubic meter Mitigation Measures include construction equipment engines with Tier 4 Interim emissions limits and BAAQMD's enhanced BMPs for fugitive dust.			

Table 3.2-12 summarizes the incremental cancer risk, $PM_{2.5}$ concentrations, and health hazard indexes at the MEI during project construction. With the incorporation of MMs AIR-2 and AIR-3, the incremental cancer risk and $PM_{2.5}$ concentration would not exceed the appropriate BAAQMD's single-source thresholds. Both the unmitigated and mitigated non-cancer hazards from construction activities would be below the BAAQMD's single-source significance threshold of 1.0.

Community Health Risk Assessment

Table 3.2-13 displays the cumulative community risk impacts at the sensitive receptors most affected during project construction (i.e., the construction MEI and receptor with the highest annual construction-related $PM_{2.5}$ concentration). The cumulative community health risks shown in Table 3.2-13 consider existing DPM emissions from Interstate 680, a nearby truck weigh station, Oak Road, Treat Boulevard, and six nearby facilities hosting permitted stationary source equipment. As shown in Table 3.2-13, the incorporation of MM AIR-3 would not reduce the annual $PM_{2.5}$ concentration to below the BAAQMD's community threshold of 0.8 $\mu g/m^3$, ultimately resulting in a community annual $PM_{2.5}$ concentration of 1.17 $\mu g/m^3$. Nonetheless, as shown in Table 3.2-12, the proposed project's contribution to that exceedance in community annual $PM_{2.5}$ concentration constitutes an estimated 0.19 $\mu g/m^3$. As such, without implementation of the proposed project, the area would otherwise experience an annual $PM_{2.5}$ concentration of 0.98 $\mu g/m^3$, which is currently above the BAAQMD's threshold of 0.8 $\mu g/m^3$. Therefore, because the proposed project would be implementing mitigation sufficient to reduce the proposed project's health risk impacts to below the BAAQMD's single-source thresholds and the annual $PM_{2.5}$ concentration would exceed BAAQMD thresholds without implementation of the proposed project, the proposed project would not be cumulatively considerable or result in a significant impact.

Table 3.2-13: Impacts from Combined Sources at Off-Site Construction MEI

Scenario		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Cumulative Impacts	Unmitigated	38.1	1.42	<0.08
	Mitigated	23.6	1.17	<0.07
BAAQMD Cumulative Health Risk Thresholds		**>100**	**>0.8**	**>10**
Exceed Threshold?	Unmitigated	No	Yes	No
	Mitigated	No	Yes	No

Scenario	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Notes: $PM_{2.5}$ = particulate matter, including dust, 2.5 micrometers or less in diameter $\mu g/m^3$ = micrograms per cubic meter BAAQMD = Bay Area Air Quality Management District Mitigated mitigation measures include MM AQ-1 and MM AQ-2; BAAQMD enhanced BMPs and construction equipment engines with Tier 4 interim emissions limits.			

Carbon Monoxide Hotspot

As discussed in Impact AIR-1, the proposed project would not generate sufficient CO emissions during project operation to substantiate the creation of a CO hotspot. Therefore, this impact would be less than significant with regard to exposing sensitive receptors to substantial concentrations of CO emissions. As such, the proposed project would result in less-than-significant impacts related to exposing sensitive receptors to substantial pollutant concentrations.

Level of Significance

Potentially significant impact.

Mitigation Measures

MM AIR-3 Selection of equipment during construction to minimize diesel particulate matter (DPM) emissions.

The project shall implement the following:

1. Prior to the issuance of grading or construction permits, the applicant shall provide the Department of Conservation and Development, Community Development Division (CDD) with documentation to the satisfaction of CDD that all diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously, at a minimum, meet United States Environmental Protection Agency (EPA) emissions standards for Tier 4 Interim engines. Where Tier 4 equipment is not available, exceptions could be made for equipment meeting Tier 2 or Tier 3 standards that include California Air Resources Board (ARB)-certified Level 3 Diesel Particulate Filters or equivalent. Equipment that is electrically powered or uses non-diesel fuels would also meet this requirement.
2. Minimize diesel generator use by providing line power to the site during early construction phases.
3. Avoid staging construction equipment near residences (i.e., within 200 feet of homes).

Level of Significance After Mitigation

Less than significant impact.

Objectionable Odors Exposure

Impact AIR-4: **The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.**

Impact Analysis

Construction

During construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. It is anticipated that by the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality or odor concern. Therefore, construction odor impacts would be less than significant.

Operation

The proposed project would consist of a new multi-family residential development. Operation of this type of project would likely not generate objectionable odors. The type of uses that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. Four such facilities, operated by East Bay Municipal Utility District, were identified within the 1- and 2-mile odor screening distances for wastewater and pumping facilities. Nonetheless, public records retrieved from the BAAQMD show that no odor complaints were filed for these locations between January 1, 2018, and the time at which this analysis was prepared. Moreover, as the proposed project is residential in nature, it is not anticipated to generate objectionable odors which may affect a substantial number of people. Therefore, this impact would be less than significant.

Level of Significance

Less than significant impact.

3.2.5 - Cumulative Impacts

The BAAQMD considers the emission levels for which a project's individual emissions would be cumulatively significant. As such, if a project exceeds the identified thresholds of significance, its emissions would be significant in terms of both project- and cumulative-level impacts, resulting in significant adverse air quality impacts to the region's existing air quality conditions. As stated in the BAAQMD 2017 CEQA Guidelines, additional analysis to assess cumulative impacts is unnecessary. Rather, the determination of cumulative air quality impacts for construction and operational emissions is based on whether the proposed project would result in regional emissions that exceed BAAQMD regional thresholds of significance for construction and operations on a project level. Projects that generate emissions below the BAAQMD significance thresholds would be considered consistent with regional air quality planning efforts would not generate cumulatively significant emissions. As discussed in Impact AIR-2, with the incorporation of MM AIR-2, the proposed project would result in construction and operational emissions which are less than the respective BAAQMD significance thresholds and would therefore not have a cumulatively considerable contribution to a

cumulative impact. The proposed project would therefore result in less than significant cumulative air quality impacts.

Regarding impacts to sensitive receptors, the DPM emissions from construction of the proposed project would result in less than significant health impacts after implementation of MM AIR-3 and would not combine with emissions from other cumulative projects to the extent that a significant cumulative impact would occur. In addition, the operational DPM emissions during operation of the proposed project would not result in significant health impacts and would constitute the greatest level of development. Given that the proposed project would be required to implement mitigation that is likely to result in decreased DPM emissions from what is disclosed in this analysis, the combined operation of the proposed project would not result in exposing nearby sensitive receptors to substantial amounts of pollutants. As discussed in Chapter 3, Environmental Impact Analysis, foreseeable future development projects in the area would not place new sensitive receptors near the proposed project that would be exposed to substantial amounts of pollutants. Therefore, the cumulative impact associated with construction and operation of the proposed project would be less than significant.

Odor impacts that would be associated with the proposed project would principally be limited to the combustion of transportation fuels during construction and operation. The impact would be less than significant during project construction and operation would be intermittent and spatially dispersed. Therefore, cumulative odor impacts would be less than significant.

The proposed project would not result in significant cumulative air quality or health impacts.

Level of Cumulative Significance Before Mitigation

Potentially significant impacts.

Cumulative Mitigation Measures

Implement MM AIR-2 and MM AIR-3.

Level of Cumulative Significance After Mitigation

Less than significant impact.

3.3 - Biological Resources

3.3.1 - Introduction

This section describes the existing biological resources conditions on the project site, as well as the relevant regulatory framework. This section also evaluates the possible impacts related to biological resources that could result from implementation of the proposed project and includes appropriate mitigation measures to reduce potential impacts to a less than significant level. Information in this section is based on a special-status species assessment and subsequent supplemental documentation prepared by Live Oak Associates on December 2, 2020, and May 12, 2021, respectively; a Tree Report prepared by HortScience/Bartlett Consulting on January 11, 2021; and a brief memorandum prepared by FirstCarbon Solutions (FCS) as part of the peer review process to confirm existing conditions on the project site as outlined by Live Oak and HortScience/Bartlett Consulting. These reports can be found in Appendix C.

During the Notice of Preparation (NOP) comment period, the following comments were received related to the proposed project regarding Biological Resources:

- Objection to the removal of 74 trees including many valley oak trees and its potential impact on animal and avian species, as well as on views; stating that the neighboring residents have cooperated with project site owners to pay for maintenance of tree No. 80; requesting that tree No. 77, 78, and 79 be preserved in addition to tree No. 80.
- Concern that the proposed tree removal would put plant and animal species at risk.
- Objection to the removal of 75 of the 81 [*sic*] trees on the project site, including seven heritage valley oaks; stating that the City of Walnut Creek required the developer of the Tiffany site to build around a heritage tree originally planned for removal and urging the County to do the same with trees on the proposed site; questioning the necessity to remove 24 healthy mature coast redwoods on the southern border of the project site only to replace them at a later date and suggesting they be preserved.
- Concerns regarding impacts to biological resources, stating a complete environmental impact report should be completed.
- Concerns regarding biological impacts due to change from previous agricultural uses.
- Requesting preservation of the oak tree that faces a specific unit.

3.3.2 - Environmental Setting

Records Searches and Field Survey to Identify Existing Biological Resources

Literature Review

FCS Biologists reviewed existing environmental documentation for the project site and immediate vicinity. This documentation included the special-status species assessment and subsequent supplemental documentation prepared by Live Oak Associates and a Tree Report prepared by HortScience/Bartlett Consulting. Additionally, relevant literature pertaining to the habitat

requirements of special-status species potentially occurring near the project site; and species data provided by the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) was queried.

Topography and Hydrology

FCS Biologists reviewed current United States Geological Survey (USGS) 7.5-minute topographic quadrangle map(s) and aerial photographs as a preliminary analysis of the existing conditions within the project site and immediate vicinity. Information obtained from the review of the topographic maps included elevation range, general watershed information, and potential drainage feature locations.[1] Aerial photographs provide a perspective of the most current site conditions relative to on-site and off-site land use, plant community locations, and potential locations of wildlife movement corridors.

Soil

FCS Biologists also reviewed United States Department of Agriculture (USDA) soil surveys to establish if soil conditions on the project site are suitable for special-status plant species.[2] These soil profiles include soil series with similar thickness, arrangement, and other important characteristics. The soil series consist of separate soil mapping units that provide specific information regarding soil characteristics. Many special-status plant species and habitat types have a limited distribution based exclusively on soil type. Therefore, pertinent USDA soil survey maps were reviewed to determine the existing soil mapping units within the project site and to establish if soil conditions are suitable for any special-status plant species.

Special-status Wildlife and Plant Species

FCS Biologists compiled a list of threatened, endangered, and otherwise special-status species previously recorded within a 5-miles radius of the project site. The list was based on Live Oak's special-status species assessment and subsequent supplemental documentation, search of the CDFW California Natural Diversity Database (CNDDB),[3] a special-status species and plant community account database, and the California Native Plant Society (CNPS) Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California database[4] for the *Walnut Creek*, California USGS 7.5-minute Topographic Quadrangle Map and eight surrounding quadrangles (Benicia, Vine Hill, Honker Bay, Briones Valley, Clayton, Oakland East, Las Trampas Ridge, and Diablo). The database search results can be found in Appendix C. The CNDDB Biogeographic Information and Observation System (BIOS) database[5] was used to determine the distance between known recorded occurrences of special-status species and the project site.

[1] United States Geological Survey (USGS). 2021 USGS Maps. Website: https://www.usgs.gov/products/maps/map-topics/overview. Accessed May 26, 2021.

[2] United States Department of Agriculture (USDA). No date. Web Soil Survey: 2021 Soil Survey. Website: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed May 26, 2021.

[3] California Department of Fish and Wildlife (CDFW). 2021. California Natural Diversity Database (CNDDB). Website: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed May 26, 2021.

[4] California Native Plant Society (CNPS). 2021. Rare and Endangered Plant Inventory. Website: http://rareplants.cnps.org/. Accessed May 26, 2021.

[5] California Department of Fish and Wildlife (CDFW). 2021. Biogeographic Information and Observation System (BIOS 5). Website: https://map.dfg.ca.gov/bios/. Accessed May 26, 2021.

Common plant species observed during the reconnaissance-level survey were identified by visual characteristics and morphology in the field and recorded in a field notebook, other identification tools included taxonomical guides, including Jepson eFlora and Calflora.[6,7] Taxonomic nomenclature used in this study follows The Jepson Manual: Vascular Plants of California (2nd Edition).[8] Vegetation community and land cover types used to help classify habitat types are based on the Manual of California Vegetation and cross-referenced with the CDFW Natural Communities List. [9,10]

FCS recorded all wildlife species that were detected during the reconnaissance-level survey by sight, calls, tracks, scat, or other signs. The FCS Biologist made notations regarding suitable habitat for those special-status species determined to potentially occur within the project site.[11] Online resources such as eBird were consulted, as necessary. [12]

Trees

FCS Biologists reviewed applicable County ordinances pertaining to tree preservation and protective measures and their tree replacement conditions or permits required, such as Section 816-6.8010 of the Contra Costa County Code. FCS also performed a peer review of the previously completed Tree Report (Appendix C).[13]

Jurisdictional Waters and Wetlands

Prior to conducting the field survey, an FCS Biologist reviewed USGS topographic maps and aerial photography to identify any potential natural drainage features and water bodies. In general, all surface drainage features identified as blue-line streams on USGS maps and associated riparian habitat are considered potentially subject to State and federal regulatory authority as "waters of the United States and/or State." A preliminary assessment was conducted to determine the location of any existing drainages and limits of project-related grading activities, to aid in determining whether any waters of the United States or State was present on-site.

Field Survey

FCS Biologist, Robert Carroll conducted a reconnaissance-level field survey of the project site on April 27, 2021, between approximately 10:30 a.m. and 11:30 a.m. The object of the survey was to ascertain general site conditions and identify potential suitable habitat for various special-status plant and wildlife species, and the potential or actual presence of other sensitive biological resources. These areas included on-site trees and structures that have the potential to support

[6] Jepson Flora Project (eds.) 2021. Jepson eFlora, https://ucjeps.berkeley.edu/eflora/. Accessed on May 26, 2021.
[7] Calflora. 2021. Calflora: Information on California plants for education, research, and conservation. Website: http://www.calflora.org/. Accessed May 26, 2021.
[8] Baldwin, B. et al. 2012. The Jepson Manual: Vascular Plants of California. 2nd Edition Berkeley: University of California Press. County of San Bernardino (Bernardino).
[9] Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento.
[10] California Department of Fish and Wildlife (CDFW). 2021. Natural Communities List, Sacramento: California Department of Fish and Wildlife. Website: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities. Accessed June 7, 2021.
[11] California Department of Fish and Wildlife (CDFW). 2021. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed May 26, 2021.
[12] eBird. 2021. Online bird occurrence database. Website: http://ebird.org/content/ebird/. Accessed: May 26, 2021.
[13] HortScience, Inc. 2021. Tree Inventory Report.

nesting birds and roosting bats. Special-status species with potential to occur on the project site identified during the literature review were a focus during the reconnaissance-level survey.

Project Site–Urban/Developed

The general vicinity of the project site is dominated by a cover of suburban landscapes, which mostly support ornamental landscaping. The project site is developed and consists of eight parcels, and is located southeast of the intersection of Interstate 680 (I-680) and Treat Boulevard, within unincorporated Contra Costa County. The former Palmer School for Boys and Girls, a private elementary school, operated at the project site from 1939 until its closure due to COVID-19 in June 2020. The project site is within a developed urban area and surrounded by residential and commercial development. The project site contains vacant and occupied associated structures, two grass fields, parking lots, and planters. The 5.94-acre project site is composed of 5.92-acres of hardscaped areas and .02-acre of grass fields located on the western and eastern edges of the project site, which appeared to be highly managed (regularly mowed), and in case of the sports field, irrigated.

The project site contains 81 trees, representing 21 species. Trees are clustered in the northern, eastern, and southern portions of the site. The most abundant species on-site include 27 coast redwoods (*Sequoia sempervirens*), nine valley oaks (*Quercus lobata*), and eight glossy privets (*Ligustrum japonicum*). No other species is represented by more than five trees.

Sensitive Biological Communities

Sensitive biological communities are considered to include vegetation communities listed in the CNDDB and communities listed by the CDFW Natural Communities List with a rarity ranked between S1-S3. Aquatic habitats, including wetlands, and riparian corridors are also typically considered sensitive natural communities and are addressed in the environmental review process, if present.

A sensitive biological community first must be naturally occurring to be classified as such. Aerial photography indicates that most of the trees on-site appear to be ornamental plantings and thus not part of a natural community (e.g., naturally occurring oak savanna or oak woodland).[14] While there are no sensitive biological communities located on the project site, individual trees are protected and discussed in further detail in Impact BIO-5 below.

Wetlands and Waters of the United States and the State

Wetlands and waters of the United States and waters of the State are protected as aquatic resources that provide habitat for common and special-status species. Types of aquatic resource features include open water, tidal marsh, seasonal wetland, wetlands swale, streams, creeks and other waters.

[14] Google Earth Pro, 1937. 37° 55' 27.33"N, 122° 03' 31.52"W, Eye alt 3,281 ft. Accessed June 7, 2021.

There are no aquatic features located within the project site that are potentially regulated as jurisdictional waters of the United States or waters of the State, or wetlands. The project site is built out and lacks aquatic features such as streams, creeks, ponds, and vernal pools.

Common Species

The vegetation community and land cover type discussed above provide habitat for numerous local wildlife species. The project site may provide cover and foraging opportunities for urban-adapted mammals such as raccoon (*Procyon lotor)* and Virginia opossum (*Didelphis virginiana)*.

Because of a lack of suitable habitat, it is unlikely that amphibians and reptiles would regularly occur on the project site. The trees within the project site and within the greater project site vicinity provide suitable habitat for nesting avian species. The small number of wildlife species observed on or near the project site consist of avian species identified by song or sight. The following species were observed during the April 2021 field survey: Anna's hummingbird (*Calypte anna*), rock pigeon (*Columba livia*), American crow (*Corvus brachyrhynchos*) mourning dove (*Zenaida macroura*), California scrub jay (*Aphelocoma californica)*, and house finch (*Haemorhous mexicanus*).

Special-status Species

Special-status species, whether plants, wildlife, or fish, are considered sufficiently rare that they require special consideration and/or protection and have been or should be listed as rare, threatened, or endangered by the federal and/or State governments. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under the California Endangered Species Act (CESA) and the federal Endangered Species Act;
- Protected by the Migratory Bird Treaty Act (MBTA);
- CDFW Fully Protected Species and Species of Special Concern; or
- Plant species on the CNPS List ranked as 1, 2, or 3.

The following discussion focuses on potential for occurrence of special-status species on the project site.

Special-status Plant Species Evaluated

The Special-status Plant Species Table (Appendix C, Table 1) lists 20 special-status plant species and CNPS sensitive species that have been recorded within a 5-mile radius of the project site (Exhibit 3.3-1).[15,16,17] The table also includes the species' status, required habitat, and potential to occur within the project site. Special-status plant species that were determined to have no potential to occur on-site are also included in the table, along with the justification for their exclusion from

[15] California Department of Fish and Wildlife (CDFW). 2021. California Natural Diversity Database (CNDDB). Website: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed May 26, 2021.

[16] California Native Plant Society (CNPS). 2021. Rare and Endangered Plant Inventory. Website: http://rareplants.cnps.org/. Accessed May 26, 2021.

[17] California Department of Fish and Wildlife (CDFW). 2021. Biogeographic Information and Observation System (BIOS 5). Website: https://map.dfg.ca.gov/bios/. Accessed May 26, 2021.

further discussion. A plant's potential to occur on the project site was based on presence of suitable habitats, soil types, and occurrences recorded by the CNPSEI and CNDDB within the *Walnut Creek*, California Topographic Quadrangle Map and eight surrounding quadrangles.

None of the species evaluated shown in Table 1 has the potential to occur within the project site because no native natural habitat that could support native special-status plant species occurs within the project site. Based upon the literature review and field surveys conducted by both Live Oak and FCS, and professional experience, no special-status plant species are expected to occur within the project site because of the absence of suitable habitat, previous land use, and the urban/developed land cover.

Special-status Wildlife Species Evaluated

The Special-status Wildlife Species Table (Appendix C, Table 2) identifies 28 federally and State-listed threatened and/or endangered wildlife species and California Species of Special Concern that were analyzed by Live Oak and have been recorded within a 5-mile radius of the project site (Exhibit 3.3-1).[18,19] Table 2 includes the species' status, required habitat types and features, and potential to occur within the project site. Additionally, Table 2 includes all special-status wildlife species that have been determined unlikely to occur on-site, primarily based on the absence of suitable habitat and the lack of recorded occurrence in the project vicinity, along with the justification for their exclusion from further discussion. The potential for wildlife to occur on the project site was based on presence of suitable habitats and occurrences recorded by the CNDDB within the *Walnut Creek*, California Topographic Quadrangle Map and eight surrounding quadrangles.

Twenty-three of the 28 special-status wildlife species recorded were determined to have no potential to occur and are therefore excluded from further analysis. Five special-status wildlife species have at least some potential to occur on the project site and are therefore discussed in further detail below.

Mammals

Pallid Bat

Pallid bat (*Antrozous pallidus)* is a California Species of Special Concern. This species occurs commonly in low elevations throughout California and occupies a wide variety of habitats, including woodlands, grasslands, shrublands, and forests from sea level up to mixed conifer forests. There have been 11 recorded occurrences of this species within the *Walnut Creek*, California Topographic Quadrangle Map and eight surrounding quadrangles.[20] This species is most common in open, dry habitats with rocky areas, but may also be found in caves, crevices, hollow trees, and buildings for roosting. The project site generally lacks suitable foraging habitat for this species and the nearest recorded occurrence is approximately 1.25 miles from the project site. However, the trees and buildings present within the project site and within the immediate vicinity may provide marginal roosting habitat for this species.

[18] California Department of Fish and Wildlife (CDFW). 2021. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed May 26, 2021.

[19] California Department of Fish and Wildlife (CDFW). 2021. California Natural Diversity Database (CNDDB). Website: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed May 26, 2021.

[20] Ibid.

Townsend's Big-Eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii)* is a California Species of Special Concern. This species is found throughout California, but details regarding its distribution are not well known. This species is found in all but alpine and sub-alpine habitats. It is most common in mesic habitats where it gleans from trees or feeds along habitat edges. This species requires caves, tunnels, buildings, or other anthropogenic structures for roosting. There have been four recorded occurrences of this species within the *Walnut Creek*, California Topographic Quadrangle Map and eight surrounding quadrangles.[21] The project site generally lacks suitable foraging habitat for this species and the nearest recorded occurrence is approximately 1.25 miles from the project site. However, the trees and buildings present within the project site and within the immediate vicinity may provide marginal roosting habitat for this species.

Hoary Bat

Hoary bat (*Lasiurus cinereus)* is listed by the Western Bat Working Group as "medium priority." This species prefers open habitats or habitat mosaics, with access to trees for cover and open areas for feeding. Roosts are in dense foliage of medium to large trees. There have been four recorded occurrences of this species within the *Walnut Creek*, California Topographic Quadrangle Map and eight surrounding quadrangles.[22] The project site generally lacks suitable foraging habitat for this species and the nearest recorded occurrence is approximately 2 miles from the project site. However, the trees and buildings present within the project site and within the immediate vicinity may provide marginal roosting habitat for this species.

Big Free-tailed Bat

Big free-tailed bat (*Nyctinomops macrotis)* is a California Species of Special Concern. This species mainly inhabits rugged and rocky terrain and roosts in buildings caves, and occasionally in holes in trees. This species was analyzed by Live Oak but was not recorded within 5 miles of the project site. The nearest recorded occurrence is approximately 7.5 miles north of the project site.[23] While the project site lacks rocky terrain, it does contain buildings that may provide marginal roosting habitat for this species.

Migratory and Nesting Birds

Trees within the project site provide suitable nesting habitat for various avian species, including special-status species such as white-tailed kite (*Elanus leucurus)* as well as birds protected under the MBTA and the California Fish and Game Code.

White-tailed Kite

White-tailed kite is listed as a Fully Protected species by the CDFW. This species generally inhabits rolling foothill and valley margins with scattered oaks. It is also found in open grasslands, meadows, and agricultural areas. This species was analyzed by Live Oak but was not recorded within 5 miles of the project site.

[21] California Department of Fish and Wildlife (CDFW). 2021. California Natural Diversity Database (CNDDB). Website: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed May 26, 2021

[22] Ibid.

[23] California Department of Fish and Wildlife (CDFW). 2021. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed May 26, 2021.

The nearest recorded occurrence is approximately 13 miles northeast of the project site.[24] The project site contains large trees, including oaks that may provide nesting habitat for this species.

Wildlife Movement Corridors

An FCS Biologist evaluated the project site for evidence of a wildlife movement corridor during the field survey, concluding that the project site is not part of or within a wildlife movement corridor. The lack of aquatic features on or in the project vicinity prevent wildlife movement corridors for fish or other aquatic dependent species. Additionally, the high level of development on or in the project vicinity combined with various barriers, including I-680 directly to the west, further impede the movement of terrestrial species through the area.

Regulated Trees

Trees are protected under Chapter 816-6 of the Ordinance Code. Trees having a diameter of 6.5 inches or greater as measured 4.5 feet from ground level is considered a protected tree under the County's Code Section 816-6.6004. According to the Tree Report, all trees over 6 inches in diameter located within the proposed project limits were assessed. 81 trees were assessed representing 22 species. Of the 81 trees assessed (including 75 on-site), six (tree No. 80, 160, 161, 168, 171, and 172) appeared to be located on adjacent properties. These six trees were included in the assessment because their trunks were within 2 feet of the presumed property line and/or tree crowns extended into the project area. Seventy-three of the 81 trees inventoried qualify as "protected" trees due to their size; therefore, removal of these trees would require permits (Exhibit 3.3-2).

3.3.3 - Regulatory Framework

Federal

Endangered Species Act

The United States Congress passed the Endangered Species Act in 1973 to protect those species that are endangered or threatened with extinction. The Endangered Species Act is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

The Endangered Species Act prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (16 United States Code [USC] § 1531 *et seq*.). "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 Code of Federal Regulations [CFR] § 17.3). "Harass" is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR § 17.3). Actions that result in take can result in civil or criminal penalties.

The Endangered Species Act and the Clean Water Act (CWA) Section 404 guidelines prohibit the issuance of wetland permits for projects that jeopardize the continued existence of any endangered

[24] California Department of Fish and Wildlife (CDFW). 2021. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed June 7, 2021

species or threatened species or result in the destruction or adverse modification of habitat of such species. The United States Army Corps of Engineers (USACE) must consult with the USFWS and/or the National Marine Fisheries Service (NOAA Fisheries) when threatened or endangered species under their jurisdiction may be affected by a proposed project. In the context of the proposed project, Endangered Species Act consultation would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by several State and federal laws. The MBTA prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior.

Eagle Protection Act

The golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) are afforded additional protection under the Eagle Protection Act, amended in 1973 (16 United States Code [USC] § 669, *et seq*.) and the Bald and Golden Eagle Protection Act (16 USC §668–668d).

Clean Water Act

The USACE regulates the discharge of dredge or fill material into waters of the United States under Section 404 of the CWA. “Discharges of fill material” is defined as the addition of fill material into waters of the United States, including, but not limited to, the following: placement of fill that is necessary for the construction of any structure or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines (33 CFR § 328.2(f)) In addition, Section 401 of the CWA (33 United States Code [USC] 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the United States include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways, depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR § 328.3(b)) Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the “normal circumstances” for the site.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) (33 CFR § 328.4(c)(1)). The OHWM is defined by the USACE as “that line on

shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR § 328.3(e)).

Navigable Waters Protection Rule

On April 21, 2020, the United States Environmental Protection Agency (EPA) and the USACE (collectively "Agencies") published a new definition of waters of the United States in the Federal Register. This new definition, called the 2020 Navigable Waters Protection Rule (NWPR), went into effect on June 22, 2020. Under the 2020 NWPR, the Code of Federal Regulations (33 CFR § 328.3(a); 40 CFR § 230.3(s)) currently defines waters of the United States as:

1. The territorial seas, and traditional navigable waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;
2. Perennial and intermittent tributaries that contribute surface water flow to such waters;
3. Certain ponds, lakes, and impoundments of jurisdictional waters; and
4. Adjacent wetlands to other jurisdictional features.

Section 404 jurisdiction regarding "other waters" refers to features such as ponds, lakes, and streams, extends to the upward limit of the OHWM. The OHWM is defined as the "line on shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." (33 CFR Section 328.3(7)).

State

California Endangered Species Act

The State of California enacted CESA in 1984. CESA pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with the CDFW when preparing California Environmental Quality Act (CEQA) documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those species if there are reasonable and prudent alternatives available (California Fish and Game Code [FGC] § 2080). CESA directs agencies to consult with the CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows the CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows the CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC § 2081).

California Fish and Game Code

Under CESA, the CDFW has the responsibility for maintaining a list of endangered and threatened species (FGC § 2070). Fish and Game Code Sections 2050 through 2098 outline the protection provided to California's rare, endangered, and threatened species. Fish and Game Code Section 2080 prohibits the taking of plants and animals listed under the CESA. Fish and Game Code Section 2081 established an incidental take permit program for State-listed species. The CDFW maintains a list of "candidate species," which it formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the Native Plant Protection Act of 1977 (NPPA) (FGC § 1900, *et seq*.) prohibits the taking, possessing, or sale within the State of any plants with a State designation of rare, threatened, or endangered (as defined by the CDFW). An exception to this prohibition in the NPPA allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. Fish and Game Code Section 1913 exempts from "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way." Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

The CDFW also maintains lists of "Species of Special Concern" that serve as species "watch lists." The CDFW has identified many Species of Special Concern. Species with this status have limited distribution or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under CEQA and thereby warrant specific protection measures.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for the assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the CNPS List ranked 1A, 1B, and 2 would typically require evaluation under CEQA.

Fish and Game Code Sections 3500 to 5500 outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Under Fish and Game Code Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders of *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant

thereto. To comply with the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project study area and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. "Take" of protected species incidental to otherwise lawful management activities may be authorized under Fish and Game Code Section 206.591. Authorization from the CDFW would be in the form of an Incidental Take Permit.

Fish and Game Code Section 1602 requires any entity to notify the CDFW before beginning any activity that "may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake" or "deposit debris, waste, or other materials that could pass into any river, stream, or lake." "River, stream, or lake" includes waters that are episodic and perennial; and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement will be required if the CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water.

California Department of Fish and Wildlife Species of Concern

In addition to formal listing under the Endangered Species Act and CESA, species receive additional consideration by the CDFW and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. It tracks species in California whose numbers, reproductive success, or habitat may be threatened. In addition to Species of Special Concern, the CDFW identifies animals that are tracked by the CNDDB but warrant no federal interest and no legal protection. These species are identified as California Special Animals.

Porter-Cologne Water Quality Control Act

The CDFW is a trustee agency that has jurisdiction under Fish and Game Code Section 1600, *et seq*. Under Fish and Game Codes Sections 1602 and 1603, a private party must notify the CDFW if a proposed project would "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds . . . except when the department has been notified pursuant to Section 1601." Additionally, the CDFW may assert jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over 4 inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, the CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with the CDFW identifying the approved activities and associated mitigation measures.

Section 13260(a) of the Porter-Cologne Water Quality Control Act (contained in the California Water Code) requires any person discharging waste or proposing to discharge waste, other than to a

community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of waters of the State.

Historically, California relied on its authority under Section 401 of the CWA to regulate discharges of dredged or fill material to California waters. That section requires an applicant to obtain "water quality certification" from the California State Water Resources Control Board (State Water Board) through its Regional Water Quality Control Boards (RWQCBs) to ensure compliance with State water quality standards before certain federal licenses or permits may be issued. The permits subject to Section 401 include permits for the discharge of dredged or fill material (CWA Section 404 permits) issued by the USACE. Waste discharge requirements under the Porter-Cologne Water Quality Control Act were typically waived for projects that required certification. With recent changes that limited jurisdiction of wetlands under the CWA, the State Water Board has had to rely on the report of waste discharge process.

California State Water Resources Control Board/RWQCB Stormwater Management Permitting

While federal CWA National Pollutant Discharge Elimination System (NPDES) regulations allow two permitting options for construction-related stormwater discharges (individual permits and General Permits), the State Water Board has elected to adopt only one Statewide Construction General Permit at this time that will apply to all stormwater discharges associated with construction activity, except from those on Tribal Lands in the Lake Tahoe Hydrologic Unit, and those performed by the California Department of Transportation (Caltrans).

The Construction General Permit requires all dischargers where construction activity disturbs greater than 1 acre of land or those sites less than 1 acre that are part of a common plan of development or sale that disturbs more than one acre of land surface to:

1. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving off-site into receiving waters.
2. Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation. Achieve quantitatively-defined (i.e., numeric) pollutant-specific discharge standards, and conduct much more rigorous monitoring based on the project's projected risk level.
3. Perform inspections of all BMPs.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the NPPA, which directed the CDFW to carry out the Legislature's intent to "preserve, protect, and enhance endangered plants in this State." The NPPA gave the CDFW the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. CESA expanded on the original NPPA and enhanced legal protection for plants. CESA established categories for threatened and endangered species and grandfathered all rare animals—but not rare plants—into the act as

threatened species. Thus, the State of California employs three listing categories for plants: rare, threatened, and endangered.

The CNPS maintains a rank of plant species native to California that has low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- **Rank 1A**: Plants presumed Extinct in California
- **Rank 1B:** Plants Rare, Threatened, or Endangered in California and elsewhere
- **Rank 2A:** Plants presumed extirpated in California but common elsewhere
- **Rank 2B:** Plants rare, threatened, or endangered in California but more common elsewhere
- **Rank 3:** Plants about which we need more information—A Review List
- **Rank 4:** Plants of limited distribution—A Watch List

All plants appearing on CNPS Rank 1 or 2 are considered to meet the CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, potential impacts to these species or their habitats should be analyzed during the preparation of environmental documents relating to CEQA, as they may meet the definition of Rare or Endangered under CEQA Guidelines Section 15380 criteria.

Local

Habitat Conservation Plan

The proposed project does not lie within the boundaries of any adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State HCP.

Contra Costa County General Plan

The purpose of the Contra Costa County General Plan (General Plan) is to express the broad goals and policies, and specific implementation measures, which will guide decisions on future growth, development, and the conservation of resources through the year 2020. The following are the applicable General Plan goals and policies most pertinent to the proposed project with regard to protection and preservation of the natural resources in the area.

Goal 8-A To preserve and protect the ecological resources of the County.

Goal 8-B To conserve the natural resources of the County through control of the direction, extent and timing of urban growth.

Goal 8-D To protect ecologically significant lands, wetlands, plant, and wildlife habitats.

Goal 8-E To protect rare, threatened and endangered species of fish, wildlife, and plants, significant plant communities, and other resources which stand out as unique because of their scarcity, scientific value, aesthetic quality or cultural significance. Attempt to achieve a significant net increase in wetland values and functions within the County over the life of the General Plan. The definition of rare, threatened, and

endangered includes those definitions provided by the Federal Endangered Species Act, the California Endangered Species Act, the California Native Plant Protection Act, and the California Environmental Quality Act.

Policies

Policy 8-1 Resource utilization and development shall be planned within a framework of maintaining a healthy and attractive environment.

Policy 8-3 Watersheds, natural waterways, and areas important for the maintenance of natural vegetation and wildlife populations shall be preserved and enhanced.

Policy 8-6 Significant trees, natural vegetation, and wildlife populations generally shall be preserved.

Policy 8-7 Important wildlife habitats which would be disturbed by major development shall be preserved, and corridors for wildlife migration between undeveloped lands shall be retained.

Policy 8-9 Areas determined to contain significant ecological resources, particularly those containing endangered species, shall be maintained in their natural state and carefully regulated to the maximum legal extent. Acquisition of the most ecologically sensitive properties within the County by appropriate public agencies shall be encouraged.

Policy 8-10 Any development located or proposed within significant ecological resource areas shall ensure that the resource is protected.

Policy 8-12 Natural woodlands shall be preserved to the maximum extent possible in the course of land development.

Policy 8-13 The critical ecological and scenic characteristics of rangelands, woodlands, and wildlands shall be recognized and protected.

Policy 8-15 Existing vegetation, both native and non-native, and wildlife habitat areas shall be retained in the major open space areas sufficient for the maintenance of a healthy balance of wildlife populations.

Policy 8-21 The planting of native trees and shrubs shall be encouraged in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and ensure that a maximum number and variety of well-adapted plants are sustained in urban areas.

Policy 8-22 Applications of toxic pesticides and herbicides shall be kept at a minimum and applied in accordance with the strictest standards designed to conserve all the living resources of the County. The use of biological and other non-toxic controls shall be encouraged.

Policy 8-28 Efforts shall be made to identify and protect the County's mature native oak, bay, and buckeye trees.

Policy 9-A To preserve and protect the ecological, scenic, cultural/historic, and recreational resource lands of the county.

Policy 9-C To achieve a balance of open space and urban areas to meet the social, environmental, and economic needs of the county now and for the future.

Contra Costa County Ordinance Code

Chapter 82-1—65/35 Land Preservation Plan

Chapter 82-1 covers the implementation of the general plan and the various regulations regarding development in urban and undeveloped areas.

Section 816-6. Lists the protected trees, permit requirements, and the application process for tree removal.

- A protected tree is any one of the following:

(1) On all properties within the unincorporated area of the county:

(A) Where the tree to be cut down, destroyed or trimmed by topping is adjacent to or part of a riparian, foothill woodland or oak savanna area, or part of a stand of four or more trees, measures twenty inches or larger in circumference (approximately 6.5 inches in diameter) as measured four and one-half feet from ground level, and is included in the following list of indigenous trees: *Acer macrophyllum* (Bigleaf Maple), *Acer negundo* (Box Elder), *Aesculus califonica* (California Buckeye), *Alnus Rhombifolia* (White Alder), *Arbutus menziesii* (Madrone), *Heteromeles arbutifolia* (Toyon), *Juglans Hindsii* (California Black Walnut), *Juniperus californica* (California Juniper), *Lithocarpus densiflora* (Tanoak or Tanbark Oak), *Pinus attenuata* (Knobcone Pine), *Pinus sabiniana* (Digger Pine), *Platanus Racemosa* (California Sycamore), *Populus fremontii* (Fremont Cottonwood), *Populus trichocarpa* (Black Cottonwood), *Quercus agrifolia* (California or Coast Live Oak), *Quercus chrysolepis* (Canyon Live Oak), *Quercus douglasii* (Blue Oak), *Quercus kelloggii* (California Black Oak), *Quercus lobata* (Valley Oak), *Quercus wislizenii* (Interior Live Oak), Salix lasiandra (Yellow Willow), *Salix laevigata* (Red Willow), *Salix lasiolepis* (Arroyo Willow), *Sambucus callicarpa* (Coast Red Elderberry), *Sequoia sempervirens* (Coast Redwood), *Umbellularia californica* (California Bay or Laurel);

(B) Any tree shown to be preserved on an approved tentative map, development or site plan or required to be retained as a condition of approval;

(C) Any tree required to be planted as a replacement for an unlawfully removed tree.

(2) On any of the properties specified in subsection (3) of this section:

(A) Any tree measuring twenty inches or larger in circumference (approximately six and one-half inches diameter), measured four and one-half feet from ground level including the oak trees listed above;
(B) Any multi-stemmed tree with the sum of the circumferences measuring forty inches or larger, measured four and one-half feet from ground level;
(C) And any significant grouping of trees, including groves of four or more trees.

(3) Specified properties referred to in subsection (2) of this section includes:
(A) Any developed property within any commercial, professional office or industrial district;
(B) Any undeveloped property within any district;
(C) Any area designated on the general plan for recreational purposes or open space;
(D) Any area designated in the county general plan open space element as visually significant riparian or ridge line vegetation and where the tree is adjacent to or part of a riparian, foothill woodland or oak savanna area.

- Any person proposing to trench, grade or fill within the dripline of any protected tree or cut down, destroy, trim by topping or remove any protected tree shall apply to the department for a tree permit, not less than ten days prior to the proposed tree removal or tree alterations.
- "Tree removal" means the destruction of any protected tree by cutting, regrading, girdling, interfering with water supply, applying chemicals or by other means.
- A heritage tree is defined as a tree that is 72 inches or more in circumference measured four and one-half feet above the natural grade; or any tree or a group of trees particularly worthy of protection, and specifically designated as a heritage tree by the board of supervisors pursuant to the provisions of this chapter, because of:
  a) Having historical or ecological interest or significance, or
  b) Being dependent upon each other for health or survival, or
  c) Being considered an outstanding specimen of its species as to such factors as location, size, age, rarity, shape, or health.
    - The Contra Costa County Heritage Tree Ordinance (Chapter 816-4, Ordinance 88-83, Contra Costa County Code) protects trees that have been designated as a heritage tree by the planning commission or board. A tree permit must be filed to remove a heritage tree, including application for a building, grading, or demolition permit.

3.3.4 - Impacts and Mitigation Measures

Significance Criteria

According to CEQA Guidelines Appendix G Environmental Checklist, biological resources impacts resulting from the implementation of the proposed project would be considered significant if the project would:

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

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?

c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

d) 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 wildlife nursery sites?

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

Approach to Analysis

Impacts on biological resources were evaluated based on the likelihood that special-status species, sensitive habitats, wildlife corridors, and protected trees are present on the project site, and the likely effects of project construction or operation on these resources. For the purposes of this Draft Environmental Impact Report (EIR), the word "substantial" as used in the significance thresholds above is defined by the following three principal components:

- Magnitude and duration of the impact (e.g., substantial/not substantial),
- Uniqueness of the affected resource (rarity), and
- Susceptibility of the affected resource to disturbance.

In this Biological Resources Analysis, the project site is defined as all areas directly affected by proposed project development.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of biological resources impacts resulting from implementation of the proposed project.

- Result in direct take or habitat removal or alteration for candidate, sensitive, or special-status species
- Remove vegetation or damage water quality related to riparian habitat or other sensitive natural community
- Remove, fill, or damage a federally protected wetland

- Interrupt fish movement in an aquatic channel or impede terrestrial movement via a land corridor
- Remove, damage, or replace trees designated by the Contra Costa County Tree Ordinance
- Conflict with the provisions of an applicable habitat conservation plan

Impact Evaluation

Special-status Species

Impact BIO-1: **The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.**

Construction

Special-status Plant Species

A plant species' potential to occur on the project site was based on the presence of suitable habitats, soil types, and occurrences recorded by the CNPS and CNDDB within a 5-mile radius of the project site and a site survey conducted by Live Oak and FCS. A total of 20 special-status plant species were evaluated for their potential for occur within the project site (Appendix C; Table 1). Based on the absence of suitable habitat due to past development of the site all 20 special-status plant species have no potential to occur on-site. Suitable habitat requirements for special-status plant species include chaparral, riparian, alkaline or serpentine soils, these features are absent from the project site. Therefore, no special-status plant species have the potential to occur within the project site and no special-status plant species would be impacted by project construction.

Special-status Wildlife Species

A total of 28 special-status wildlife species were evaluated for their potential for occur within the project site (Appendix C; Table 2). Suitable habitat requirements for 23 special-status wildlife species include permanent or temporary aquatic features, dry open grassland with burrows, or chaparral and scrub, these features are absent from the project site. The remaining five special-status wildlife species (pallid bat, Townsend's big-eared bat, big free-tailed bat, hoary bat, and white-tailed kite) as well as other birds protected under the MBTA and Fish and Game Code have potential to occur on the project site and, thus, have the potential to be impacted by project construction. Potential impacts to the five aforementioned special-status wildlife species and migratory birds are discussed below.

Roosting Bats (pallid bat, Townsend's big-eared bat, big free-tailed bat, and hoary bat)

Vacant buildings and trees located throughout the project site may provide suitable roosting habitat for bats. Section 2000 and 4150 of the California Fish and Wildlife Code states that it unlawful to take or possess a number of species, including bats, without a license or permit as required by Section 3007. Potential direct and indirect impacts could occur to roosting bats during project construction due to removal of potential roosting habitat, these impacts would be considered significant under CEQA. These activities could potentially subject bats to risk of death or injury, and they are likely to avoid using the area until such construction activities have dissipated or ceased. Relocation, in turn,

could cause hunger or stress among individual bats by displacing them into adjacent territories belonging to other individuals.

Implementation of Mitigation Measure (MM) BIO-1a, which requires the project applicant to conduct a pre-construction survey and to implement further avoidance and minimization measures (if bats are present), would reduce potential impacts to roosting bats to a less than significant level under CEQA.

Migratory and Nesting Birds

The trees present throughout the project site could provide suitable habitat for a variety of species of nesting birds. Construction activities that occur during the avian nesting season (generally February 1 to August 31) could disturb nesting sites for bird species including special-status species such as the white-tailed kite as well as birds protected under the MBTA and the California Fish and Game Code.

The removal of trees during the nesting season could result in direct harm to nesting birds, while noise, light, and other man-made disturbances may cause nesting birds to prematurely abandon their nests.

Implementation of MM BIO-1b, which requires the project applicant to conduct a pre-construction survey and to implement further avoidance and minimization measures (if necessary), would reduce potential impacts to nesting birds to a less than significant level under CEQA.

Operation

An impact to the special-status wildlife species outlined above would be considered significant if operation of the proposed project resulted in a substantial, adverse change in ambient noise. The project site is generally surrounded by residential and commercial developments and is situated in an urban landscape with high amounts of traffic from local business operations, which create a baseline of ambient noise. The proposed project would increase traffic on local roadways and would introduce stationary noise sources through the operation of new a residential facility; however, noise emitted from the operation of the project would be within established standards and would not result in a significant increase in the ambient environment. Therefore, project implementation would not constitute a significant impact to wildlife species from operational noise including traffic noise. As such, all operational impacts would be considered less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM BIO-1a Roosting Bats

1. A qualified wildlife Biologist shall conduct surveys for special-status bats during the appropriate time of day to maximize detectability to determine whether bat species are roosting near the work area no more than 5 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for

suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (Anabat, etc.).

2. Visual surveys will include trees within 100 feet of project construction activities. Prior to building demolition, the applicants for development on any project parcel shall ensure that a qualified Biologist (i.e., one familiar with the identification of bats and signs of bats) survey buildings proposed for demolition for the presence of roosting bats or evidence of bats. If no roosting bats or evidence of bats are found in the structure, demolition may proceed. If the Biologist determines bats are present, the Biologist shall exclude the bats from suitable spaces by installing one-way exclusion devices. After the bats vacate the space, the Biologist shall close off the space to prevent recolonization. Building demolition shall only commence after the Biologist verifies seven to 10 days later that the exclusion methods have successfully prevented bats from returning. To avoid impacts on non-volant (i.e., nonflying) bats, the Biologist shall only conduct bat exclusion and eviction from September 1 through March 31. Exclusion efforts shall be restricted during periods of sensitive activity.

MM BIO-1b Migratory and Nesting Birds

1. If the project requires vegetation to be removed during the nesting season (February 1–August 31), pre-construction surveys shall be conducted 5 days prior to vegetation removal to determine whether or not active nests are present.
2. If an active nest is located during pre-construction surveys, a qualified Biologist shall determine an appropriately-sized avoidance buffer based on the species and anticipated disturbance level. Based on input from the Biologist, the project applicant will delineate the avoidance buffer using Environmentally Sensitive Area fencing, pin flags, and or yellow caution tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging independently. No construction activities shall be allowed within the avoidance buffer(s).
3. The qualified Biologist shall periodically monitor the active nest during construction activities to prevent any potential impacts that may result from the construction of the proposed project, until the young have fledged.

Level of Significance After Mitigation

Less than significant impact.

Sensitive Natural Communities or Riparian Habitat

Impact BIO-2:	**The proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.**

Construction and Operation

As noted in Section 3.3.3, the project site contains 75 trees, nine of which are valley oaks. The project site is developed and is almost entirely covered with impervious surfaces due to existing development to the extent that no natural habitat remains present on-site. The trees that are present are located in pockets surrounded by hardscaped areas. Historical aerial photographs indicate that most of the oak trees on-site appear to be ornamental plantings; thus, they are not part of a natural community (e.g., naturally occurring oak savanna or oak woodland).[25] The project site does not contain riparian habitat or other sensitive natural communities identified in local or regional plans, policies, and regulations or by the CDFW or USFWS. Therefore, the project would not directly or indirectly adversely impact any riparian habitat or sensitive natural community, and there would be no impacts from project construction or operation.

Level of Significance

No impact.

Wetlands and Jurisdictional Features

Impact BIO-3:	**The proposed project would not have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.**

Construction and Operation

The project site is developed and does not contain jurisdictional drainages, wetlands, hydrophytic vegetation or soils. On-site stormwater runoff sheet flows across the project site and is captured by drainage inlets connected by municipal underground storm drain pipes that discharge into existing storm drainage infrastructure. As such, the proposed project would not directly or indirectly remove, fill or hydrologically interrupt State or federally protected wetlands. No impacts would result from project construction or operation.

Level of Significance

No impact.

Fish and Wildlife Movement Corridors

Impact BIO-4:	**The proposed project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.**

Construction and Operation

The proposed project would not interfere with the movement of migratory fish, migratory wildlife corridors, or the use of wildlife nursery sites. The project site is in a built out urban area and does not contain any habitat features such as riparian corridors or waterways that could function as wildlife corridors. Moreover, there are multiple barriers to wildlife migration including I-680 and

[25] Google Earth Pro, 1937. 37° 55' 27.33"N, 122° 03' 31.52"W, Eye alt 3,281 ft. Accessed June 7, 2021.

multiple residential and commercial developments which further precludes wildlife movement. As such, the impact on migratory fish and wildlife would be less than significant.

Level of Significance

Less than significant impact.

Local Policies or Ordinances

Impact BIO-5:	**The proposed project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.**

Construction

The Ordinance Code Chapter 816-6 lists the protected trees, permit requirements, and the applications process for tree removal. A significant impact would result if construction or operation of the project would conflict with these policies and provisions.

The Tree Report provides an inventory and preliminary evaluation of all trees over 6 inches in diameter within the project site. Trees that were surveyed were numbered, tagged, identified, measured, and evaluated. According to the Tree Report, a total of 74 trees would be removed as part of project implementation, one tree would be relocated, and six off-site trees would be preserved. Of the trees proposed for removal, 73 trees are considered protected due to their size, the remaining eight trees do not qualify as protected based on the Tree Protection and Preservation Ordinance. If not properly protected, the trees proposed for preservation could also be subject to injury or inadequate maintenance during construction, which represents a potentially significant impact. The response of individual trees would depend on the amount of excavation and grading, the care with which demolition is undertaken, and the construction methods.

As the construction of the proposed project requires the removal of trees subject to the Contra Costa County Tree Protection and Preservation Ordinance, the applicant would be required to prepare and implement a tree replacement plan. In addition, remaining trees that are proposed for preservation on the project site would be preserved through the implementation of the tree preservations guidelines identified and outlined in the Tree Report and in the Contra Costa County Tree Protection and Preservation Ordinance.

As a part of approval for development, the applicant would be required to comply with the County's tree ordinance, including tree removal permits and protection of preserved trees. Implementation of MM BIO-5a, which requires the project applicant to implement a tree replacement plan, and MM BIO-5 b requiring the project applicant to implement tree preservation guidelines during construction, impacts related to consistency with local policies or ordinances that protect biological resources would be less than significant.

Operation

Impacts related to the consistency of the project with local biological resources policies and ordinances are limited to construction impacts. Because the project applicant would be required to monitor, protect, and maintain preserved trees, no operational impacts would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM BIO-5a Prepare and Implement a Tree Replacement Plan

A Tree Replacement Plan shall be submitted and approved by Department of Conservation and Development, Community Development Division (CDD) prior to the removal of trees, prior to issuance of a demolition or grading permit, whichever occurs first. The Tree Replacement Plan shall designate the approximate location, number, and sizes of trees to be planted. Trees shall be planted prior to requesting a final inspection of the building permit.

MM BIO-5b Implement Tree Preservation Guidelines During Construction

Tree protection guidelines shall be implemented during construction throughout the clearing, grading, and construction phases as outlined on pages 12 and 13 in the arborist report prepared by HortScience dated January 4, 2021.

Level of Significance After Mitigation

Less than significant impact.

Local, Regional, or State Habitat Conservation Plan

Impact BIO-6: The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Construction and Operation

The project site does not fall within the coverage area of an HCP or NCCP. The project site is roughly 5 miles west of the East Contra Costa County HCP area, the nearest habitat conservation plan area. Therefore, there would be no construction or operational impacts related to consistency with a conservation plan.

Level of Significance

No impact.

3.3.5 - Cumulative Impacts

Special-status Species

The geographical scope of the cumulative Biological Resources Analysis is the boundaries of the County. This section focuses on the areas of the County, including the City of Pleasant Hill and the City of Walnut Creek, near where the project site is located. Development listed in Table 3-1 (Refer to Chapter 3.0, Environmental Impact Analysis) consists predominantly of residential and commercial development. The majority of this area is highly developed and contains a mix of residential, commercial, and industrial buildings. There are several waterways in within the boundaries of the

County, such as such as the Contra Costa Canal and the Walnut Creek waterway. The majority of projects are occurring in close vicinity of the project site and, subsequently, occurring in previously developed or highly disturbed areas. The developed urban characteristics of the previously mentioned areas will preclude the presence of many special-status species. However, the varying degree of trees present in and around the urban areas may provide suitable nesting habitat for birds protected by the MBTA. Standard pre-construction surveys and, if necessary, avoidance procedures would be required for cumulative projects with the potential to impact nesting birds and protected bat species. While there are a limited number of isolated pockets of natural habitat that can support special-status wildlife and plant species, the built-up nature of the previously listed areas precludes the possible cumulative impacts to biological resources related to special-status wildlife and plant species.

Sensitive Natural Communities or Riparian Habitat

Within the County, the City of Pleasant Hill, and the City of Walnut Creek, there are several small waterbodies, including the Walnut Creek waterway, Grayson Creek, and associated riparian habitats. These areas are considered sensitive natural communities. The majority of current developments are designed to address future growth problems, prevent urban sprawl, and minimize developmental impacts to sensitive natural communities. This is accomplished by designing projects to occur in previously developed or highly disturbed areas that the characteristics of lack sensitive natural communities or riparian habitat. As such, the project, in conjunction with other cumulative projects, would result in a less than significant cumulative impact related to sensitive natural communities and associated riparian habitat.

Waters of the United States and Waters of the State

The County, the City of Pleasant Hill, and the City of Walnut Creek contain several areas that would be considered jurisdictional features. As such, current projects are occurring in a highly developed and disturbed area with low potential for jurisdictional features to be impacted by project development. If any issues were to arise due to current development, the applicant would be required to obtain appropriate permits from the USACE, RWQCB, and CDFW, compensate for loss of waters of the United States/State through re-creation or payment of mitigation credits, and re-creation of lost habitat. Due to the limited scope of current projects, which are occurring in highly developed and disturbed areas, it is expected there will be a less than significant cumulative impact related to waters of the United States/State.

Local Policies or Ordinances

The project would remove approximately 74 of 75 on-site trees (73 code-protected trees and approximately one not code-protected tree). Other projects listed in Table 3-1 may require the removal or encroachment on certain protected trees as listed by the County's Ordinance Code, the Walnut Creek Municipal Code, or the Pleasant Hill Municipal Code. As previously mentioned, many of the current development projects are occurring in previously developed or disturbed areas. As such, a limited number of trees within the geographical scope are likely to occur. Current project developments may require an Arborist report to determine the identity of trees planned for removal or encroachment. Therefore, the project, in conjunction with other future development projects,

would be required to adhere to applicable tree ordinances and regulations set by the County and the City of Walnut Creek and City of Pleasant Hill resulting in a less than significant cumulative impact to biological resources related to local policies and ordinances.

Fish and Wildlife Movement Corridors

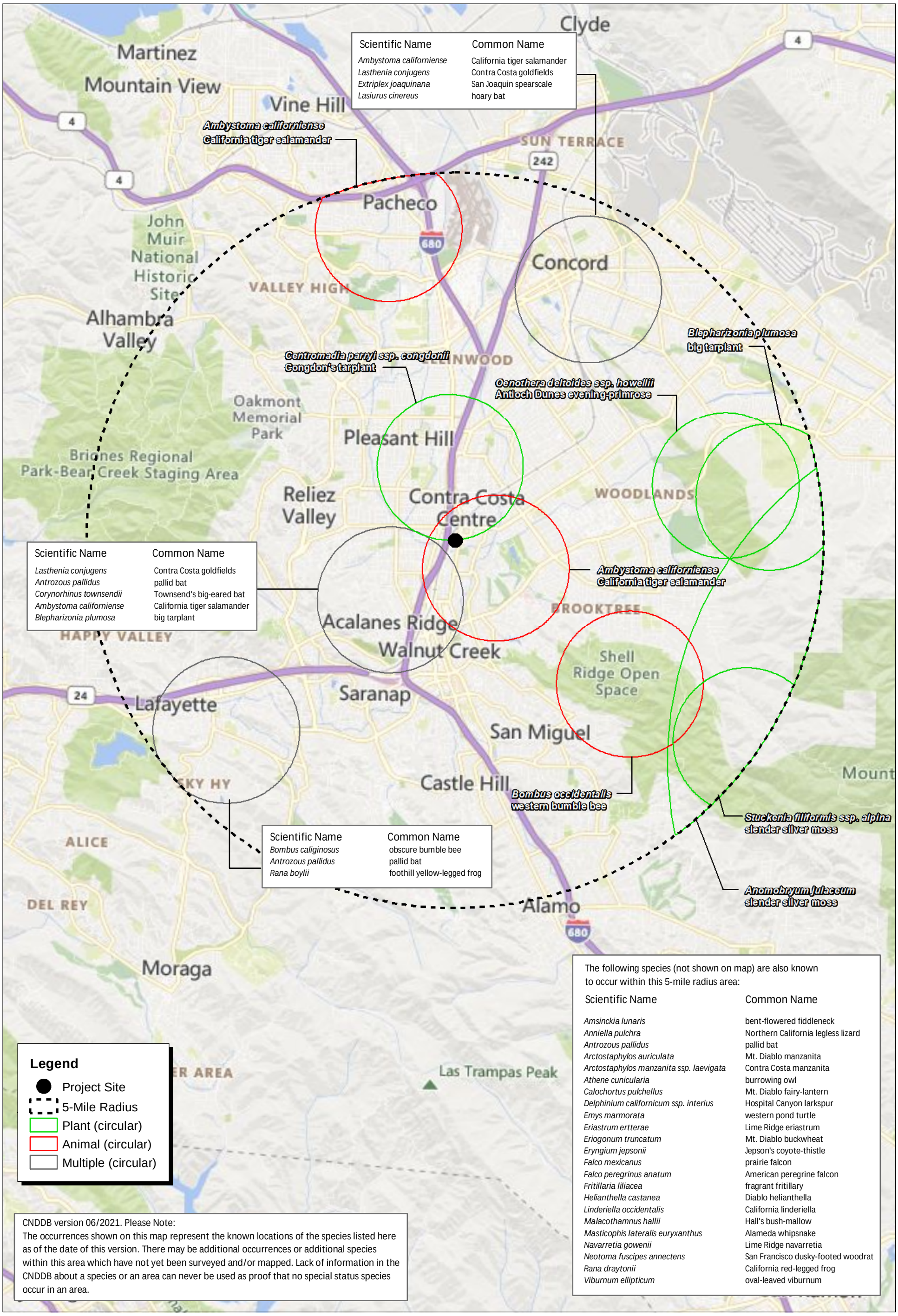
The main wildlife corridor in the vicinity of the project site is the Walnut Creek waterway, which generally borders the I-680 corridor, stretching from northern San Ramon to Suisun Bay. There are several small water channels and tributaries that are located within the geographical scope of this project. The project site is located to the west of the waterway and due to the size and location of the proposed project it will not result in any potential impacts to wildlife corridors. Any current development that occurs within the geographic scope of the County, the City of Walnut Creek and the City of Pleasant Hill will have to take into account the potential impact to these corridors. The areas surrounding the potential corridors within the previously mentioned geographical scope are highly developed, further impeding the movement of species out from these areas. As such, there will be a less then significant cumulative impact to biological resources related to movement corridors for fish and wildlife.

Habitat and Natural Community Conservation Plan Consistency

The project site is not located within the East Contra Costa County HCP. The HCP provides for comprehensive species, wetlands, and ecosystem conservation, and contributes to the recovery of endangered species in Eastern Contra Costa County. Any current project sites within the boundaries of the HCP will have to adhere by the additional regulations and guidelines set forth. This may include additional surveys for listed species, developments fees, and various other directives. As such, there will be a less then significant cumulative impact to biological resources relating to developments occurring in Habitat Community Conservation Plans.

Level of Cumulative Significance

Less than significant impact.



Source: Bing Street Imagery. California Natural Diversity Database (CNDDB), June 2021.

FIRSTCARBON SOLUTIONS™

6,400 3,200 0 6,400 Feet

Exhibit 3.3-1
CNDDB Special-Status Species Occurrences (5-mile radius)

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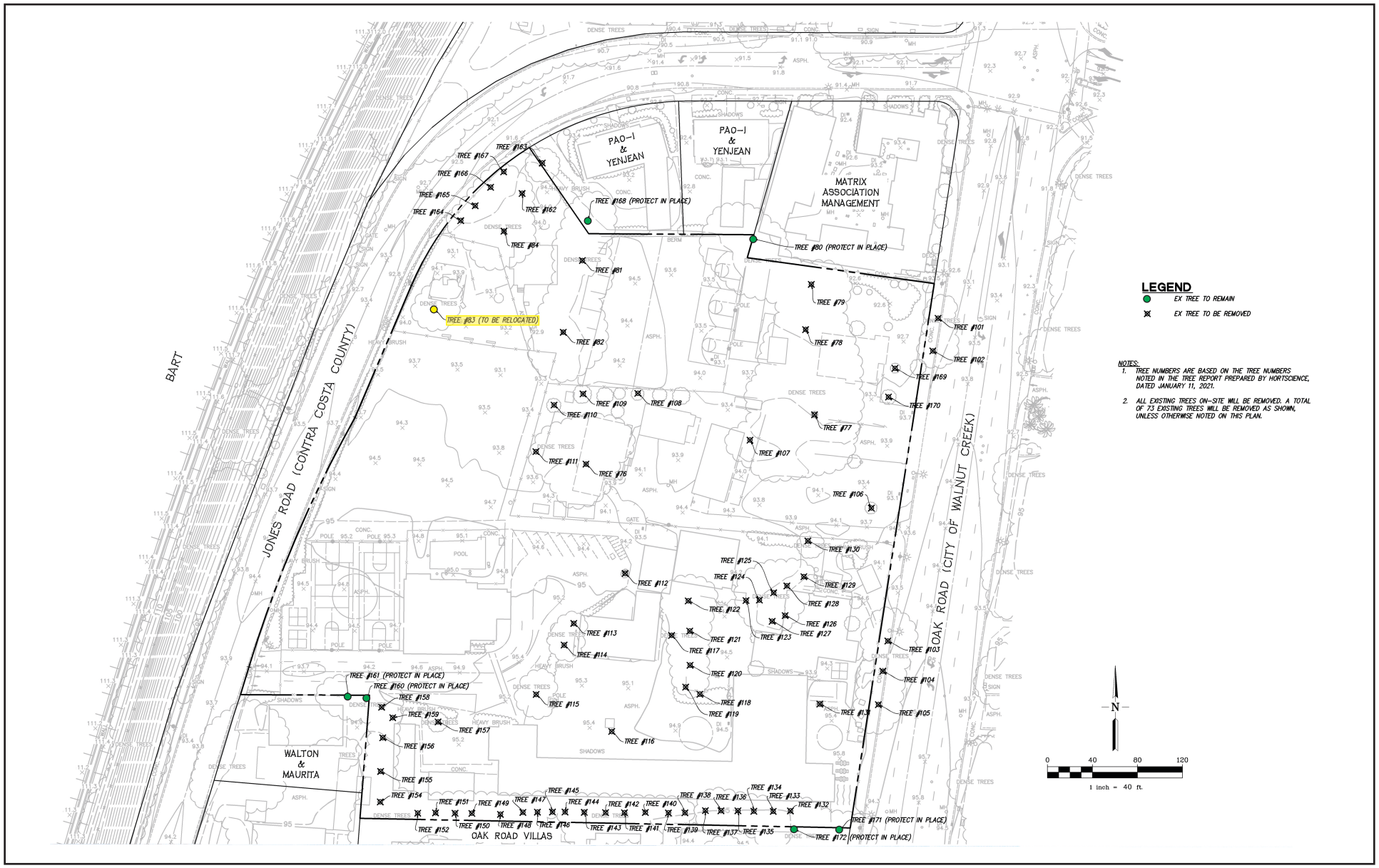

Source: Ruggeri-Jensen-Azar, March 25, 2021.

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Exhibit 3.3-2
Tree Disposition Plan

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3.4 - Cultural Resources and Tribal Cultural Resources

3.4.1 - Introduction

This section describes the existing cultural resources setting and potential effects from project implementation on the site and its surrounding area that are based on information provided by the Native American Heritage Commission (NAHC), as well as records search of the Sacred Lands File, archival research, and a pedestrian survey, as presented in the Cultural Resource Study conducted by Urban Programmers (Appendix D) and a Cultural Resources Assessment conducted by Environmental Science Associates (ESA) (Appendix D). Recommendations provided in these reports to address potential impacts on cultural resources during ground-disturbing activities are incorporated into this section where appropriate.

The following comments related to Cultural and Tribal Cultural Resources (TCRs) were received in response to the NOP:

- Recommendation to consult with California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the proposed project.
- Notification and explanation of requirements under Assembly Bill (AB) 52 and Senate Bill (SB) 18.

3.4.2 - Environmental Setting

Overview

The term "cultural resources" encompasses historic, archaeological, tribal cultural resources, and burial sites. Below is a brief summary of each component:

- **Historic Resources:** Historic resources are associated with the recent past. In California, historic resources are typically associated with the Spanish, Mexican, and American periods in the State's history and are generally less than 200 years old. Historic resources often take the form of buildings, structures, and other elements of the built environment.
- **Archaeological Resources:** Archaeology is the study of artifacts and material culture with the aim of understanding human activities and cultures in the past. Archaeological resources may be associated with prehistoric indigenous cultures as well as historic periods.
- **Tribal Cultural Resources:** TCRs include sites, features, places, or objects that are of cultural value to one or more California Native American Tribes.
- **Burial Sites, Cemeteries, and Native American Burial Sites:** Burial sites and cemeteries are formal or informal locations where human remains have been interred and that are of cultural value to one or more California Native American Tribes.

Cultural Setting

Following is a brief overview of the prehistory, ethnography, and historic background, providing a context in which to understand the background and relevance of sites found in the vicinity of the

project site. This section is not intended to be a comprehensive review of the current resources available; rather, it serves as a general overview. Further details can be found in ethnographic studies, mission records, and major published sources.[1,2,3,4,5,6,7]

Prehistoric and Ethnographic Background

In general, archaeological research in the greater San Francisco Bay Area has focused on coastal areas, where large shellmounds were relatively easily identified on the landscape. This research and its chronological framework, however, is relevant to and has a bearing on our understanding of prehistory in areas adjacent to the San Francisco Bay Area, including modern Contra Costa County.

The San Francisco Bay Area supported a dense population of hunter-gatherers over thousands of years, leaving a rich and varied archaeological record. The Bay Area was a place of incredible language diversity, with seven languages spoken at the time of Spanish settlement in 1776. The diverse ecosystem of the Bay and surrounding lands supported an average of three to five persons per square mile, but reached 11 persons per square mile in the North Bay. At the time of Spanish contact, the people of the Bay Area were organized into local tribelets that defended fixed territories under independent leaders. Typically, individual Bay Area tribelets included 200 to 400 people distributed among three to five semi-permanent villages, within territories measuring approximately 10 to 12 miles in diameter.[8]

Native American occupation and use of the greater Bay Area, including the regions comprising modern Richmond, extends over 5,000 to 7,000 years and may be longer. Early archaeological investigations in Central California were conducted at sites located in the Sacramento-San Joaquin Delta region. The first published account documents investigations in the Lodi and Stockton area.[9] The initial archaeological reports typically contained descriptive narratives, with more systematic approaches sponsored by Sacramento Junior College in the 1930s. At the same time, University of California at Berkeley excavated several sites in the lower Sacramento Valley and Delta region, which resulted in recognizing archaeological site patterns based on variations of inter-site assemblages. Research during the 1930s identified temporal periods in Central California prehistory and provided an initial chronological sequence.[10,11] In 1939, Lillard noted that each cultural period led directly to the next and that influences spread from the Delta region to other regions in Central California.[12] In

1 Kroeber, A.L. 1925. Handbook of the Indians of California. Bulletin 78. Bureau of American Ethnology. Washington, D.C. Smithsonian Institution.
2 Beardsley, R.K. 1948. “Cultural Sequences in Central California Archaeology.” American Antiquity 14:1-28.
3 Bennyhoff, J. 1950. Californian Fish Spears and Harpoons. Berkeley: University of California Anthropological Records 9(4):295-338.
4 Chartkoff J.L. and K.K. Chartkoff. 1984. The Archaeology of California. Menlo Park: Stanford University Press.
5 Moratto, M.J. 1984. California Archaeology. San Diego: Academic Press.
6 Heizer, R. F., ed. 1978. Handbook of North American Indians, Vol. 8: California. Washington, D.C. Smithsonian Institute.
7 Fredrickson, D.A. 1973. Early Cultures of the North Coast Ranges, California. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Davis.
8 Milliken, Randall et al. 2007. Punctuated Culture Change in the San Francisco Bay Area. In California Prehistory, edited by Terry L. Jones and Kathryn A. Klar.
9 Schenck, W.E., and E.J. Dawson. 1929. Archaeology of the Northern San Joaquin Valley. American Archaeology and Ethnology 25:286–413.
10 Lillard, J.B. and W.K. Purves. 1936. The Archaeology of the Deer Creek-Cosumnes Area, Sacramento Co., California. Sacramento. Sacramento Junior College, Department of Anthropology Bulletin 1.
11 Lillard, J.B., R.F. Heizer, and F. Fenenga. 1939. An Introduction to the Archaeology of Central California. Sacramento Junior College, Department of Anthropology, Bulletin 2. Sacramento.
12 Lillard, J.B., R.F. Heizer, and F. Fenenga. 1939. An Introduction to the Archaeology of Central California. Sacramento Junior College, Department of Anthropology, Bulletin 2. Sacramento.

the late 1940s and early 1950s, Beardsley documented similarities in artifacts among sites in the San Francisco Bay region and the Delta and refined his findings into a cultural model that ultimately became known as the Central California Taxonomic System (CCTS). This system proposed a uniform, linear sequence of cultural succession.[13] The CCTS was challenged by Gerow, whose work looked at radiocarbon dating to show that Early and Middle Horizon sites were not subsequent developments but, at least partially, contemporaneous.[14,15,16]

To address some of the flaws in the CCTS, Fredrickson introduced a revision that incorporated a system of spatial and cultural integrative units.[17] Fredrickson separated cultural, temporal, and spatial units from each other and assigned them to six chronological periods: Paleo-Indian (12,000 to 8000 Before Present [BP]); Lower, Middle and Upper Archaic (8000 BP to 1500 BP), and Emergent (Upper and Lower, 1500 BP to historic period). The suggested temporal ranges are similar to earlier horizons, which are broad cultural units that can be arranged in a temporal sequence.[18] In addition, Fredrickson defined several patterns—a general way of life shared within a specific geographical region. These patterns include:

- Windmiller Pattern or Early Horizon (5000 to 3000 BP)
- Berkeley Pattern or Middle Horizon (3000 to 1500 BP)
- Augustine Pattern or Late Horizon (1500 BP to historic period)

Brief descriptions of these temporal ranges and their unique characteristics follow.

Windmiller Pattern or Early Horizon (5000 to 3000 BP)

Characterized by the Windmiller Pattern, the Early Horizon was centered in the Cosumnes district of the Delta and emphasized hunting rather than gathering, as evidenced by the abundance of projectile points in relation to plant processing tools. Additionally, atlatl, dart, and spear technologies typically included stemmed projectile points of slate and chert but minimal obsidian. The large variety of projectile point types and faunal remains suggests exploitation of numerous types of terrestrial and aquatic species.[19,20] Burials occurred in cemeteries and intra-village graves. These burials typically were ventrally extended, although some dorsal extensions are known with a westerly orientation and a high number of grave goods. Trade networks focused on acquisition of ornamental and ceremonial objects in finished form rather than on raw material. The presence of artifacts made of exotic materials such as quartz, obsidian, and shell indicate an extensive trade network that may represent the arrival of Utian populations into Central California. Also indicative of this period are rectangular Haliotis and Olivella shell beads, and charmstones that usually were perforated.

[13] Beardsley, R.K. 1948. "Cultural Sequences in Central California Archaeology." American Antiquity 14:1-28.
[14] Gerow, B.A. 1954. The Problem of Cultural Sequences in Central California Archaeology. Paper presented at the Annual Meeting of the American Association for the Advancement of Sciences.
[15] Gerow, B.A. 1974. Comments on Fredrickson's Cultural Diversity. The Journal of California Anthropology 1(2):239–246.
[16] Gerow, B.A., with R. Force. 1968. An Analysis of the University Village Complex with a Reappraisal of Central California Archaeology. Stanford University Press. Stanford., California.
[17] Fredrickson, D.A. 1973. Early Cultures of the North Coast Ranges, California. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Davis.
[18] Moratto, M.J. 1984. California Archaeology. San Diego: Academic Press.
[19] Bennyhoff, J. 1950. Californian Fish Spears and Harpoons. University of California Anthropological Records 9(4):295–338.
[20] Ragir, S.R. 1972. The Early Horizon in Central California Prehistory. Contributions of the University of California Archaeological Research Facility 15. Berkeley, CA.

Berkeley Pattern or Middle Horizon (3000 to 1500 BP)

The Middle Horizon is characterized by the Berkeley Pattern, which displays considerable changes from the Early Horizon. This period exhibited a strong milling technology represented by minimally shaped cobble mortars and pestles, although metates and manos were still used. Dart and atlatl technologies during this period were characterized by non-stemmed projectile points made primarily of obsidian. Fredrickson suggests that the Berkeley Pattern marked the eastward expansion of Miwok groups from the San Francisco Bay Area.[21] Compared with the Early Horizon, there is a higher proportion of grinding implements at this time, implying an emphasis on plant resources rather than on hunting. Typical burials occurred within the village with flexed positions, variable cardinal orientation, and some cremations. As noted by Lillard, the practice of spreading ground ochre over the burial was common at this time.[22] Grave goods during this period are generally sparse and typically include only utilitarian items and a few ornamental objects. However, objects such as charmstones, quartz crystals, and bone whistles occasionally were present, which suggest the religious or ceremonial significance of the individual.[23] During this period, larger populations are suggested by the number and depth of sites compared with the Windmiller Pattern. According to Fredrickson, the Berkeley Pattern reflects gradual expansion or assimilation of different populations rather than sudden population replacement and a gradual shift in economic emphasis.[24]

Augustine Pattern or Late Horizon (1500 BP to Historic Period)

The Late Horizon is characterized by the Augustine Pattern, which represents a shift in the general subsistence pattern. Changes include the introduction of bow and arrow technology; and most importantly, acorns became the predominant food resource. Trade systems expanded to include raw resources as well as finished products. There are more baked clay artifacts and extensive use of Haliotis ornaments of many elaborate shapes and forms. Burial patterns retained the use of flexed burials with variable orientation, but there was a reduction in the use of ochre and widespread evidence of cremation.[25] Judging from the number and types of grave goods associated with the two types of burials, cremation seems to have been reserved for individuals of higher status, whereas other individuals were buried in flexed positions. Research indicates that Augustine Pattern represents expansion of the Wintuan population from the north, which resulted in combining new traits with those established during the Berkeley Pattern.[26]

Central California research has expanded from an emphasis on defining chronological and cultural units to a more comprehensive look at settlement and subsistence systems. This shift is illustrated by the early use of burials to identify mortuary assemblages and more recent research using

[21] Fredrickson, D.A. 1973. Early Cultures of the North Coast Ranges, California. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Davis.

[22] Lillard, J.B., R.F. Heizer, and F. Fenenga. 1939. An Introduction to the Archaeology of Central California. Sacramento Junior College, Department of Anthropology, Bulletin 2. Sacramento.

[23] Hughes, R.E. (editor). 1994. Toward a New Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson. Assembled and edited by Richard E. Hughes. Contributions of the University of California No. 52, Archaeological Research Facility, Berkeley, CA.

[24] Fredrickson, D.A. 1973. Early Cultures of the North Coast Ranges, California. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Davis.

[25] Moratto, M.J. 1984. California Archaeology. San Diego. Academic Press.

[26] Johnson, J.J. 1976. Archaeological Investigations at the Blodgett Site (CA-SAC-267), Sloughhouse Locality, California. Report to the U.S. National Parks Service, Western Regional Office, Tucson, AZ.

osteological data to determine the health of prehistoric populations.[27] Although debate continues over a single model or sequence for Central California, the general framework consisting of three temporal/cultural units is generally accepted, although the identification of regional and local variation is a major goal of current archaeological research.

The Ohlone (Costanoan)

The San Francisco Bay Area consisted of several independent tribal territories during the prehistoric and early historic periods. Native Peoples largely spoke dialects of five distinct languages: Costanoan (Ohlone), Bay Miwok, Plains Miwok, Patwin, and Wappo. Various tribelets that were part of the Ohlone tribe of California Native Americans occupied the project vicinity at the time of European contact.[28] The Ohlone group designates a language family consisting of eight branches of the Ohlone language that are considered too distinct to be dialects, wherein each is related to its geographically adjacent neighbors. These groups lived in approximately 50 separate and politically autonomous tribelet areas, each with one or more permanent villages, between the North San Francisco Bay and the lower Salinas River.[29]

The tribal group that most likely occupied the project area was of the Karkin ethnic group, whose territory extended over the Carquinez Strait region in the northeast portion of the San Francisco Bay estuary. Linguist-missionary Felipe Arroyo de la Cuesta documented that they spoke the Karkin language at Mission Dolores in 1821. His records show that the Karkin language was a distinct branch of Ohlone, strikingly different from the neighboring Chochenyo Ohlone language or other Ohlone languages spoken farther south.

The various Ohlone tribes subsisted as hunter-gatherers and relied on local terrestrial and marine flora and fauna for subsistence.[30] The predominant plant food source was the acorn, but they also exploited a wide range of other plants, including various seeds, buckeye, berries, and roots. Protein sources included grizzly bear, elk, sea lions, antelope, and black-tailed deer as well as smaller mammals such as raccoon, brush rabbit, ground squirrels, and wood rats. Waterfowl, including Canadian geese, mallards, green-winged teal, and American widgeon, were captured in nets using decoys to attract them. Fish also played an important role in the Ohlone diet and included steelhead, salmon, and sturgeon.[31] Like other Native Californians, the Ohlone managed their environment to improve it for their use. For example, the Ohlone burned grass and brush lands annually in order to improve productivity of forage habitat for deer and rabbits, and to enhance safety by keeping the land open with clear sight lines to better spot predators or neighbors.

The Ohlone were politically organized into autonomous tribelets that had distinct cultural territories. Individual tribelets contained one or more villages with a number of seasonal camps for resource procurement within the tribelet territory. The tribelet chief could be either male or female, and the

[27] Dickel, D.N., P. D. Schulz, and H.M. McHenry. 1984. Central California: Prehistoric Subsistence Changes and Health. In Paleopathology at the Origins of Agriculture, edited by Mark Nathan Cohen and George J. Armelagos, pp. 439–462. Academic Press, Inc., Orlando, FL.

[28] Levy, R. 1978. Costanoan. In California, edited by Robert F. Heizer, pp. 485-495. Handbook of North American Indians, Vol. 8. W.G. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

[29] Ibid.

[30] Levy, R. 1978. Costanoan. In California, edited by Robert F. Heizer, pp. 485-495. Handbook of North American Indians, Vol. 8. W.G. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

[31] Jones, T.L. and Kathryn A. Klar. 2007. California Prehistory. Lanham: AltaMira Press; Rowman & Littlefield Publishers, Inc.

position was inherited patrilineally, but approval of the community was required. The tribelet chief and council were essentially advisers to the community and were responsible for feeding visitors, directing hunting and fishing expeditions, ceremonial activities, and warfare on neighboring tribelets.

Regional Historic Background

Spanish Period (1769-1821)

According to Hart, Spanish colonial policy from 1769-1821 was directed at the founding of presidios, missions, and secular towns, with the land held by the Crown. The depletion of the coastal populations resulted in Spanish missionaries shifting to conversion of the interior peoples. Spanish mission records indicate that by 1800, Ohlone speaking peoples, and other villages were being taken to Mission Dolores, and that Mission Sonoma, built in 1823, was baptizing tribal members until secularization of the missions in 1833. Their traditional lifeways apparently disappeared by 1810 due to disruption by Euro American diseases, a declining birth rate, and the impact of the mission system. After secularization of the missions between 1834 and 1836, some Native Americans returned to traditional religious and subsistence practices while others labored on Mexican ranchos. Thus, multi-ethnic Indian communities grew up in and around the area and provided informant testimony to ethnologists from 1878 to 1933.[32]

Mexican Period (1821-1848)

The Mexican Period, 1821 to 1848, was marked by secularization and division of mission lands among the *Californios* as land grants, termed ranchos. During this period, Mariano G. Vallejo assumed authority of Sonoma Mission and established a rapport with the Native Americans who were living there. In particular, Vallejo worked closely with Chief Solano, a Patwin who served as Vallejo's spokesperson when problems with Native American tribes arose. The large rancho lands often were worked by Native Americans who were used as forced labor.

Shoup and Milliken state that mission secularization removed the social protection and support on which Native Americans had come to rely. It exposed them to further exploitation by outside interests, often forcing them into a marginal existence as laborers for large ranchos.[33] Following mission secularization, the Mexican population grew as the Native American population continued to decline. Euro American settlers began to arrive in California during this period and often married into Mexican families, becoming Mexican citizens, which made them eligible to receive land grants. In 1846, on the eve of the U.S.-Mexican War (1846 to 1848), the estimated population of California was 8,000 non-natives and 10,000 Native Americans. However, these estimates have been debated. Cook suggests the Native American population was 100,000 in 1850; the U.S. Census of 1880 reports the Native American population as 20,385.[34]

Gold Rush and American Expansion Period (1848-1864)

In 1848, James W. Marshall discovered gold at Coloma in modern-day El Dorado County, which started the Gold Rush into the region that forever altered the course of California's history. The arrival of thousands of gold seekers in the territory contributed to the exploration and settlement of

[32] Hart, James D. 1987. A Companion to California.
[33] Shoup, Laurence H., and Randall T. Milliken. 1999. Inigo of Rancho Posolmi: The Life and Times of a Mission Indian.
[34] Cook, Sherburne F. 1976. The Population of the California Indians 1769–1970.

the entire State. By late 1848, approximately four out of five men in California were gold miners. The Gold Rush originated along the reaches of the American River and other tributaries to the Sacramento River, and Hangtown, present-day Placerville, became the closest town offering mining supplies and other necessities for the miners in El Dorado County. Gold subsequently was found in the tributaries to the San Joaquin River, which flowed north to join the Sacramento River in the great Delta east of San Francisco Bay.[35]

By 1864, California's Gold Rush had essentially ended. The rich surface and river placers were largely exhausted and the miners either returned to their homelands or stayed to start new lives in California. After the Gold Rush, people in towns such as Jackson, Placerville, and Sonora turned to other means of commerce, such as ranching, agriculture, and timber production. With the decline of gold mining, agriculture and ranching came to the forefront in the State's economy. California's natural resources and moderate climate proved well suited for cultivation of a variety of fruits, nuts, vegetables, and grains.[36]

History of Contra Costa

The east side of San Francisco Bay, directly across from the City of San Francisco, became known as the "opposite coast" (or contra costa) by the Spanish. The County was formed in December of 1849 and is one of the original 27 California counties, with the County seat at Martinez.[37] Contra Costa County, like much of California, was seen as a land of economic opportunity, not just for its mining resources but also for its productive land where farmers could cultivate a variety of crops. Agriculture became important in the California economy in the late 1850s, and through to the 1860s, homesteading became a means by which people could own and operate a family farm. The decidedly agricultural focus also underpins the historical significance of the Spanish colonial and Mexican era of land grants. As early as 1882, special interests advertised the County's virtues as a place to cultivate. Early settlers began to speak of beneficial soils that support a range of crops—pears, prunes, peaches, almonds, walnuts and grapes flourished—with seasonal rainfall, and favorable climates. In addition, the County is strategically located at crossing of trade routes with a waterfront location and relative closeness to the San Francisco metropolis. Large-scale commercial operations began to capitalize on mechanical innovations just as irrigation developed in the early 1880s. Consequently, competing economic interests caused land prices to increase and make family farming a less profitable enterprise.

Throughout the 1960s and 1970s, large companies followed their employees to suburban areas east of San Francisco. The establishment of large population centers fostered the development of equally large shopping centers. To meet demand on infrastructure, the State modernized highways and roadways, and established the Bay Area Rapid Transit (BART).

[35] Robinson, W.W. 1948. Land in California.
[36] Beck, Warren A., and Ynez D. Haase. 1974. Historical Atlas of California.
[37] Hoover, Mildred B., et al. Historic Spots in California. 5th Edition.

Records Searches and Pedestrian Survey to Identify Existing Cultural Resources

Northwest Information Center

According to the Cultural Resources Assessment conducted by ESA, a search of the files of the California Historical Resources Information System-Northwest Information Center (NWIC) housed at Sonoma State University was conducted on August 7, 2020.[38] The records search included a review of mapped archaeological and built environment resources within a 0.5-mile buffer of the project site. The records search included a review of confidential and non-confidential files, including maps and site records. The California Office of Historic Preservation (OHP) Built Environment Resources Directory (BERD), National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historic Landmarks List (CHL), California Points of Historical Interest (CPHI), Archaeological Determinations of Eligibility, and California Inventory of Historic Resources were also reviewed.

The NWIC records search results indicate that 13 cultural resources have been mapped within a 0.5-mile radius of the project site (Table 3.4-1). Of these, one is a prehistoric archaeological site and 12 are built environment resources. The prehistoric archaeological site is recorded as being within the search radius. Of the 12 built environment resources, 11 are historic-era buildings (single-family residences) and one is a historic-era structure (Contra Costa Canal). None of the 13 resources are within or in close proximity to (within 50 feet of) the project site.

A review of the BERD identified three unmapped built environment resources within a 0.5-mile radius project site that are not on file at the NWIC (2700 Oak Road, 2616 North Main Street, and 2678 North Main Street–see Table 3.4-1). One resource is a single-family residence (2700 Oak Road) located approximately 0.07 miles south-southeast of the project site. One resource is an industrial property (2616 North Main Street) located about 0.33 mile southwest of the project site. One resource does not have a description provided (2678 North Main Street) and is located about 0.25 miles south-southwest of the project site. All of these resources were determined ineligible for the NRHP through the Section 106 process and were not evaluated for the CRHR or for a local listing. None of these resources were in close proximity to the project site. A review of the NRHP, CRHR, CHL, CPHI, Archaeological Determinations of Eligibility, and California Inventory of Historic Resources did not identify any additional resources.

Table 3.4-1: Previously Recorded Cultural Resources within a 0.5-mile Radius of the Project Site

Resource No.	Resource Description	Date Recorded
P-07-00042	**CA-CCO-000023: Prehistoric Archaeological Site** Shell midden with hearths, ground stone implements, bone tools, obsidian	1957
P-07-02577	**Historic Building** Single-family residence (YB = 1915) 6Z	2003

[38] Environmental Science Associates (ESA). 2021. 2470 Jones Road, Unincorporated Walnut Creek, Contra Costa County, California.

Resource No.	Resource Description	Date Recorded
P-07-002695	**Historic Structure** Contra Costa Canal 2S2	1993; 1995; 2003; 2005; 2008; 2008; 2010; 2016
P-07-002899	**Historic Building** Single-family residence (YB = 1962) 6Z	2007
P-07-002900	**Historic Building** Single-family residence (YB = 1957) 6Z	2007
P-07-002901	**Historic Building** Single-family residence (YB = ca. 1950s) 6Z	2007
P-07-002902	**Historic Building** Single-family residence (YB = 1947) 6Z	2007
P-07-002903	**Historic Building** Single-family residence (YB = 1958) 6Z	2007
P-07-002904	**Historic Building** Single-family residence (YB = 1959) 6Z	2007
P-07-002905	**Historic Building** Single-family residence (YB = 1955) 6Z	2007
P-07-002906	**Historic Building** Single-family residence (YB = 1955) 6Z	2007
P-07-002907	**Historic Building** Single-family residence (YB = 1956) 6Z	2007
P-07-002908	**Historic Building** Single-family residence (YB = 1955) 6Z	2007
N/A	**Historic Building** Single-family residence (YB = 1971) 6Y	2019
N/A	**Historic Building** Walnut Creek East Maintenance Station and Oil House (YB = 1935) 6Y	2009
N/A	**Historic Building** None provided (YB = 1966) 6Y	2017

Resource No.	Resource Description	Date Recorded
Notes: YB = Year Built Sources: NWIC Records Search, August 7, 2020 BERD California Historical Resources Status Codes: 2S2: Individual property determined eligible for the NRHP through Section 106 process. Listed in California Register. 6Y: Determined ineligible for the NRHP through Section 106 process. Not evaluated for CRHR or local listing. 6Z: Found ineligible for NRHP, CRHR, and local designation through survey evaluation. * ESA did not field-verify the current condition of these resources, or if they have been demolished or destroyed since their recordation.		

Native American Heritage Commission Record Search and Tribal Correspondence

The NAHC maintains a confidential Sacred Lands File (SLF) which contains sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted on August 13, 2020, to request a search of the SLF. The NAHC responded to the request in a letter dated August 18, 2020, and indicated that the SLF results were negative. The NAHC also provided a list of eight Native American tribes to contact as these tribes may have knowledge of cultural resources in the project site.

On May 11, 2021, ESA contacted the eight tribes recommended by the NAHC to obtain additional knowledge about potential resources on-site. On May 18, ESA spoke to a representative from Indian Canyon Mutsun Band of Costanoan, who requested that a Native American Monitor be on-site if any burials or Native American artifacts are encountered. On May 18, 2021, Wintun Rancheria responded to the tribal consultation letter stating they did not have concerns about the proposed project. NAHC and tribal correspondence can be found in Appendix D.

Cultural Resources Pedestrian Survey

A survey of the project site was conducted by ESA Cultural Resources Staff, Candace Ehringer, MA, RPA, on August 11, 2020. All areas with visible ground surface were surveyed in 5-meter transects. Ground visibility was less than 5 percent. Soil types observed consisted of dark gray silty loam. No archaeological resources were observed. On-site buildings were photographed. Appendix D provides photographs of the existing site conditions. The site is currently developed with buildings and structures related to the former Palmer School, which was established in 1939. A cursory review of historic aerials indicates that some existing buildings and structures were present as early as 1965, although the exact dates of construction are unknown. It is unclear if any existing buildings or structures were constructed earlier than the 1960s.

The survey identified one potential historical resource within the project site – the Palmer School, which was established in 1939. A review of aerial photographs indicates that some existing on-site buildings and structures date to at least as early as 1965, indicting they are more than 55 years old. The age threshold for consideration for listing in the California Register is 50 years.

Historical Report Review

ESA also reviewed the Cultural Resource Study conducted by Urban Programmers of the Former Palmer School, 2740 Jones Road, Walnut Creek, California. The purpose of the study was to identify and evaluate the historical significance of the former Palmer School located within the project site. ESA reviewed the report to understand the historical context of the project site and to assist in assessing if subsurface deposits related to the school's use, if present, could be potentially significant. The history of the school was excerpted from the report and is provided in the Historic Setting section of the report.

The report evaluated the campus under all four CRHR criteria. Under Criterion 1 (significant events), the report concluded that the Palmer School "was not found to have contributed in a significant way to the broad patterns of education in the local or regional history." Under Criterion 2 (important persons), the report concluded that "research did not find the Palmer family to have played an important role in the nation or California's history." Under Criterion 3 (architecture, artistic value), the report concluded that "as a whole, the campus does not represent distinctive characteristics or methods of construction" and "the overall campus buildings do not possess high artistic values." Under Criterion 4, the report concluded that "the common construction of the buildings does not have the potential to yield information important to the history of the State or nation." Because the project site does not meet any of the four criteria, the property is not a potentially historic resource under the California Environmental Quality Act (CEQA). The study can be found in Appendix D.

Summary of Existing Cultural Resources at the Project Site

Historic Architectural Resources

Based on the pedestrian survey and archival research, no known historic architectural resources are located within the project site boundaries. The survey identified the Palmer School as a potential historical resource within the project site, but further evaluation lead to the conclusion that the property is not eligible for the CRHR, and is therefore not a potentially historic resource under CEQA. The Palmer School was established in 1939. No previously recorded historical resources are present within or in close proximity to (within 50 feet of) the project site.

Archaeological Resources

No archaeological resources were identified within the project site as a result of the archival research or survey. As noted in Table 3.4-1, there is one site (CA-CCO-23) within a 0.5-mile radius of the project site within a similar context as the project site. However, this resource is not located within close proximity to the project site. The eligibility status of the prehistoric archaeological site is unknown. No known archaeological resources constraints exist within the project site. However, archaeological resources are often obscured from view and can be uncovered during construction activities. Given the occurrence of a nearby prehistoric archaeological site, it appears there is a potential for prehistoric resources to occur within the project site.

Tribal Cultural Resources

On May 18, 2021, ESA spoke to a representative from Indian Canyon Mutsun Band of Costanoan, who requested that a Native American Monitor be on-site if any burials or Native American artifacts

are encountered. While no TCRs have been recorded within the project site, it is possible they could be discovered during project construction.

3.4.3 - Regulatory Framework

Federal

National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA), as amended, established the NRHP, which contains an inventory of the nation's significant prehistoric and historic properties. Under 36 Code of Federal Regulations 60, a property is recommended for possible inclusion on the NRHP if it is at least 50 years old, has integrity, and meets one of the following criteria:

- It is associated with significant events in history, or broad patterns of events.
- It is associated with significant people in the past.
- It embodies the distinctive characteristics of an architectural type, period, or method of construction; or it is the work of a master or possesses high artistic value; or it represents a significant and distinguishable entity whose components may lack individual distinction.
- It has yielded, or may yield, information important in history or prehistory.

Certain types of properties are usually excluded from consideration for listing in the NRHP, but they can be considered if they meet special requirements in addition to meeting the criteria listed above. Such properties include religious sites, relocated properties, graves and cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act (ARPA) amended the Antiquities Act of 1906 (16 United States Code [USC] §§ 431–433) and set a broad policy that archaeological resources are important to the nation and should be protected and required special permits before the excavation or removal of archaeological resources from public or Indian lands. The purpose of the ARPA was to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites that are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data that were obtained before October 31, 1979.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act established federal policy to protect and preserve the inherent rights of freedom for Native groups to believe, express, and exercise their traditional religions. These rights include but are not limited to access to sites, use and possession of sacred objects, and freedom to worship through ceremonials and traditional rites.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American Remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

State

CEQA Guidelines Section 15064.5(a)—CEQA Definition of Historical Resources

CEQA Guidelines Section 15064.5(a), in Title 14 of the California Code of Regulations, defines a "historical resource" as:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.
2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources.
4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be a historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1.

Therefore, under the CEQA Guidelines, even if a resource is not included on any local, State, or federal register, or identified in a qualifying historical resources survey, a lead agency may still determine that any resource is a historical resource for the purposes of CEQA if there is substantial evidence supporting such a determination. A lead agency must consider a resource to be historically significant if it finds that the resource meets the criteria for listing in the CRHR. Archaeological and

historical sites are protected pursuant to a wide variety of State policies and regulations, as enumerated in the Public Resources Code. Cultural resources are recognized as nonrenewable resources and receive additional protection under the Public Resources Code and CEQA.

CEQA Guidelines Section 15064.5(a)(3)—California Register of Historical Resources Criteria

As defined by CEQA Guidelines, Section 15064.5(a)(3)(A-D), a resource shall be considered historically significant if the resource meets the criteria for listing on the CRHR. The CRHR and many local preservation ordinances have employed the criteria for eligibility to the NRHP as a model (see criteria described above under the description of the NHPA), since the NHPA provides the highest standard for evaluating the significance of historic resources. A resource that meets NRHP criteria is clearly significant. In addition, a resource that does not meet NRHP standards may still be considered historically significant at a local or State level.

California Public Resources Code Section 5024.1—California Register of Historical Resources

Section 5024.1 of the Public Resources Code states that the CRHR is a guide to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected from substantial adverse change. Administration of the CRHR is to be overseen by the NAHC. Section 5024.1 indicates that the register shall include historical resources determined by the NAHC, according to adopted procedures, to be significant and to meet the criteria in subdivision (c).

CEQA Guidelines 15064.5(c)—Effects on Archaeological Resources

CEQA Guidelines state that a resource need not be listed on any register to be found historically significant. CEQA Guidelines direct lead agencies to evaluate archaeological sites to determine whether they meet the criteria for listing in the CRHR. If an archaeological site is a historical resource, in that it is listed or eligible for listing in the CRHR, potential adverse impacts to it must be considered. If an archaeological site is considered not to be a historical resource but meets the definition of a "unique archaeological resource" as defined in Public Resources Code Section 21083.2, then it would be treated in accordance with the provisions of that section.

CEQA Guidelines Section 15064.5(d)—Effects on Human Remains

Native American human remains and associated burial items may be significant to descendant communities and/or may be scientifically important for their informational value. They may be significant to descendant communities for patrimonial, cultural, lineage, and religious reasons. Human remains may also be important to the scientific community, such as prehistorians, epidemiologists, and physical anthropologists. The specific stake of some descendant groups in ancestral burials is a matter of law for some groups, such as Native Americans (CEQA Guidelines § 15064.5(d); PRC § 5097.98). CEQA and other State regulations regarding Native American human remains provide the following procedural requirements to assist in avoiding potential adverse effects on human remains within the contexts of their value to both descendant communities and the scientific community:

- When an initial study identifies the existence or probable likelihood that a project would affect Native American human remains, the lead agency is to contact and work with the appropriate Native American representatives identified through the NAHC to develop an agreement for the treatment and disposal of the human remains and any associated burial items (CEQA Guidelines § 15064.5(d); PRC § 5097.98).
- If human remains are accidentally discovered, the County Coroner must be contacted. If the County Coroner determines that the human remains are Native American, the Coroner must contact the NAHC within 24 hours. The NAHC must identify the Most Likely Descendant (MLD) to provide for the opportunity to make recommendations for the treatment and disposal of the human remains and associated burial items.
- If the MLD fails to make recommendations within 24 hours of notification or the project applicant rejects the recommendations of the MLD, the Native American human remains and associated burial items must be reburied in a location not subject to future disturbance within the project site (PRC § 5097.98).
- If potentially affected human remains or a burial site may have scientific significance, whether or not it has significance to Native Americans or other descendant communities, then under CEQA, the appropriate mitigation of effect may require the recovery of the scientific information of the remains/burial through identification, evaluation, data recovery, analysis, and interpretation (CEQA Guidelines § 15064.5(c)(2)).

California Public Resources Code Section 5097.91—Native American Heritage Commission

Section 5097.91 of the Public Resources Code established the NAHC, whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. Under Section 5097.91 of the Public Resources Code, a State policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites or sacred shrines located on public property. Section 5097.98 of the Public Resources Code specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a County Coroner. Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

California Senate Bill 18—Protection of Tribal Cultural Places

SB 18 (Government Code § 65352.3) incorporates the protection of California traditional tribal cultural places into land use planning for cities, counties, and agencies by establishing responsibilities for local governments to contact, refer plans to, and consult with California Native American tribes as part of the adoption or amendment of any general or specific plan proposed on or after March 1, 2005. SB 18 requires public notice to be sent to tribes listed on the NAHC SB 18 Tribal Consultation list within the geographical areas affected by the proposed changes. Tribes must respond to a local government notice within 90 days (unless a shorter time frame has been agreed upon by the tribe), indicating whether they want to consult with the local government. Consultations are for the purpose of preserving or mitigating impacts to places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code that may be affected by the proposed adoption or amendment to a general or specific plan.

California Assembly Bill 52—Effects on Tribal Cultural Resources

AB 52 was signed into law on September 25, 2014, and provides that any public or private "project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment." TCRs include "[s]ites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are eligible for inclusion in the CR or included in a local register of historical resources." Under prior law, TCRs were typically addressed under the umbrella of "cultural resources," as discussed above. AB 52 formally added the category of "tribal cultural resources" to CEQA and extends the consultation and confidentiality requirements to all projects, rather than just projects subject to SB 18 as discussed above.

The parties must consult in good faith, and consultation is deemed concluded when either: (1) no tribe responds and requests consultation within 30 days of receipt of formal notification; or (2) the parties agree to measures to mitigate or avoid a significant effect on a TCR (if such a significant effect exists); or (3) when a party concludes that mutual agreement cannot be reached. Mitigation measures agreed upon during consultation must be recommended for inclusion in the environmental document. AB 52 also identifies mitigation measures that may be considered to avoid significant impacts if there is no agreement on appropriate mitigation. Recommended measures include:

- Preservation in place
- Protecting the cultural character and integrity of the resource
- Protecting the traditional use of the resource
- Protecting the confidentiality of the resource
- Permanent conservation easements with culturally appropriate management criteria

California Public Resources Code Section 21074—Effects on Tribal Cultural Resources

AB 52 amended the CEQA statute to identify an additional category of resource to be considered under CEQA, called "tribal cultural resources," and added Public Resources Code Section 21074, which defines "tribal cultural resources" as follows:

(a) "Tribal cultural resources" are either of the following:
  (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    A) Included or determined to be eligible for inclusion in the CRHR.
    B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
  (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

(b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Health and Safety Code Section 7050.5 (Treatment of Human Remains)

Section 7050.5 of the California Health and Safety Code sets forth provisions related to the treatment of human remains. As the Code states, "every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor"[39] except under circumstances as provided in Section 5097.99 of the Public Resources Code. The regulations also provide guidelines for the treatment of human remains found in locations other than a dedicated cemetery including responsibilities of the Coroner.

Public Resources Code Section 5097.98 (Discovery of Human Remains)

Section 5097.98 provides protocol for the discovery of human remains. It states that "when the commission receives notification of a discovery of Native American human remains from a County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify persons believed to be most likely descended from the deceased Native American."[40] It also sets forth provisions for descendants' preferences for treatment of the human remains and what should be done if the commission is unable to identify a descendant.

Local

Contra Costa County

Contra Costa County General Plan

Open Space Element

The Open Space chapter of the General Plan contains the following goals and policies related to the protection of cultural resources that are relevant to this analysis:

Goal 9-G Identify and preserve important archaeological and historic resources within the County.

Policies

Policy 9-28 Areas which have identifiable and important archaeological or historic significance shall be preserved for such uses, preferably in public ownership.

Policy 9-29 Buildings or structures that have visual merit and historic value shall be protected.

[39] State of California. 1987. Health and Safety Code Section 7050.5.
[40] State of California. 2009. Public Resources Code Section 5097.98.

Policy 9-30 Development surrounding areas of historic significance shall have compatible and high-quality design in order to protect and enhance the historic quality of the area.

Policy 9-31 Within the Southeast County area, applicants for subdivision or land use permits to allow non-residential uses shall provide information to the County on the nature and extent of the archaeological resources that exist in the area. The County Planning Agency shall be responsible for determining the balance between multiple use of the land and protection of resources.

Contra Costa County Historic Resources Inventory

The County maintains a Historic Resource Inventory.[41] The most recent version was updated in July 2019 and contains a list of historic resources organized by area. None of the listed resources are located within the project site.

3.4.4 - Impacts and Mitigation Measures

Significance Criteria

According to CEQA Guidelines Appendix G Environmental Checklist, cultural resources impacts resulting from the implementation of the proposed project would be considered significant if the project would:

a) Cause a substantial adverse change in the significance of a historical resource as pursuant to Section 15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

c) Disturb any human remains, including those interred outside of formal cemeteries?

d) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

e) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

[41] Contra Costa County Conservation and Development, Community Development Division. 2019. Historic Resources Inventory. July.

Approach to Analysis

This evaluation focuses on whether implementation of the proposed project would impact historic architectural, archaeological resources, human remains, or TCRs.

The proposed project may have an impact on a historical resource if construction of the proposed project would impair a resource's eligibility for inclusion in the CRHR. Analysis is based on information collected from record searches at the NWIC, additional archival research, pedestrian surveys, and information from historic architectural assessment of existing properties more than 45 years in age located within the project boundaries. If an identified impact would leave a resource no longer able to convey its significance, meaning that the resource would no longer be eligible for listing in the CRHR, then the proposed project's impact would be considered a significant adverse change. According to Public Resources Code Section 15126.4(b)(1) (CEQA Guidelines), if a project adheres to the Sphere of Influence standards, the project's impact "shall generally be considered mitigated below a level of significance and thus is not significant."

The proposed project may have an impact on an archaeological resource or human remains if construction of the proposed project would physically damage or destroy archaeological data or human remains (including those interred outside of formal cemeteries). Analysis is based on information collected from record searches at the NWIC, the additional archival research, and pedestrian surveys.

Both direct and indirect effects of project implementation were considered for this analysis. Direct impacts are typically associated with construction and/or ground-disturbing activities, and have the potential to immediately alter, diminish, or destroy all or part of the character and quality of archaeological resources and/or historic architecture. Indirect impacts are typically associated with post-project implementation conditions that have the potential to alter or diminish the historical setting of a cultural resource (generally historic architecture) by introducing visual intrusions on existing historical structures that are considered undesirable.

The TCR impact analysis is based on information collected from record searches at the NAHC and information from tribal consultation conducted pursuant to AB 52. Impacts are typically associated with construction and/or ground-disturbing activities that have the potential to immediately alter, diminish, or destroy all or part of the character and quality of Native American artifacts and/or human remains that could be uncovered.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of cultural resources materials and TCRs impacts resulting from implementation of the proposed project.

- Impair a historic resource's eligibility ability to convey its significance (i.e., affect a resources' inclusion in the NRHP or CRHR) or not adhere to the Secretary of Interior's Standards for Rehabilitation.
- Physically damage or destroy archaeological data or human remains.

- Impair a tribal cultural resource's ability to convey its significance as defined by Public Resources Code Section 21074.
- Physically damage, destroy, or otherwise adversely impact a site, feature, place, or cultural landscape with cultural value to a California Native American tribe and that is a resource determined by Contra Costa County, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

Impacts Evaluation

Historic Resources

Impact CUL-1: The proposed project could cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.

Construction

Archival research identified a total of 15 previously recorded built environment resources within a 0.5-mile radius of the project site. Of these, 14 are historic-age buildings or structures located on the project site (single-family residences, industrial property, unidentified property) that have been previously found ineligible for listing in the NRHP and/or CRHR and they do not qualify as historical resources. No previously recorded historical resources are present within or in close proximity to (within 50 feet of) the project site.

The pedestrian survey identified the Palmer School, established in 1939. A review of aerial photographs indicated that some existing on-site buildings and structures date to 1965 or earlier, indicting they are 55 years old or more and above the 50 years age threshold for consideration for listing in the California Register. There are 14 historic-age buildings or structures (single-family residences, industrial property, unidentified property) located on the project site that have been previously found ineligible for listing in the NRHP and/or CRHR, and they do not qualify as historical resources.

While unlikely, subsurface construction activities always have the potential to damage or destroy previously undiscovered historic resources such as wood, stone, foundations, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramic, and other refuse, if encountered. This would represent a potentially significant impact related to historic resources.

Implementation of Mitigation Measure (MM) CUL-1, which requires an inspection and spot-monitoring by a qualified Archaeologist after clearing and grubbing are complete but before any digging or trenching begin, would reduce potential impacts to historic resources that may be discovered during project construction. MM CUL-1 is also applicable to the off-site improvements that involve digging or trenching, including the installation of sidewalks, curbs, gutters, landscaping, storm drain lines, bioretention swales, extension of waterlines, and new sanitary sewer manholes. If a potential resource is identified, construction would be required to stop until appropriate identification and treatment measures are implemented. Therefore, direct and indirect impacts related to historic resources would be less than significant with mitigation.

Operation

Impacts related to a project's potential to cause a substantial adverse change in the significance of a historical resource are limited to inadvertent discoveries. No operational impacts would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM CUL-1 Archaeological Spot-Monitoring and Halt of Construction Upon Encountering Historical or Archaeological Materials

An Archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology should inspect the site once grubbing and clearing are complete, and prior to any grading or trenching into previously undisturbed soils. This will be followed by regular periodic or "spot-check" archaeological monitoring as determined by the Archaeologist. If the Archaeologist believes that a reduction in monitoring activities is prudent, then a letter report detailing the rationale for making such a reduction and summarizing the monitoring results shall be provided to the Department of Conservation and Development, Community Development Division (CDD) for concurrence.

In the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers should avoid altering the materials until an Archaeologist has evaluated the situation. The applicant for the proposed project shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramics, fossils, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. The Archaeologist shall make recommendations concerning appropriate measures that will be implemented to protect the resource, including but not limited to excavation and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Any previously undiscovered resources found during construction within the project site shall be recorded on appropriate California Department of Parks and Recreation (DPR) 523 forms and will be submitted to the Department of Conservation and Development, Community Development Division, the Northwest Information Center (NWIC), and the California Office of Historic Preservation (OHP), as required.

Level of Significance After Mitigation

Less than significant impact.

Archaeological Resources

Impact CUL-2: The proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

Construction

Records search results from the NWIC indicate that 13 cultural resources have been mapped within a 0.5-mile radius of the project site. One of these is a prehistoric archaeological site and 12 are built environment resources. None of these resources are within or in close proximity to the project site.

No archaeological resources have been recorded within the project site. However, the close proximity to the historical alignment of Walnut Creek, the relatively flat topography within the project site, and the occurrence of a nearby prehistoric archaeological site creates a potential for undiscovered prehistoric resources to occur within the project site. Such resources could consist of but are not limited to stone, bone, wood, or shell artifacts or features, including hearths and structural elements. This represents a potentially significant impact related to archaeological resources.

Implementation of MM CUL-1 requires inspection and spot-monitoring by a qualified Archaeologist after clearing and grubbing are complete but before any excavation or trenching begin, would reduce potential impacts to archaeological resources that may be discovered during project construction. If a potential resource is identified, construction would be required to stop until appropriate identification and treatment measures are implemented. Therefore, direct and indirect impacts related to archaeological resources would be less than significant with mitigation.

Operation

Impacts related to a project's potential to cause a substantial adverse change in the significance of an archaeological resource are limited to construction impacts. No direct or indirect operational impacts related to archaeological resources would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM CUL-1.

Level of Significance After Mitigation

Less than significant impact.

Human Remains

Impact CUL-3:	**The proposed project could disturb human remains, including those interred outside of formal cemeteries.**

Construction

No human remains or cemeteries are known to exist within or near the project site. However, there is always the possibility that subsurface construction activities associated with the proposed project, such as trenching and grading, could potentially damage or destroy previously undiscovered human remains. This represents a potentially significant impact related to human remains.

However, in the unlikely event human remains are discovered, both within the project site and within the areas proposed for the off-site improvements, implementation of MM CUL-3 would require that work be halted and the County Coroner is called to make a determination as to the nature of the remains and to confirm next steps regarding contacting the NAHC and appropriate tribal representatives. Therefore, with implementation of MM CUL-3 and compliance with CEQA Guidelines, direct and indirect impacts related to disturbance of human remains would be less than significant with mitigation.

Operation

Impacts related to a project's potential to disturb human remains are limited to construction impacts. No respective direct or indirect operational impacts related to human remains would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM CUL-3 Stop Construction Upon Encountering Human Remains

In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, and Public Resources Code Sections 5097.94 and Section 5097.98 shall be followed. If during the course of project construction, there is accidental discovery or recognition of any human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance within 100 feet of the remains until the County Coroner is contacted to determine whether the remains are Native American and if an investigation of the cause of death is required. If the Coroner determines the remains to be Native American, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the Most Likely Descendant (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.
2. Where the following conditions occur, the landowner or his or her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the MLD or on the project site in a location not subject to further subsurface disturbance:
    - The NAHC is unable to identify an MLD or the MLD failed to make a recommendation within 48 hours after being notified by the NAHC.
    - The descendant identified fails to make a recommendation.
    - The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner.

Additionally, California Public Resources Code Section 15064.5 requires the following relative to Native American Remains:

When an initial study identifies the existence of, or the probable likelihood of, Native American Remains within a project, a lead agency shall work with the appropriate Native Americans as identified by the NAHC as provided in Public Resources Code Section 5097.98. The applicant may develop a plan for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American Burials with the appropriate Native Americans as identified by the NAHC.

Level of Significance After Mitigation

Less than significant impact.

Significance of Tribal Cultural Resource and Eligibility for California Register Listing

Impact CUL-4: The proposed project could cause a substantial adverse change in the significance of a Tribal Cultural Resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

Construction

A review of the CRHR, local registers of historic resources, a records search conducted at the NWIC, and an NAHC SLF search failed to identify any listed TCRs that may be adversely affected by the proposed project. Moreover, no tribe requested consultation within the 30-day period established by AB 52. However, if a potential resource is identified, construction would be required to stop until appropriate identification and treatment measures are implemented. Therefore, direct and indirect impacts related to TCRs would be less than significant with implementation MM CUL-1 and MM CUL-3.

Operation

Impacts related to a project's potential to cause a substantial adverse change in the significance of a State listed or eligible tribal cultural resource are limited to construction impacts. No respective operational impacts would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM CUL-1 and MM CUL-3.

Level of Significance After Mitigation

Less than significant impact.

Significance of Tribal Cultural Resource and Eligibility as Determined by Lead Agency

Impact CUL-5: **The proposed project could cause a substantial adverse change in the significance of a Tribal Cultural Resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.**

Construction

On August 13, 2020, ESA contacted the NAHC to NAHC to determine whether any sacred sites are listed on its SLF for the project area. A response was received on August 18, 2020, and indicated that the SLF results failed to indicate the presence of Native American cultural resources in the immediate project area. The NAHC included a list of eight tribal representatives available for consultation. To ensure that all Native American knowledge and concerns over potential TCRs that may be affected by the proposed project are addressed, a letter containing project information and requesting any additional information was sent to each tribal representative on May 11, 2021.

On March 9, 2021, the County notified the Wilton Rancheria pursuant to Public Resources Code Section 21080.3.1 that the proposed project may be within a geographic area in which the tribe may be traditionally and culturally affiliated. On March 11, 2021, the Wilton Rancheria responded that it has no concerns regarding the proposed project. However, if a potential resource is identified, construction would be required to stop until appropriate identification and treatment measures are implemented. Therefore, direct and indirect impacts related to TCRs would be less than significant with implementation MM CUL-1 and MM CUL-3.

Operation

Impacts related to a project's potential to cause a substantial adverse change in the significance of a State listed or eligible tribal cultural resource are limited to construction impacts. No operational impacts would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM CUL-1 and MM CUL-3.

Level of Significance After Mitigation

Less than significant impact.

3.4.5 - Cumulative Impacts

The geographic scope of the cumulative cultural resources analysis is the project vicinity. Cultural resource impacts tend to be localized, because the integrity of any given resource depends on what occurs only in the immediate vicinity around that resource, such as disruption of soils; therefore, in addition to the project site itself, the area near the project site would be the area most affected by project activities (generally within a 0.5-mile radius). The results of the Cultural Resources

Assessment and tribal consultation indicate that the proposed project will not have a direct impact on any known historic resources, archaeological resources, human remains, or TCRs.

Construction activities associated with development projects in the project vicinity may have the potential to encounter undiscovered cultural resources. These projects would be required to mitigate for impacts through compliance with applicable federal and State laws governing cultural resources. Although there is the possibility that previously undiscovered resources could be encountered by subsurface earthwork activities associated with the cumulative projects, the implementation of construction mitigation measures would ensure that undiscovered cultural resources are not adversely affected by cumulative project-related construction activities, which would prevent the destruction or degradation of potentially significant cultural resources. The implementation of comprehensive mitigation measures for the cumulative projects and the proposed project would result in a less than significant with mitigation cumulative impact related to cultural resources.

Level of Cumulative Significance Before Mitigation

Potentially significant impact.

Cumulative Mitigation Measures

Implement MM CUL-1 and MM CUL-3.

Level of Cumulative Significance After Mitigation

Less than significant impact.

3.5 - Energy

3.5.1 - Introduction

This section describes the existing energy setting in the project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to energy that could result from implementation of the proposed project. Information in this section is based on project-specific energy calculation outputs included in Appendix B. No comments were received during the Notice of Preparation (NOP) comment period related to energy.

3.5.2 - Existing Setting

Energy Basics

Energy is generally transmitted in either the form of electricity, measured in kilowatt (kW)[1] or megawatt (MW),[2] or natural gas, measured in British Thermal Units (BTU) or cubic feet.[3] Fuel, such as gasoline or diesel, is measured in gallons or liters.

Electricity

Electricity is used primarily for lighting, appliances, and other uses associated with the proposed project.

Natural Gas

Natural gas uses primarily are heating, water heating, and cooking, and is typically associated with commercial and residential uses.

Fuel

Fuel use is primarily for powering off-road equipment, trucks, and passenger vehicles. Typical fuel types are diesel and gasoline.

Electricity Generation, Distribution, and Use

State of California

The State of California generated approximately 200,475 gigawatt-hours (GWh) of electricity in 2019. Approximately 43 percent of the energy generation is sourced from natural gas, 32.1 percent from renewable sources (i.e., solar, wind, and geothermal), 16.5 percent from large hydroelectric sources, and the remaining 8.4 percent is sourced from coal, nuclear, oil, and other non-renewable sources.[4]

[1] 1 kW = 1.000 watts; A watt is a derived unit of power that measure rate of energy conversion. 1 watt is equivalent to work being done at a rate of 1 joule of energy per second. In electrical terms, 1 watt is the power dissipated by a current of 1 ampere flowing across a resistance of 1 volt.

[2] 1 MW = 1 million watts

[3] A unit for quantity of heat that equals 100,000 British thermal units. A British thermal unit is the quantity of heat required to raise the temperature of 1 pound of liquid water 1 degree Fahrenheit at a constant pressure of 1 atmosphere.

[4] State of California. 2019. California Energy Commission. Website: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html. Accessed June 10, 2021.

In 2019, California ranked second in the nation in conventional hydroelectric generation and first as a producer of electricity from solar, geothermal, and biomass resources.[5] Electricity and natural gas are distributed through various electric load-serving entities (LSE) in California. These entities include investor-owned utilities (IOUs), publicly owned LSEs, rural electric cooperatives, community choice aggregators, and electric service providers.[6]

Contra Costa County

Pacific Gas & Electric Company (PG&E) provides electricity to many of the cities throughout Contra Costa County (County). In April 2018, Marin Clean Energy (MCE) became the primary electricity provider for several of these cities and unincorporated portions of the County.[7] Most of the County's energy is consumed by residential activities (41 percent), followed by major industrial activities (34 percent) and all other nonresidential activities (25 percent).[8]

Project Site

The former Palmer School for Boys and Girls, a private elementary school, operated at the project site from 1939 until its closure due to COVID-19 in June 2020. However, no active school currently exists on the project site and there are no existing residences or other uses within the project site that would consume electricity. PG&E provides electricity to the project site.

Natural Gas Generation, Distribution, and Use

State of California

Natural gas continues to play an important and varied role in California; however, California continues to depend on out-of-state imports for nearly 90 percent of its natural gas supply.[9] The State's net natural gas production for 2019 was approximately 193.9 billion cubic feet, representing a decrease of approximately 4.3 percent from 2018 production.[10]

In 2018, California consumed a total of 12,666 million U.S. therms of natural gas, or approximately 1,266 trillion BTU,[11] with approximately 28.8 percent going directly to electricity generation.[12] According to the California Energy Commission's (CEC) Energy Consumption Database, residential natural gas demand accounted for approximately 34.7 percent of California's total natural gas demand while nonresidential natural gas demand accounted for approximately 65.3 percent.[13]

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5 United States Energy Information Administration. 2021. California State Profile and Energy Estimates. February 18. Website: https://www.eia.gov/state/?sid=CA. Accessed June 10, 2021.

6 California Energy Commission (CEC). 2021. Electric Load-Serving Entities (LSEs) in California. Website: https://www.energy.ca.gov/almanac/electricity_data/utilities.html. Accessed June 10, 2021.

7 Marin Clean Energy (MCE). 2021. MCE Contra Costa. Website: https://www.mcecleanenergy.org/2021enroll/. Accessed March 26, 2021.

8 Contra Costa County. 2015. Contra Costa County Climate Action Plan. Website: https://www.contracosta.ca.gov/DocumentCenter/View/39791/Contra-Costa-County-Climate-Action-Plan. Accessed June 10, 2021.

9 California Energy Commission (CEC). 2019b. "Supply and Demand of Natural Gas in California." Website: https://ww2.energy.ca.gov/almanac/naturalgas_data/overview.html. Accessed June 10, 2021.

10 United States Energy Information Administration (EIA). 2020. "Natural Gas Gross Withdrawals and Production." May. Website: https://www.eia.gov/dnav/ng/ng_prod_sum_a_EPG0_VGM_mmcf_a.htm. Accessed June 10, 2021.

11 California Energy Commission (CEC). 2020. "Gas Consumption by County." Website: https://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed June 10, 2021.

12 United States Energy Information Administration (EIA). 2020. Table F18: Natural Gas Consumption Estimates, 2018. January 3. Website: https://www.eia.gov/state/seds/seds-data-fuel.php?sid=CA#NaturalGas. Accessed June 10, 2021.

13 California Energy Commission (CEC). 2018. "Gas Consumption by County." Website: https://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed June 10, 2021.

Contra Costa County

As noted in Chapter 2, Project Description, PG&E provides natural gas to the unincorporated portions of the County.

Project Site

The former Palmer School for Boys and Girls, a private K–8 school, operated at the project site from 1939 until its closure due to COVID-19 in June 2020. However no active school currently exists on the project site, and there are no existing residences or other uses within the project site that would consume natural gas. Although natural gas for the project site is provided by PG&E,[14] the proposed project will be all electric.

Fuel Use

State of California

California is one of the top producers of petroleum in the nation, with drilling operations occurring throughout the State. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay Area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received in ports in Los Angeles, Long Beach, and the San Francisco Bay Area. Crude oil production in California and Alaska is in decline, and California refineries have become increasingly dependent on foreign imports.[15] Since 2012, foreign suppliers, led by Saudi Arabia, provide over half of the crude oil refined in California.[16,17] According to the United States Energy Information Administration (EIA), California's field production of crude oil has steadily declined since the mid-1980s, totaling approximately 161.5 million barrels in 2019.[18]

According to the EIA, transportation accounted for nearly 40 percent of California's total energy demand, amounting to approximately 3,170 trillion BTU in 2018.[19] California's transportation sector, including rail and aviation, consumed roughly 584 million barrels of petroleum fuels in 2018.[20] In 2018, petroleum-based fuels were used for approximately 86 percent of the State's total transportation activity.[21] The CEC produces the California Annual Retail Fuel Outlet Report, which is a compilation of gasoline and diesel fuel sales data from across the State available at the county level.

[14] Pacific Gas & Electric Company (PG&E). 2014. Gas Service Area Maps. Website: https://www.pge.com/tariffs/assets/pdf/tariffbook/GAS_MAPS_Service_Area_Map.pdf. Accessed June 10, 2021.

[15] California Energy Commission (CEC). 2020. "Oil Supply Sources to California Refineries." Website: https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/oil-supply-sources-california-refineries. Accessed June 10, 2021.

[16] California Energy Commission (CEC). 2019. "Foreign Sources of Crude Oil Imports to California 2018." March. Website: https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/foreign-sources-crude-oil-imports. Accessed June 10, 2021.

[17] California Energy Commission (CEC). 2020. "Oil Supply Sources to California Refineries." Website: https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/oil-supply-sources-california-refineries. Accessed June 10, 2021.

[18] United States Department of Energy, Alternative Fuels Data Center. 2020. "Alternative Fueling Station Locator [Interactive Database]." Website: https://afdc.energy.gov/stations/#/find/nearest. Accessed June 10, 2021.

[19] United States Energy Information Administration (EIA). 2020. Table F33: Total Energy Consumption, Price, and Expenditure Estimates, 2018. May 29. Website: https://www.eia.gov/state/seds/sep_fuel/html/pdf/fuel_te.pdf. Accessed June 10, 2021.

[20] United States Energy Information Administration (EIA). 2020. Table F16: Total Petroleum Consumption Estimates, 2018. April 24. Website: https://www.eia.gov/state/seds/sep_fuel/html/pdf/fuel_use_pa.pdf. Accessed June 10, 2021.

[21] United States Energy Information Administration (EIA). 2020. Table F18: Natural Gas Consumption Estimates, 2018. January 3. Website: https://www.eia.gov/state/seds/seds-data-fuel.php?sid=CA#NaturalGas. Accessed June 10, 2021.

According to the CEC, California's 2017 fuel sales totaled 15,471 million gallons of gasoline and 3,417 million gallons of diesel.[22]

Alternative Fuels

A variety of alternative fuels are used to reduce petroleum-based fuel demand. The use of these fuels is encouraged through various Statewide regulations and plans, such as the Low Carbon Fuel Standard (LCFS) and Senate Bill (SB) 32. Conventional gasoline and diesel may be replaced, depending on the capability of the vehicle, with transportation fuels including hydrogen, biodiesel, and electricity. Currently, 48 public hydrogen refueling stations exist in California; however, none are in the County.[23,24] Currently, nine public biodiesel refueling stations are in California, with none of them in the County.[25]

Electric Vehicles

Electricity can be used to power electric and plug-in hybrid Electric Vehicles (EVs) directly from the power grid. Electricity used to power vehicles is generally provided by the electricity grid and stored in the vehicle's batteries. Fuel cells are being explored to use electricity generated onboard the vehicle to power electric motors. Currently, California has 12,696 EV charging stations.[26]

Project Site

The former Palmer School for Boys and Girls, a private elementary school, operated at the project site from 1939 until its closure due to COVID-19 in June 2020. However, no active school currently exists on the project site and there are no existing residences or other uses within the project site that would consume fuels.

3.5.3 - Regulatory Framework

Federal

Energy Independence and Security Act

The Energy Policy Act of 2005 created the Renewable Fuel Standard program. The Energy Independence and Security Act of 2007 expanded this program by:

- Expanding the Renewable Fuel Standard program to include diesel in addition to gasoline;
- Increasing the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022;
- Establishing new categories of renewable fuel, and setting separate volume requirements for each one; and

[22] California Energy Commission (CEC). 2019. 2010-2018 CEC-A15 Results and Analysis. Website: https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting. Accessed June 10, 2021.
[23] United State Department of Energy, Alternative Fuels Data Center. 2020. Alternative Fueling Station Locator [Interactive Database]. Website: https://afdc.energy.gov/stations/#/find/nearest. Accessed June 10, 2021.
[24] United State Department of Energy, Alternative Fuels Data Center. 2020. Alternative Fueling Station Counts by State. June. Website: https://afdc.energy.gov/stations/states. Accessed June 10, 2021.
[25] Ibid.
[26] United States Department of Energy (DOE). N.d. Alternative Fuels Data Center: Electric Vehicle Charging Station Locations. Website: https://afdc.energy.gov/fuels/electricity_locations.html#/analyze?region=US-CA&fuel=ELEC&ev_levels=all. Accessed June 10, 2021.

- Requiring the United States Environmental Protection Agency (EPA) to apply lifecycle greenhouse gas (GHG) emissions performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

This expanded Renewable Fuel Standard program lays the foundation for achieving substantial reductions of GHG emissions from the use of renewable fuels, reducing the use of imported petroleum, and encouraging the development and expansion of the nation's renewable fuels sector.

Signed on December 19, 2007, the Energy Independence and Security Act (EISA) of 2007 aims to:

- Move the United States toward greater energy independence and security.
- Increase the production of clean renewable fuels.
- Protect consumers.
- Increase the efficiency of products, buildings, and vehicles.
- Promote research on and deploy GHG capture and storage options.
- Improve the energy performance of the federal government.
- Increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy.

EISA reinforces the energy reduction goals for federal agencies put forth in Executive Order 13423, as well as introduces requirements that are more aggressive. The three key provisions enacted are the Corporate Average Fuel Economy Standards, the Renewable Fuel Standard, and the appliance/lighting efficiency standards.

The EPA is committed to developing, implementing, and revising both regulations and voluntary programs under the following subtitles in EISA, among others:

- Increased Corporate Average Fuel Economy Standards
- Federal Vehicle Fleets
- Renewable Fuel Standard
- Biofuels Infrastructure
- Carbon Capture and Sequestration[27]

The EPA and National Highway Traffic Safety Administration Light-Duty Vehicle GHG Emission Standards and Corporate Average Fuel Economy Standards Final Rule

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Barack Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule

[27] United States Environment Protection Agency (EPA). 2019. Summary of the Energy Independence and Security Act. May 6. Website: https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act. Accessed June 10, 2021.

establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light duty trucks, and medium duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide (CO_2) per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

The EPA and the NHTSA issued final rules on a second phase joint rulemaking, establishing national standards for light duty vehicles for model years 2017 through 2025 in August 2012.[28] The new standards for model years 2017 through 2025 apply to passenger cars, light duty trucks, and medium duty passenger vehicles. The final standards project an average industry fleet wide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

The EPA and NHTSA issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that began in the 2014 model year and achieve up to a 20 percent reduction in CO_2 emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles, and a 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Last, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

The State of California has received a waiver from the EPA to have separate, stricter Corporate Average Fuel Economy Standards. Although global climate change did not become an international concern until the 1980s, efforts to reduce energy consumption began in California in response to the oil crisis in the 1970s, resulting in the incidental reduction of GHG emissions. In order to manage the State's energy needs and promote energy efficiency, Assembly Bill (AB) 1575 created the CEC in 1975.

State

California Assembly Bill 1493: Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required the California Air Resources Board (ARB) to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the

[28] United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. August. Website: https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100EZ7C.TXT. Accessed June 10, 2021.

EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which the U.S. District Court for the District of Columbia upheld in 2011.[29]

The standards are to be phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in an approximately 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30 percent reduction.

Amendments to the Low Emission Vehicle (LEV) Program, referred to as LEV III or the Advanced Clean Cars program, incorporated the second phase of implementation for the Pavley Bill. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will reduce pollutants from gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid EV and hydrogen fuel cell cars. The regulations will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.[30]

California Code of Regulations Title 13: Motor Vehicles

California Code of Regulations, Title 13: Division 3, Chapter 10, Article 1, Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.[31] This measure seeks to reduce public exposure to diesel particulate matter and other air contaminants by establishing idling restrictions, emission standards, and other requirements for heavy-duty diesel engines and alternative idle reduction technologies to limit the idling of diesel-fueled commercial motor vehicles. Any person that owns, operates, or causes to operate any diesel-fueled commercial motor vehicle must not allow a vehicle to idle for more than five consecutive minutes at any location, or operate a diesel-fueled auxiliary power system for greater than five minutes at any location when within 100 feet of a restricted area.

California Code of Regulations, Title 13: Division 3, Chapter 9, Article 4.8, Section 2449: General Requirements for In-Use Off-Road Diesel-Fueled Fleets. This measure regulates oxides of nitrogen (NO_X), diesel particulate matter (DPM), and other criteria pollutant emissions from in-use, off-road diesel-fueled vehicles. This measure also requires each fleet to meet fleet average requirements or demonstrate that it has met "best available control technology" requirements. Additionally, this measure requires medium and large fleets to have a written idling policy made available to operators of the vehicles, informing them that idling is limited to five consecutive minutes or less.

California Senate Bill 1078: Renewable Electricity Standards

On September 12, 2002, Governor Gray Davis signed SB 1078, requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010

[29] California Air Resources Board (ARB). 2017. Clean Car Standards—Pavley, Assembly Bill 1493. January 11. Website: https://ww3.arb.ca.gov/cc/ccms/ccms.htm. Accessed June 10, 2021.

[30] California Air Resources Board (ARB). 2011. Status of Scoping Plan Recommended Measures. Website: https://calcarbondash.org/cc/scopingplan/sp_measures_implementation_timeline.pdf. Accessed June 10, 2021.

[31] California Air Resources Board (2021). Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Website: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling. Accessed June 10, 2021.

instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the State's LSE to meet a 33 percent renewable energy target by 2020. The ARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23.

California SB 350: Clean Energy and Pollution Reduction Act

In 2015, the State legislature approved, and the Governor signed SB 350, which reaffirmed California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the Renewables Portfolio Standard (RPS), higher energy efficiency requirements for buildings, initial strategies toward a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50 percent reduction in the use of petroleum Statewide were removed from the Bill due to opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce Statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission, the CEC, and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrified transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.[32]

California Code of Regulations Title 24

Part 6 (Energy Efficiency Standards for Residential and Nonresidential Buildings)

California Code of Regulations Title 24 Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2016 Building Energy Efficiency Standards went into effect on January 1, 2017.[33] The 2019 Building Energy Efficiency Standards are scheduled to go into effect on January 1, 2020.

Part 11 (California Green Building Standards Code)

California Code of Regulations Title 24, Part 11, is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The code is updated on a regular basis, with the most recent update consisting of the 2016 California Green

[32] State of California. 2015. Senate Bill No. 350: Chapter 547. October 7.

[33] California Energy Commission (CEC). 2016 Building Energy Efficiency Standards Frequently Asked Questions. Website: https://www.calbo.org/sites/main/files/file-attachments/2016_building_energy_efficiency_standards_faq.pdf?1520982927. Accessed June 10, 2021.

Building Code Standards that became effective January 1, 2017.[34] Local jurisdictions are permitted to adopt more stringent requirements, as State law provides methods for local enhancements. The code recognizes that many jurisdictions have existing construction and demolition ordinances and defers to them as the ruling guidance if they provide a minimum 50 percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. The California Building Code provides the minimum standard that buildings must meet to be certified for occupancy, which is enforced by the local building or planning department with jurisdiction over the building.

California Public Utilities Code

The California Public Utilities Commission (CPUC) regulates privately owned telecommunication, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. It is the responsibility of the CPUC to (1) assure California utility customers receive safe, reliable utility service at reasonable rates; (2) protect utility customers from fraud; and (3) promote a healthy California economy. The Public Utilities Code, adopted by the legislature, defines the jurisdiction of the CPUC.

Local

Contra Costa County General Plan

Conservation Element

The County does not fully utilize its renewable energy sources in the forms of wind energy and solar power. Chapter 8, the Conservation Element of the Contra Costa County General Plan (General Plan), contains the following goals and implementation measures pertaining to the County's renewable energy resources.[35]

Goal 8-K To encourage the use of renewable resources where they are compatible with the maintenance of environmental quality.

Goal 8-L To reduce energy use in the County to avoid risks of air pollution and energy shortages which could prevent orderly development.

Implementation Measure

Implementation Measure 8-bs Include provisions for solar access within design review of projects.

Contra Costa County Climate Action Plan

In 2005, the County established a Climate Change Working Group to coordinate County efforts to respond to climate change, and to guide practices that result in more sustainable actions.[36] On

[34] California Building Standards Commission (CBC). 2016. 2016 California Green Building Standards Code. July. Website: https://www.ladbs.org/docs/default-source/publications/code-amendments/2016-calgreen_complete.pdf?sfvrsn=6. Accessed June 10, 2021.

[35] Contra Costa County. 2005. Contra Costa County General Plan. January 18. Website: https://www.contracosta.ca.gov/4732/General-Plan. Accessed June 10, 2021.

[36] Contra Costa County. 2015. Contra Costa County Climate Action Plan. Website: https://www.contracosta.ca.gov/DocumentCenter/View/39791/Contra-Costa-County-Climate-Action-Plan. Accessed June 10, 2021.

December 15, 2015, the Board of Supervisors approved the Contra Costa County Climate Action Plan (CAP).[37] Many County policies and initiatives support this effort, including:

- The Contra Costa County Municipal CAP,[38] which includes a range of policies promoting energy efficiency and renewable energy;
- Bay Area Regional Energy Network (BayREN),[39] a collaboration of the nine counties that make up the Bay Area that implements energy savings programs on a regional level;
- Energy conservation policies and programs designed to reduce energy demand through home weatherization programs and green building guidelines; and,
- Alternative energy policies that will reduce GHG emissions through supporting appropriate renewable energy projects and encouraging energy recovery projects.

3.5.4 - Impacts and Mitigation Measures

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist, to determine whether impacts related to energy are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Approach to Analysis

For the purposes of this Draft Environmental Impact Report (Draft EIR), the approach to analysis for energy use is based on 2021 CEQA Guidelines Appendix F (Energy Conservation), which focuses on conserving energy through the wise and efficient use of energy. Estimates of energy consumption associated with the proposed project are based, in part, on information provided by the California Emissions Estimator Model (CalEEMod) output included in this Draft EIR as Appendix B. CalEEMod contains energy intensity rates for the various land uses selected; see Section 3.7, Greenhouse Gas Emissions, Approach to Analysis, for detailed information regarding how project-specific energy estimates are determined.

Renewable Energy/Energy Efficiency Plan Consistency Determination Methodology

The proposed project is assessed for whether it would conflict with or obstruct a State or local plan for renewable energy or energy efficiency. To achieve this, the proposed project is assessed for consistency with State goals and plans related to energy efficiency and renewable energy.

[37] Contra Costa County. 2015. Contra Costa County Climate Action Plan. Website: https://www.contracosta.ca.gov/DocumentCenter/View/39791/Contra-Costa-County-Climate-Action-Plan. Accessed June 10, 2021.

[38] Contra Costa County Municipal Climate Action Plan (CAP). 2008. Measures to Reduce Municipal Greenhouse Gas Emissions. December. Website: https://www.contracosta.ca.gov/DocumentCenter/View/2905/Municipal-Climate-Action-Plan-1208-Attachment-A?bidId=. Accessed June 10, 2021.

[39] Association of Bay Area Governments (ABAG). Bay Area Regional Energy Network (BayREN). Website: https://www.bayren.org/. Accessed June 10, 2021.

Specific Thresholds of Significance

The County does not have quantitative thresholds for evaluation of energy; however, the following qualitative thresholds are used to evaluate the significance of energy impacts resulting from implementation of the proposed project.

- Result in a wasteful, inefficient, or unnecessary consumption of energy during construction and operational activities; or
- Construction and operation of buildings and appliances that would not adhere to the energy use reduction measures included in the California Green Building Code and required by the County.

Impact Evaluation

Energy Use

Impact ENER-1:	**The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.**

A significant impact would occur if the proposed project would result in the inefficient, wasteful, or unnecessary use of energy.

Construction

For the purposes of this GHG analysis, construction of the proposed project was assumed to begin in September 2022 and continue through November 2023. If the construction schedule moves to later years, construction energy demand would likely decrease because of improvements in technology and more stringent regulatory requirements as older, less efficient equipment is replaced by newer and cleaner equipment. The proposed project would require demolition, site preparation, grading, building construction, architectural coating, and paving activities. Project construction would require energy for the manufacture and transportation of building materials, preparation of the site (e.g., demolition, site clearing, and grading), and the actual construction of the building. Petroleum-based fuels such as diesel fuel and gasoline would be the primary sources of energy for these tasks. Much of the energy consumption are likely to occur in the first year when demolition, site preparation and grading activities occur.

The types of on-site equipment used during construction of the proposed project could include gasoline- and diesel-powered construction and transportation equipment, including trucks, bulldozers, frontend loaders, forklifts, and cranes. Construction equipment is estimated to consume a total of 36,941 gallons of diesel fuel over the entire construction duration (Appendix B).

Fuel use associated with construction vehicle trips generated by the proposed project was also estimated; trips include construction worker trips, haul truck trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the project site was based on (1) the projected number of trips the proposed project would generate during construction, (2) average trip distances by trip type, and (3) fuel efficiencies estimated in the ARB Emissions Factors model (EMFAC) mobile source emission model. The specific parameters used to

estimate fuel usage are included in Appendix B. In total, the proposed project is estimated to generate 498,347 Vehicle Miles Traveled (VMT) and a combined 23,042 gallons of gasoline and diesel for vehicle travel during construction.

Other equipment could include construction lighting, field services (office trailers), and electrically driven equipment such as pumps and other tools. Singlewide mobile office trailers, which are commonly used in construction staging areas, generally range in size from 160 square feet to 720 square feet. A typical 720-square-foot office trailer would consume approximately 15,722 kilowatt-hours (kWh) during the 1.2-year construction phase (Appendix B).

The proposed project's construction is not anticipated to result in unusually high energy use. Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained would result in fuel savings. Similarly, compliance with State regulations would limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. Additionally, the overall construction schedule and process is already designed to be efficient in order to avoid excess monetary costs. For example, equipment and fuel are not typically used wastefully due to the added expense associated with renting the equipment, maintaining it, and fueling it. Therefore, the opportunities for future efficiency gains during construction are limited. Therefore, it is anticipated that the construction phase of the proposed project would not result in wasteful, inefficient, and unnecessary consumption of energy. Construction-related energy impacts would be less than significant.

Operation

The proposed project would consume energy as part of building operations and transportation activities. Project energy consumption is summarized in Table 3.5-1.

Table 3.5-1: Annual Project Energy Consumption

Energy Consumption Activity	Annual Consumption
Electricity Consumption	635,439 kWh/year
Natural Gas Consumption	0 kBTU/year
Total Fuel Consumption	63,021 gallons of Diesel and Gasoline

Notes:
kWh = kilowatt-hour
kBTU = kilo-British Thermal Unit
VMT = Vehicle Miles Traveled
Operational fuel consumption based on EMFAC2021 Emissions Inventory, Vehicle Classification (Fleet Mix) EMFAC2007 Categories. The calculations are for the year 2024 when the proposed project will be fully operational and for the County, where the proposed project is located (Appendix B).

Unmitigated operation of the proposed project would consume an estimated 635,439 kWh of electricity and an estimated 0 kBTU of natural gas on an annual basis. The proposed project's buildings would be designed and constructed in accordance with the County's latest adopted energy efficiency standards, which are based on the State's Building Energy Efficiency Standards. These are

widely regarded as the most advanced building energy efficiency standards and compliance would ensure that building energy consumption would not be wasteful, inefficient, or unnecessary.

The proposed project is designed be all electric construction in the new homes with no natural gas provided. Each home will have roof-top solar panels. The number and orientation of the panels will vary from unit to unit. At a minimum, the solar panels would off-set the increased electricity demand for appliances that may have been traditional.

In total, the proposed project would consume 63,021 gallons of gasoline and diesel per year starting in 2023. The majority of operational fuel consumption would be from employee vehicle emissions, which would be regulated by State and federal policies and could not be feasibly mitigated by the proposed project or County.

The proposed project is located in proximity to transit in order to reduce VMT. Bus transit services in the vicinity of the project site are provided by County Connection. The site is served by several County Connection bus routes: 7, 9, 11, 14, 15, and 311. The closest bus stop to the project site is located at Oak Road and Walden Park, approximately 970 feet south of the project site. There are sidewalks on Oak Road that provide connectivity to the bus stop. The Bay Area Rapid Transit (BART) is a regional rail transit service that operates within the County and provides connections to Alameda, San Francisco, and San Mateo Counties. The Pleasant Hill/Contra Costa Center BART station is located approximately 0.35 mile from the project site. Currently, there are no existing bike lanes on Jones Road. The Iron Horse Regional Trail, located approximately 1,500 feet east of the project site, provides a multiuse bicycle/pedestrian pathway, which access to the Pleasant Hill BART station. There is also another bicycle/pedestrian trail, Contra Costa Canal Trail, located approximately 450-600 feet south of the project site, which crosses Oak Road and Jones Road. According to the City of Walnut Creek Bicycle Plan, there are plans to provide a bicycle route on Jones Road between Treat Boulevard and Walden Road. The proposed project would not affect existing and planned bicycle facilities. The project also proposes to include a bike repair space on-site. As a result, the proposed project is located near regional and local roadway. Transportation fuel consumption would not be wasteful, inefficient, or unnecessary. Impacts would be less than significant.

Level of Significance

Less than significant impact.

Energy Efficiency and Renewable Energy Standards Consistency

Impact ENER-2:	**The proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.**

For this impact discussion, a significant impact would occur if the proposed project would conflict with or obstruct a State or local plan for renewable energy or energy efficiency. The County has developed a CAP that contains several energy efficiency goals and measures that would relate to the proposed project. In addition, the County's General Plan Conservation Element contains several energy efficiency goals that would relate to the proposed project. This analysis is based on consistency with State goals and plans related to energy efficiency and renewable energy as well as relevant goals and measures contained in the County's CAP and General Plan Conservation Element.

The proposed project would be designed in accordance with Title 24, California's Energy Efficiency Standards for Residential Buildings. These standards include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., heating, ventilation, and air conditioning [HVAC] and water heating systems), and indoor and outdoor lighting. The incorporation of the Title 24 standards into the design of the proposed project would ensure that the proposed project would not result in the use of energy in a wasteful manner. Furthermore, the proposed roof-top solar panels would off-set the increased electricity demand for appliances that may have been traditionally.

The General Plan Conservation Element contains policies related to energy conservation that are relevant to the proposed project. Compliance with Title 24 standards would ensure that the proposed project would not conflict with any of the Conservation Element energy conservation policies related to the proposed project's building envelope, mechanical systems, and indoor and outdoor lighting. Moreover, as previously illustrated in Section 3.7, Greenhouse Gas Emissions, Table 3.7-6, Contra Costa County Climate Action Plan Consistency, the proposed project would be consistent with the GHG reduction measures contained in the County's CAP, which are closely related to and include energy efficiency measures.

The proposed project would comply with existing State energy standards and be consistent with the energy efficiency goals and measures contained in the County's General Plan Conservation Element and CAP. As such, the proposed project would not conflict with State or local renewable or energy efficiency objectives. Impacts would be less than significant.

Level of Significance

Less than significant impact.

3.5.5 - Cumulative Impacts

The geographic scope of the cumulative energy analysis is the portion of PG&E's service area that covers incorporated and unincorporated County. Cumulative projects considered as part of this cumulative analysis include the proposed project and other cumulative projects identified in Chapter 3, Environmental Impact Analysis, Table 3-1.

Electricity and Natural Gas

Cumulative projects would be required to comply with Title 24 Building Energy Efficiency Standards and the California Green Building Standards Code (CALGreen). The cumulative buildings would be designed in accordance with Title 24, California's Energy Efficiency Standards for Residential Buildings as applicable. These standards include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., HVAC and water heating systems), and indoor and outdoor lighting. Future development would also be required to meet even more stringent energy efficiency requirements through local and Statewide policy, such as Title 24, Part 6, which would require that newly constructed residential homes include on-site photovoltaic solar systems, with some exceptions. Furthermore, PG&E, which supplies electricity to the project area, would be required by SB 100 to incrementally increase the proportion of renewable electricity generation supplying its in-state retail sales until it reaches 100 percent carbon-free electricity generation by

2045. Nonetheless, the incorporation of these regulations into the design of the cumulative projects, including the proposed project, would ensure that the cumulative projects would not result in the inefficient, unnecessary, or wasteful consumption of electricity or natural gas, and impacts would be less than significant.

The proposed project's energy use would be limited to that which is necessary for the construction and operation of the proposed project. The proposed project would comply with Statewide and local policies pertaining to energy efficiency and would reasonably pursue greater energy efficiencies in its operation in the interest of reducing operating costs. As such, the proposed project's incremental contribution to potential cumulative impacts would be less than significant related to energy consumption in the form of electricity and natural gas.

Fuel

Cumulative projects would be required to comply with California Code of Regulations Title 13, Sections 2449(d)(3) and 2485, that limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. Additionally, various federal and State regulations, including the LCFS, Pavley Clean Car Standards, and LEV Program, would serve to reduce the transportation fuel demand of cumulative projects. Compliance with these regulations by the cumulative projects, including the proposed project, would ensure that the cumulative projects would not result in the inefficient, unnecessary, or wasteful consumption of fuel and the cumulative impact would be less than significant. Therefore, the proposed project would have a less than cumulatively considerable impact with respect to significant cumulative impacts related to the wasteful or inefficient use of energy.

Level of Cumulative Significance

Less than significant impact.

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3.6 - Geology and Soils

3.6.1 - Introduction

This section describes existing conditions related to geology and soils in the region and project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to geology and soils that could result from implementation of the proposed project. Information included in this section is based on the Contra Costa County General Plan (General Plan) and the United States Geological Survey (USGS). Additional resources include the Preliminary Geotechnical Exploration prepared by ENGEO; Geologic Peer Review/30-Day Comments prepared by the County's Geologist, Darwin Myers Associates; and the Paleontological Records Search prepared by Consulting Paleontologist, Kenneth Finger, PhD, all of which are included in Appendix E.

During the Notice of Preparation (NOP) comment period, the following comments were received related to the proposed project regarding geology and soils:

- Concern that demolition and construction activities could result in foundation damage to neighboring homes.
- Concern that the small setback would impact to foundations of neighboring homes.
- Concern that the proposed project would impact the foundations of neighboring homes.
- Concern of potential substance foundation exterior cracks that may affect neighboring properties.

3.6.2 - Environmental Setting

Geologic Setting

Contra Costa County

Contra Costa County (County) is in the Coast Ranges geomorphic province of California. The Coast Ranges have experienced a complex geological history characterized by Late Tertiary folding and faulting that has resulted in a series of northwest-trending mountain ranges and intervening valleys. Bedrock in the Coast Ranges consists of igneous, metamorphic, and sedimentary rocks that range in age from Jurassic to Pleistocene. The present physiography and geology of the Coast Ranges are the result of deformation and deposition along the tectonic boundary between the North American plate and the Pacific plate. Plate boundary fault movements are largely concentrated along the well-known fault zones in the area, which include the San Andreas, Hayward, and Calaveras Faults, as well as other lesser-order faults.

Several northwest-trending fault systems dominate the geology of the County, dividing it into large blocks of rock. For example, bounding the Briones Hills is the Hayward Fault on the west and elements of the Franklin-Calaveras fault system on the east. Within a particular block the rock sequence consists of: (1) a basement complex of broken and jumbled pre-Tertiary sedimentary, igneous, and metamorphic rocks; (2) a section of younger Tertiary sedimentary rocks and some volcanic rocks (flows and tuffs) that locally intertongue with, and overlie the sedimentary section;

and (3) surficial deposits including stream alluvium, colluvium (slopewash deposits at the foot of steeper slopes), slides, alluvial fans, and Bay Plain deposits.[1]

Project Site

The project site is located within the central portion of the County and is relatively flat (approximately 90-95 feet above mean sea level). The project site is located within an area mapped as "alluvial fan and fluvial deposits of Pleistocene age" (Qpaf). Alluvial fan deposits are deposits of Pleistocene age and tend to be brown, dense, gravelly, and clayey sand that fines upward to sandy clay. All Qpaf deposits can be related to modern stream courses, and can be distinguished from younger alluvial deposits by higher topographic position, greater degree of dissection, and stronger soil profile development. They are less permeable than Holocene deposits.[2] Regional geologic mapping indicates that the project site is underlain by alluvial gravel. The Preliminary Geotechnical Exploration report states that the alluvium may consist of moderately to highly expansive clay to sandy clay.[3]

Existing Soils

Corrosive soils are a geologic hazard, because they react with concrete and ferrous metals, which can cause damage to foundations and buried pipelines. Expansive soils are a geologic hazard, because an increase in soil volume can exert forces on structures and, thus, damage building foundations, walls, and floors. In general, areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or loose unconsolidated alluvial sediments. When these soils dry out and shrink, structural damage can occur.

Contra Costa County

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) has characterized the majority of native, undisturbed soils in the County according to three soil associations: (1) nearly level to strongly sloping, somewhat excessively drained to very poorly drained soils on valley fill, basins, low terraces, flood plains, and alluvial fans; (2) nearly level, poorly drained and very poorly drained soils on the Delta, flood plains, and saltwater marshes and tidal flats; and (3) nearly level to very steep, moderately well drained to excessively drained soils on terraces and mountainous uplands.[4]

Project Site

According to the Soil Survey of Contra Costa County, the soil series mapped on the site is Clear Lake clay (Cc, 0-2 percent slopes). Permeability is slow and the available water holding capacity is 8 to 10 inches. The typical soils profile is 60 inches deep. The A horizon extends from the ground surface to a depth of 30 inches below the ground surface, and is described as a dark gray, very dark gray or black clay. The ACca horizon extends from 30 to 46 inches below ground surface (bgs). It is a dark gray or very dark gray clay. During the summer desiccation cracks 0.5 to 2 inches wide extend to the C

[1] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan 2005-2020, Safety Element. January 18.
[2] Darwin Myers Associates. 2021. Geologic Peer Review/30-Day Comments RZ21-3258, SD21-9559 & DP21-3001 Oak Road Townhouse Condominiums. March 19.
[3] ENGEO. 2020. Palmer Walnut Creek, California, Preliminary Geotechnical Exploration. September 1.
[4] United States Department of Agriculture (USDA). Soil Conservation Service. 1976. General Soil Map: Contra Costa County, California.

horizon, 46 inches bgs. The C horizon, which extends from 46 to 60 inches bgs is olive, light olive brown or grayish brown and is mottled in places. It is a clay loam, silty clay loam or light clay, clay loam. With regard to engineering properties, the Clear Lake clay is highly expansive and very highly corrosive.[5]

As part of the Preliminary Geotechnical Exploration, three Core Penetration Test (CPT) probes were extended to at the project site to depths of approximately 78 feet below the ground surface. Two CPTs and one Seismic Cone Penetration Test (SCPT).

Alluvial deposits were found in all three borings, and the granular materials in the upper 40 feet appeared to be discontinuous layers at different elevations across the site. Between 40 and 50 feet bgs, a dense to very dense sand and gravelly sand layer was penetrated in all three borings.

The native material encountered in the first CPT (1-CPT1) probe was primarily composed of layers between approximately 1 and 12 feet thick of medium-dense to loose sand and medium stiff to very soft silt-like and clay-like material. A medium-dense to very dense sand layer was found between 18 and 24 feet bgs, and another dense sand bed was encountered at approximately 48 feet bgs.

The material encountered in the SCPT (1-SCPT2) probe was mostly composed of discontinuous layers up to 6 feet in thickness of medium stiff to very soft silty and clayey mixtures with interbedded pockets of loose to very dense sand deposits. A lens of dense to very dense sand was found between depths of 41 and 49 feet bgs.

The native material found in the upper 40 feet of the third CPT (1-CPT3) probe was primarily a continuous deposit of soft to very soft silty clay and clayey silt. A lens of dense to very dense sand and gravelly sand was found between depths of 41 and 49 feet bgs.

Ground water was encountered at a depth between 10.6 feet at 1-CPT3 and 18.8 feet at 1-CPT1. Fluctuations in the level of groundwater may occur due to variations in rainfall, irrigation practice, and other factors not evident at the time measurements were made. Future irrigation may cause an overall rise in groundwater levels.

Seismicity

The term seismicity describes the effects of seismic waves that radiate from an earthquake fault in motion. While most of the energy released during an earthquake results in the permanent displacement of the ground, as much as 10 percent of the energy may dissipate immediately in the form of seismic waves. Seismicity can result in seismic-related hazards such as fault rupture, ground shaking, and liquefaction. Faults form in rocks when stresses overcome the internal strength of the rock, and fault rupture occurs when movement on a fault breaks through to the surface and can result in damage to infrastructure and persons. Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. Strong ground shaking from an earthquake can result in damage, with

[5] Darwin Myers Associates. 2021. Geologic Peer Review/30-Day Comments RZ21-3258, SD21-9559 & DP21-3001 Oak Road Townhouse Condominiums. March 19.

buildings shifted off their foundations and underground pipes broken. Liquefaction occurs when an earthquake causes ground shaking resulting in saturated soil to lose shear strength, deform, and function like a liquid. When liquefaction occurs, it can result in ground failure that can result in damage to roads, pipelines, and buildings.

Contra Costa County Area

The County is within an area of high seismicity (Exhibit 3.6-1); more than 10 severe earthquakes have affected the San Francisco Bay Region during the recent historic time.[6] Six major Bay Area earthquakes have occurred since 1800 that affected the County, and at least two of the faults that produced them run through or into the County. These earthquakes and the originating faults include the 1836 and 1868 earthquakes on the Hayward Fault, and the 1861 earthquake on the Calaveras Fault. Two earthquakes, in 1838 and 1906, originated on the San Andreas Fault, west of the County near San Francisco or to the south, while one earthquake (with two major shocks) that caused some damage in the County occurred in 1872 and was centered north of the County in the Vacaville-Winters area of Solano County.[7] These latter events likely occurred on a thrust fault and are not known to have been accompanied by surface fault rupture. A smaller earthquake, centered near Collinsville in Solano County on a fault of uncertain identity, occurred in 1889.

The Contra Costa County Department of Conservation and Development developed an earthquake probability estimate for faults that may affect the County, shown in Table 3.6-1 (Table 10-4 of the General Plan). This information predicts that structures built in the County are likely to experience a severely damaging earthquake during their useful life.[8]

Table 3.6-1: Approximate Probability of Occurrence of Earthquakes on Selected Bay Area Faults (50-year Period)

Causative Fault	Magnitude	Approximate Probability of Occurrence (over a 50-year period)
San Andreas Fault	7.0–8.0	Likely[1]
	8.0–8.5	Intermediate[2]
Hayward Fault	6.0–7.0	Likely
	7.0–7.5	Intermediate
Calaveras Fault	6.0–7.0	Likely
	7.0–7.5	Intermediate-Low[3]
Concord Fault	5.0–6.0	Likely
	6.0–7.0	Intermediate-Low
Antioch Fault	5.0–6.0	Likely
	6.0–7.0	Intermediate-Low

[6] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan. 2005-2020, Safety Element January 18.
[7] Ibid.
[8] Ibid.

Causative Fault	Magnitude	Approximate Probability of Occurrence (over a 50-year period)
Notes: [1] Greater than 50 percent probability of occurrence [2] A 15–50 percent probability of occurrence [3] Less than 15 percent probability of occurrence Source: Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan 2005-2020, Safety Element. January 18.		

Project Site

The Bay Area contains numerous active earthquake faults. The nearest fault that is considered active by California Geological Survey (CGS) is the northwest-trending Concord fault, which passes approximately 3 miles northeast of the project site (Exhibit 3.6-1).[9] An active fault is defined by the CGS as one that has had surface displacement within Holocene time.[10] The recently active and potentially active traces of the Calaveras and Hayward faults pass approximately 6 and 10.5 miles south and southwest of the site, respectively.

The site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone and no known surface expression of active faults are believed to exist within the site. Fault rupture through the site, therefore, is not anticipated.[11]

Slope Disturbance

Slope disturbance from long-term geologic cycle of uplift, mass wasting, intense precipitation or wind, and gravity can result in slope failure in the form of mudslides and rock fall. Mass wasting refers to a variety of erosional processes from gradual downhill soil creep to mudslides, debris flows, landslides, and rock fall–processes that are commonly triggered by intense precipitation or wind, which varies according to climate shifts. Often, various forms of mass wasting are grouped together as landslides, which are generally used to describe the downhill movement of rock and soil. Soil creep is a long-term, gradual downhill migration of soil under the influence of gravity and is generally on the order of a fraction of an inch per year. These soils can creep away downslope sides of foundations and reduce lateral support.

Liquefaction is another earthquake hazard that can result in slope disturbance. Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure. Soil susceptible to liquefaction includes loose to medium-dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. Five kinds of ground failure commonly result from liquefaction: lateral spread, flow failure, ground oscillation, differential settlement, and loss of bearing strength.[12]

[9] Darwin Myers Associates. 2021. Geologic Peer Review/30-Day Comments RZ21-3258, SD21-9559 & DP21-3001 Oak Road Townhouse Condominiums. March 19.
[10] ENGEO. 2020. Palmer Walnut Creek, California, Preliminary Geotechnical Exploration. September 1.
[11] Ibid.
[12] Association of Bay Area Governments (ABAG). 2001. The Real Dirt on Liquefaction: A Guide to the Liquefaction Hazard in Future Earthquakes Affecting the San Francisco Bay Area. February.

Contra Costa County Area

The major geologic hazards in the County, aside from earthquake rupture and direct effects of ground shaking, are unstable hill slopes and reclaimed wetlands and marsh fill areas. Slopes may suffer landslides, slumping, soil slips, and rockslides. Reclaimed wetlands, whether filled or not, experience amplified lateral and vertical movements, which can be damaging to structures, utilities, and transportation routes and facilities.

The General Plan recognizes that major slope areas more than 26 percent are "not readily developable" and "undevelopable," recognizing the cost and engineering difficulties of grading steep slopes as well as their inherent unsuitability.[13] Figure 10-6 of the General Plan shows Landslide Hazards in the County.

Project Site

The project site is relatively flat, with no slopes or varied topography that could be susceptible to slope failure, landslides, or soil creep. According to Figure 10-6 of the General Plan, the project site is not located on a site susceptible to landslides or an area where landslides previously occurred,[14] and there are no landslide deposits within 1 mile of the project site.[15]

Figure 10-5 of the General Plan Safety Element indicates that the project site contains two classifications related to liquefaction potential: the northeastern half of the site is classified "Generally High" while the southeastern half of the site is classified "Generally Moderate to Low." The Preliminary Geotechnical Exploration estimates that a maximum of 4.75 inches of total liquefaction-induced settlement may occur during a maximum considered event earthquake.[16] This amount of total liquefaction-induced settlement corresponds to less than 2.5 inches of differential settlement over a horizontal distance of 40 feet. The report states that this amount of differential settlement can be accommodated by the structural engineer in the foundation design.[17] An investigation would be needed to determine whether liquefiable sands are present and to provide stabilization measures where liquefiable sands are confirmed.[18]

Paleontological Resources

No known paleontological resources are located within the project site boundaries. The surface area of the project site consists of Holocene alluvium, which is too young to contain fossils. The 0.5-mile search area around the project site boundary also contains only Holocene alluvium. Just outside the search area are late to middle Miocene Monterey Formation shale and sandstone, and the Paleocene Martinez Formation, which are potentially fossiliferous. The absence of Pleistocene or older deposits in the search area suggests that any potential paleontological resources underlying

[13] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan 2005-2020, Safety Element. January 18.
[14] Ibid.
[15] Darwin Myers Associates. 2021. Geologic Peer Review/30-Day Comments RZ21-3258, SD21-9559 & DP21-3001 Oak Road Townhouse Condominiums. March 19.
[16] A "maximum considered event" for a specific area, is an earthquake that is expected to occur once in approximately 2,500 years; that is, it has a 2-percent probability of being exceeded in 50 years.
[17] ENGEO. 2020. Palmer Walnut Creek, California, Preliminary Geotechnical Exploration. September 1.
[18] Darwin Myers Associates. 2021. Geologic Peer Review/30-Day Comments RZ21-3258, SD21-9559 & DP21-3001 Oak Road Townhouse Condominiums. March 19.

the project site would be at depths below all the earth-disturbing construction activities at the project site.[19]

3.6.3 - Regulatory Framework

Federal

National Earthquake Hazards Reduction Program

The National Earthquake Hazards Reduction Program (NEHRP) was established by the United States Congress when it passed the Earthquake Hazards Reduction Act of 1977, Public Law 95-124. In establishing the NEHRP, Congress recognized that earthquake-related losses could be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early warning systems, coordinated emergency preparedness plans, and public education and involvement programs. The four basic goals remain unchanged:

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation.
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems.
- Improve earthquake hazards identification and risk assessment methods, and their use.
- Improve the understanding of earthquakes and their effects.

Several key federal agencies contribute to earthquake mitigation efforts. There are four primary NEHRP agencies:

- National Institute of Standards and Technology of the Department of Commerce
- National Science Foundation
- United States Geological Survey of the Department of the Interior
- Federal Emergency Management Agency (FEMA) of the Department of Homeland Security

Implementation of NEHRP priorities is accomplished primarily through original research, publications, and recommendations to assist and guide State, regional, and local agencies in the development of plans and policies to promote safety and emergency planning.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program, authorized by Section 402(p) of the federal Clean Water Act, controls water pollution by regulating point sources, such as construction sites and industrial operations that discharge pollutants into waters of the United States. A Storm Water Pollution Prevention Plan (SWPPP) is required to control discharges from a project site, including soil erosion, to protect waterways. A SWPPP describes the measures or practices to control discharges during both the construction and operational phases of the project. A SWPPP identifies project design features and structural and non-structural Best Management

[19] Kenneth L. Finger, PhD. 2021. Paleontological Records Search: Oak Road Project (2648.0017), Unincorporated Contra Costa County. May 25.

Practices (BMPs) that will be used to control, prevent, remove, or reduce stormwater pollution from the site, including sediment from erosion.

Society of Vertebrate Paleontology Guidelines

The Society of Vertebrate Paleontology (SVP), a national scientific organization of professional Vertebrate Paleontologists, has established standard guidelines that outline acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, analysis, and curation. Most practicing professional Paleontologists in the nation adhere to the SVP's assessment, mitigation, and monitoring requirements, as specifically spelled out in its standard guidelines.[20]

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code [PRC] §§ 2621 to 2630) was passed in 1972 to provide a Statewide mechanism for reducing the hazard of surface fault rupture to structures used for human occupancy. The main purpose of the Act is to prevent the siting of buildings used for human occupancy across the traces of active faults. It should be noted that the Act addresses the potential hazard of surface fault rupture and is not directed toward other earthquake hazards, such as seismically induced ground shaking or landslides.

The law requires the State Geologist to identify regulatory zones (known as Earthquake Fault Zones or Alquist-Priolo Zones) around the surface traces of active faults, and to depict these zones on topographic base maps, typically at a scale of 1 inch to 2,000 feet. Earthquake Fault Zones vary in width, although they are often 0.75-mile wide. Once published, the maps are distributed to the affected cities, counties, and State agencies for their use in planning and controlling new or renewed construction. Except for single-family wood-frame and steel-frame dwellings that are not part of a larger development (i.e., four units or more), local agencies are required to regulate development within the mapped zones. In general, construction within 50 feet of an active fault zone is prohibited.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (PRC §§ 2690–2699.6), which was passed in 1990, addresses earthquake hazards other than surface fault rupture. These hazards include strong ground shaking, earthquake-induced landslides, liquefaction, or other ground failures. Much like the Alquist-Priolo Earthquake Fault Zoning Act discussed above, these seismic hazard zones are mapped by the State Geologist to assist local government in the land use planning process. The Act states, "it is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety." The Act also states, "cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard."

[20] The Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Website: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines-1.pdf. Accessed May 6, 2021,

California Building Standards Code

The State of California provides minimum standards for building design through the California Building Standards Code (California Code of Regulations [CCR], Title 24). Where no other building codes apply, Chapter 29 regulates excavation, foundations, and retaining walls. The California Building Standards Code (CBC) applies to building design and construction in the State and is based on the federal Uniform Building Code (UBC) used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The CBC has been modified for California conditions with more detailed and/or more stringent regulations.

The State earthquake protection law (California Health and Safety Code § 19100 *et seq*.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and Appendix Chapter A33 regulates grading activities, including drainage and erosion control and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control (Chapter 18, Appendix J). The 2019 CBC has been adopted by the County through Chapter 74-2 of the Contra Costa County Ordinance Code.

Local Regulations

Contra Costa County General Plan

The General Plan serves as the overall guiding policy document for the County. The following is a list of General Plan goals and policies most pertinent to the proposed project with respect to geology and soils.

General Plan Safety Element

Goal 10-A To protect human life and reduce the potential for serious injuries from earthquakes; and to reduce the risks of property losses from seismic disturbances, which could have severe economic and social consequences for the County as a whole.

Goal 10-B To reduce to a practical minimum injuries and health risks resulting from the effects of earthquake ground shaking on structures, facilities, and utilities.

Goal 10-C To protect persons and property from the life-threatening, structurally, and financially disastrous effects of ground rupture and fault creep on active faults, and to reduce structural distress caused by soil and rock weakness due to geologic faults.

Goal 10-D To reduce to a practical minimum the potential for life loss, injury, and economic loss due to liquefaction-induced ground failure, levee failure, large lateral land movements toward bodies of water, and consequent flooding; and to mitigate the lesser consequences of liquefaction.

Policies

Policy 10-8 Ground conditions shall be a primary consideration in the selection of land use and in the design of development projects.

Policy 10-13 In areas where active or inactive earthquake faults have been identified, the location and/or design of any proposed buildings, facilities, or other development shall be modified to mitigate possible danger from fault rupture or creep.

Policy 10-14 Preparation of a geologic report shall be required as a prerequisite before authorization of public capital expenditures or private development projects in areas of known or suspected faulting.

Policy 10-18 This General Plan shall discourage urban or suburban development in areas susceptible to high liquefaction dangers and where appropriate subject to the policies in 10-20 below, unless satisfactory mitigation measures can be provided, while recognizing that there are low intensity uses such as water-related recreation and agricultural uses that are appropriate in such areas.

Policy 10-19 To the extent practicable, the construction of critical facilities, structures involving high occupancies, and public facilities shall not be sited in areas identified as having a high liquefaction potential, or in areas underlain by deposits classified as having a high liquefaction potential.

Policy 10-20 Any structures permitted in areas of high liquefaction danger shall be sited, designed, and constructed to minimize the dangers from damage due to earthquake-induced liquefaction.

Policy 10-21 Approvals to allow the construction of public and private development projects in areas of high liquefaction potential shall be contingent on geologic and engineering studies which define and delineate potentially hazardous geologic and/or soils conditions, recommend means of mitigating these adverse conditions; and on proper implementation of the mitigation measures.

Contra Costa County Ordinance Code

Building and Construction

Chapter 74-2 of the Contra Costa County Ordinance Code (Ordinance Code) adopts the 2019 CBC, with amendments, as the County's Building Code. As such, all new construction within the County is required to adhere to its seismic safety standards. The County of Contra Costa Department of Conservation and Development is responsible for the administration and enforcement of the CBC.

Grading, Soils, and Erosion Control Ordinances

Ordinance Code Division 716 contains the County's grading ordinance, which sets forth regulations for control of excavation, grading, earthwork construction, including fills or embankments and related work. Section 716-4.202 requires a grading permit for work on property on which a subdivision or development requiring approval of a tentative map is proposed, such as the proposed

project, and that such a permit shall not be issued until reviewed by the Public Works Department for compliance with the requirements of Title 9, Subdivisions. As indicated in Title 9, Section 94-4.420, Soil Report, a preliminary soil investigation report is required and must be reviewed by a building inspector or designated representative. If the report is deemed complete in that the recommended action and procedures contained in the report are likely to prevent damage, the recommended actions and procedures contained in the report shall become a condition of approval and shall be incorporated in the proposed development.

3.6.4 - Impacts and Mitigation Measures

Significance Criteria

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist, to determine whether impacts to geology and soils are significant environmental effects, the following questions are analyzed and evaluated. Would the proposed project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:
    i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
    ii. Strong seismic ground shaking?
    iii. Seismic-related ground failure, including liquefaction?
    iv. Landslides?

b) Result in substantial soil erosion or the loss of topsoil?

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Approach to Analysis

Impacts related to geology and soils were determined by reviewing information contained in the Preliminary Geotechnical Investigation and Paleontological Records Search prepared for the project site, both of which are provided in Appendix E.

As part of the Preliminary Geotechnical Exploration, ENGEO completed three borings with two CPTs and one SCPT. ENGEO also reviewed historic aerial photographs, geologic mapping, and geotechnical background information.

Additional evaluations of potential geologic and soil impacts of the project site were based on review of available documentation, including the General Plan and information available from the Association of Bay Area Governments (ABAG) and the USGS.

Impacts to paleontological resources were determined by reviewing the Paleontological Records Search prepared for the project site by Dr. Kenneth L. Finger, a Consulting Paleontologist.[21]

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of geology and soils impacts resulting from implementation of the proposed project.

- Place structures on or within the State designated zone of a known earthquake fault.
- Place structures where seismic ground shaking of a Strong level or greater according to the Mercalli Scale could occur.
- Place structures on soils prone to any level of liquefaction.
- Place structures on slopes greater than 15 percent or soils susceptible to failure as defined by the USGS.
- Place structures in areas without impervious surfaces or vegetation, or on slopes greater than 15 percent.
- Place structures on a geologic unit or soil that is unstable or that could become unstable.
- Place structures on expansive soil that has an expansion index greater than 20 as defined in Table 18-1-B of the UBC (1994).
- Place septic tanks or alternative wastewater disposal systems on soils incapable of supporting the use.
- Physically damage or destroy paleontological deposits.

Impact Evaluation

Earthquakes

Impact GEO-1: **The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:**

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

[21] Kenneth L. Finger, PhD. 2021. Paleontological Records Search: Oak Road Project (2648.0017), Unincorporated Contra Costa County.

ii) Strong seismic ground shaking.

iii) Seismic-related ground failure, including liquefaction.

iv) Landslides.

Construction

Impacts related to risks associated with seismic-related hazards are limited to operational impacts. No construction impacts would occur.

Operation

i) Ground Rupture

Based on the Geologic Peer Review (Appendix E), the potential for ground rupture is low. There are no known active faults directly crossing the project site and the project site is not located within a designated Alquist-Priolo Earthquake Fault Zone. The closest fault to the project site is the Concord fault, approximately 3 miles from the project site.[22] As such, it is unlikely for ground rupture to occur at the site. Thus, the proposed project, including the off-site improvements, would not expose people or structures to substantial adverse effects associated with fault rupture. Therefore, no impacts related to fault rupture would occur.

ii) Strong Seismic Ground Shaking

Potential impacts associated with strong seismic shaking at the project site, including the areas proposed for off-site improvements, include the potential to damage structures or improvements or result in the injury or loss of human life, which could represent a potentially significant impact.[23] The risk of damage from ground shaking is controlled by using sound engineering judgment and compliance with the latest provisions of the CBC, as a minimum. The seismic design provisions of the CBC prescribe minimum lateral forces applied statistically to the structure(s), combined with the gravity forces and dead-and-live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the comparable forces that would be associated with a major earthquake. The intent of the code is to enable structures to *(i)* resist minor earthquakes without damage, *(ii)* resist moderate earthquakes without structural damage but with some non-structural damage, and *(iii)* resist major earthquakes without collapse but with some structural as well as non-structural damage.[24]

Mitigation Measure (MM) GEO-1a would ensure that the proposed project would incorporate all applicable seismic safety building standards contained in the CBC including seismic design provisions, which would reduce the risk of loss, injury, or death. MM GEO-1b would require geotechnical observation and testing services be conducted during construction as needed, and MM GEO-1c would require the Project Engineer to prepare a final report that documents the field observations and testing services provided during construction as well as provide a professional opinion on the compliance of construction with the recommendations in the Preliminary Geotechnical Investigation. MM GEO-1a, MM GEO-1b, and MM GEO-1c are also applicable to the off-site improvements that

[22] Darwin Myers Associates. 2021. Geologic Peer Review/30-Day Comments RZ21-3258, SD21-9559 & DP21-3001 Oak Road Townhouse Condominiums. March 19.

[23] ENGEO. 2020. Palmer Walnut Creek, California, Preliminary Geotechnical Exploration. September 1.

[24] Darwin Myers Associates. 2021. Geologic Peer review/30-Day Comments RZ21-3258, SD21-9559 & DP21-3001 Oak Road Townhouse Condominiums. March 19.

involve frontage sidewalks, driveway curbs, and gutter improvements including retaining existing on-street parking, and street tree planting. Furthermore, the proposed project would be required to comply with Chapter 74-2 of the Ordinance Code, which requires all construction to conform to the 2019 CBC. As such, with implementation of MM GEO-1a and MM GEO-1b, the proposed project, including the off-site improvements, would not expose people or structures to substantial adverse effects associated with seismic ground shaking. Therefore, impacts would be less than significant with mitigation.

iii) Seismic-related Ground Failure

As detailed in the Preliminary Geotechnical Exploration, the potential for liquefaction at the project site is moderate to low. The areas proposed for off-site improvements are likely to contain similar soil conditions and susceptibility to liquefaction. ENGEO stated that the amount of total liquefaction-induced settlement corresponds to less than 2.5 inches of differential settlement over a horizontal distance of 40 feet. They concluded that an investigation would be needed to determine whether liquefiable sands are present and to provide stabilization measures where liquefiable sands are confirmed. MM GEO-1a would require the Project Engineer to prepare a design-level Geotechnical Investigation and to incorporate all recommendation from that report into grading and construction drawings to address the presence of liquefiable sands. With implementation of MM GEO-1a, MM GEO-1b, and MM GEO-1c impacts related to seismic-related ground failure, such as liquefaction, ground settlement, and lateral spreading would be less than significant.

iv) Landslides

Susceptibility to landslide risk is increased where a property contains steep slopes, exposed hillsides or near-vertical cuts often found near creek banks. The project site is relatively flat with no slopes or varied topography that could be susceptible to slope failure, landslides, or soil creep. Due to the relatively flat nature of the project site, the potential for landslides is low to negligible.[25] As a result, implementation of the proposed project would not expose people or structures to a landslide hazard, and impacts related to landslides would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM GEO-1a Conduct Design-level Geotechnical Exploration

At least 60 days prior to recording the final Subdivision Map, or requesting issuance of construction permits or installation of utility improvements, the applicant shall submit a design-level Geotechnical Exploration Report for the proposed project, based on adequate subsurface exploration, laboratory testing and engineering analysis. The scope of the Geotechnical Exploration Report shall address the following potential hazards: *(i)* grading, including removal of existing undocumented fill that is deemed to be unsuitable for use in engineered fills, preparation to receive fill, compaction standards for fill, etc., *(ii)* consolidation settlement, *(iii)* analysis of

[25] ENGEO. 2020. Palmer Walnut Creek, California, Preliminary Geotechnical Exploration. September 1.

liquefaction potential, including estimating total settlement and differential settlement, and surface manifestation of liquefaction, *(iv)* foundation design, *(v)* measures to protect improvements from the relatively shallow water table, *(vi)* laboratory testing to evaluate the expansive and corrosion potential soils, and measures designed to protect improvement that are in contact with the ground from these hazard, including the building foundation, parking garage slabs, flatwork, pavement and utilities, *(vii)* exploration/testing/and engineering analysis aimed at providing recommendations pertaining to foundation design, including foundation retaining walls, and pavement design, *(viii)* evaluation of the drainage design, including the proposed bio-retention facilities and their effect on planned improvements, *(ix)* address temporary shoring and support of excavations, *(x)* provide updated California Building Standards Code (CBC) seismic parameters, and *(xi)* outline the recommended geotechnical monitoring, commencing with clearing and demolition, extending through final grading, installation of drainage improvements, and including the monitoring of foundation-related work.

MM GEO-1b Conduct Geotechnical Observation and Testing Services During Construction

The design-level geotechnical report required by Mitigation Measure GEO-1a routinely includes recommended geotechnical observation and testing services during construction. These services are essential to the success of the proposed project. They allow the Geotechnical Engineer to (i) ensure geotechnical recommendations for the proposed project are properly interpreted and implemented by contractors, (ii) allow the Geotechnical Engineer to view exposed conditions during construction to ensure that field conditions match those that were the basis of the design recommendations in the approved report, and (iii) provide the opportunity for field modifications of geotechnical recommendations (with Department of Conservation and Development, Community Development Division approval), based on exposed conditions. The monitoring shall commence during clearing, and extend through grading, placement of engineered fill, installation of recommended drainage facilities, and foundation-related work. A hold shall be placed on the "final" grading inspection, pending submittal of a report from the project Geotechnical Engineer that documents their observation and testing services to that stage of construction, including monitoring and testing of backfilling required for utility and drainage facilities.

Similarly, a hold shall be placed on the final inspection for each residential building, pending submittal of a letter-report from the Geotechnical Engineer documenting the monitoring services associated with implementation of final grading, drainage, and foundation-related work. This can be one letter that addresses all residential buildings, or separate letters for each building. The geotechnical monitoring shall include documentation of conformance of retaining wall, pier hole drilling/ foundation preparation work and installation of drainage improvements.

MM GEO-1c Prepare Final Construction Report

The Geotechnical Engineer shall prepare a final report that documents the field observations and testing services provided during construction as well as provide a professional opinion on the compliance of construction with the recommendations in the Preliminary Geotechnical Exploration. The final report can be segmented into an as-graded report that is issued at the end of rough grading, but prior to the installation of the foundations, and a second letter commenting on the inspections made during installation of foundations/parking lot/drainage facilities. The Department of Conservation and Development, Community Development Division (CDD) will place a hold on the final inspection, to ensure that the Geotechnical Engineer's grading-foundation inspection letter-report is provided prior to requesting the final building inspection for each building. This requirement may be satisfied by issuance of one letter for all residential buildings, or separate letters for each residential building.

Level of Significance After Mitigation

Less than significant impact.

Soil Erosion or Topsoil Loss

Impact GEO-2: The proposed project could result in substantial soil erosion or the loss of topsoil.

Construction

Currently, the site is completely developed with structures, pavement, and landscaping. Since the proposed project would disturb at least 1 acre of land during construction, it would be required to obtain a Construction General Permit from the California State Water Resources Control Board (State Water Board) consistent with the Contra Costa County's General Permit (No. CAS612008) and to comply with its conditions and requirements, which are designed to minimize potential erosion issues. Consistent with Section 1014-4.002 and .004, compliance with the County's NPDES permit would ensure that a stormwater control plan is prepared and BMPs are implemented that would prevent sediments and other pollutants from entering the stormwater system. To further reinforce protections related to erosion, MM GEO-2 would require grading, excavation, and filling to occur during the dry season. Thus, with adherence to existing regulatory requirements, as well as limiting grading, excavation, and filling to the dry season, impacts from project construction on the project site, including the off-site improvements, would not result in substantial soil erosion or loss of topsoil. Therefore, construction-related impacts related to soil erosion and loss of topsoil would be less than significant.

Operation

Impacts related to soil erosion or loss of topsoil are limited to construction impacts. No operational impacts would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM GEO-2 Conduct Grading, Excavation, and Filling Only During the Dry Season

All grading, excavation and filling shall be conducted during the dry season (April 15 through October 15) only, and all areas of exposed soils shall be revegetated to minimize erosion and subsequent sedimentation. After October 15, only erosion control work shall be allowed by the grading permit. Any modification to the above schedule shall be subject to review by the Grading Inspection Division, and the review/approval of the Department of Conservation and Development, Community Development Division (CDD).

Level of Significance After Mitigation

Less than significant impact with mitigation.

Unstable Geologic Location

Impact GEO-3: The proposed project could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

Construction

Impacts related to risks associated with location on an unstable geologic unit or soil are limited to operational impacts. No respective construction impacts would occur.

Operation

As discussed previously in Impact GEO-1(iii), the potential for liquefaction at the project site will be investigated further as part of the design-level Geotechnical Investigation, with recommendations incorporated into grading and construction drawings, as required to address the potential presence of liquefiable sands. In addition, the Preliminary Geotechnical Investigation concluded that the potential for lateral spreading to occur as a result of the occurrence of liquefaction below the project site is low. The project site, including the areas proposed for off-site improvements, do not contain steep slopes, exposed hillsides, or vertical cuts. Due to the gently sloping nature of the project site, including the areas proposed for off-site improvements, the potential for landslides is low.

According to the Soil Survey of Contra Costa County (1976), the soil series that occurs on the project site is indicated to be very highly corrosive. Corrosive soil can damage buried metal and result in sulfate attack on foundation concrete. This is a potentially significant impact.

In order to reduce or avoid potential impacts related to unstable soils, corrosive soils, or other ground failure, MM GEO-1a would be required to ensure that the proposed project incorporates all applicable seismic safety building standards contained in the CBC as well as all recommendations from a design-level geotechnical exploration. MM GEO-1b would require geotechnical observation and testing services be conducted during construction as needed, and MM GEO-1c would require the Project Engineer to prepare a final report that documents the field observations and testing services provided during construction as well as provide a professional opinion on the compliance of

construction with the recommendations in the design-level geotechnical exploration. MM GEO-1a, MM GEO-1b, and MM GEO-1c are also applicable to the off-site improvements. Therefore, impacts related to unstable soils, corrosive soils, or other ground failure would be less than significant with mitigation.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM GEO-1a, MM GEO-1b, and MM GEO-1c.

Level of Significance After Mitigation

Less than significant impact with mitigation.

Expansive Soil

Impact GEO-4:	**The proposed project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.**

Construction

Impacts related to risks associated with location on expansive soil are limited to operational impacts. No respective construction impacts would occur.

Operation

The CPT data, collected during the Preliminary Geotechnical Investigation, suggests clayey soil is present at the site, which may exhibit expansive potential. The presence of potentially expansive soil shall be further evaluated during the design-level geotechnical exploration. Darwin Meyer Associates state that the soil present on-site, Clear Lake clay, is highly expansive. Expansive soils expand when water is added and shrink when they dry out. This continuous change in soils volume could cause homes and other structures to move unevenly and crack. With implementation of MM GEO-1a, MM GEO-1b, and MM GEO-1c, the proposed project, including the off-site improvements, would not create a substantial risk to life or property from being located on expansive soils. Therefore, impacts related to expansive soils would be less than significant with mitigation.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM GEO-1a, MM GEO-1b, and MM GEO-1c.

Level of Significance After Mitigation

Less than significant impact with mitigation.

Wastewater Disposal Systems

Impact GEO-5:	**The proposed project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.**

Construction

Impacts related to soil capability of supporting the use of alternative wastewater disposal systems are limited to operational impacts. No construction impacts would occur.

Operation

The proposed project is located within an urbanized portion of the County. The proposed project would include wastewater infrastructure and connections to the existing sanitary sewer lines contained with Oak Road. Wastewater treatment capacity impacts are discussed further under Section 3.15, Utilities and Service Systems. Thus, there would be no operational impact related to soil capability of supporting the use of alternative wastewater disposal systems.

Level of Significance

No impact.

Destruction of Paleontological Resource or Unique Geologic Feature

Impact GEO-6:	**The proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.**

Construction

No known paleontological resources are located within the project site boundaries. As detailed in the Paleontological Records Search (Appendix E), the surface area of the project sites consists of solely Holocene alluvium, which is too young to contain significant vertebrate fossils. The 0.5-mile search area around the project site boundary also only contains Holocene alluvium. The nearest area with potential to contain significant fossils are resources is in the outcrop belt of Miocene Monterey Formation shale and sandstone, and the Paleocene Martinez Formation. These bedrock exposures occur outside of the search area. The absence of Pleistocene or older deposits in the search area suggests that any potential paleontological resources underlying the project site would be at depths below all the earth-disturbing construction activities at the project site. In addition, there are no unique geological features located on the project site. Therefore, impacts related to destruction of paleontological resources or unique geologic features would be less than significant.

Nonetheless, development activities have the potential to encounter undiscovered paleontological resources. Accordingly, MM GEO-6 requires the implementation of standard inadvertent discovery measures in the event paleontological resources are encountered during construction. The implementation of this mitigation measure will ensure that construction shall stop in the vicinity of any potential resource until the significance of the resource is confirmed, and will ensure that significant resources will be avoided or excavated and preserved. With incorporation of MM GEO-6, impacts associated with paleontological resources would be less than significant.

Operation

Impacts related to the proposed project's potential to cause substantial adverse change in the significance of a unique paleontological resource or unique geologic feature are limited to construction. No respective operational impacts would occur.

Nonetheless, development activities have the potential to encounter undiscovered paleontological resources. Accordingly, MM GEO-6 requires the implementation of standard inadvertent discovery measures in the event paleontological resources are encountered during construction. The implementation of this mitigation measure will ensure that construction shall stop in the vicinity of any potential resource until the significance of the resource is confirmed, and will ensure that significant resources will be avoided or excavated and preserved. With incorporation of MM GEO-6, impacts associated with paleontological resources would be less than significant.

Level of Significance

Less than significant impact.

Mitigation Measures

MM GEO-6 Stop Construction Upon Encountering Paleontological Materials

In the event that fossils or fossil-bearing deposits are discovered during construction activities, excavations within a 50-foot radius of the find shall be temporarily halted or diverted. The project contractor shall notify a qualified Paleontologist to examine the discovery. The Paleontologist shall document the discovery as needed (in accordance with Society of Vertebrate Paleontology [SVP] standards), evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The Paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the applicant determines that avoidance is not feasible, the Paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the Lead Agency for review and approval prior to implementation, and the applicant shall adhere to the recommendations in the excavation plan.

3.6.5 - Cumulative Impacts

The geographic scope of the cumulative analysis related to geology and soils is the project site and its vicinity. Adverse effects associated with geology and soils tend to be localized; therefore, an area generally within a 0.25-mile radius would be the area most affected by activities associated with the proposed project. The analysis considers the foreseeable development projects listed in Table 3-1 (See Chapter 3, Environmental Impact Analysis) in unincorporated Contra Costa County and the surrounding cities, in addition to the proposed project.

Seismic-related Hazards

None of the projects listed in Table 3-1 are located within 0.25 mile of the project site. Cumulative projects, including the proposed project, have the potential to experience moderate to strong ground shaking from earthquakes. Projects listed in Table 3-1 would be exposed to the same ground shaking hazards and would be subject to the same requirements as the proposed project. Cumulative projects would adhere to the provisions of the CBC, policies of the General Plan, and the Ordinance Code to reduce potential hazards associated with seismic ground shaking and ground failure. As such, the proposed project, in conjunction with other projects, would not have a cumulatively significant impact associated with seismic-related hazards.

Soil-related Hazards

Soil conditions associated with the project site, such as expansive soils, corrosive soils, and soil settlement are specific to the project site and generally do not contribute to a cumulative effect. Some or all other cumulative projects may have similar conditions, but they would not contribute to cumulative soil-related hazards. The proposed project would be subject to General Plan policies and the Ordinance Code to reduce soil-related hazards. Other current and future development/redevelopment projects in the region would similarly be required to adhere to standards and practices that include stringent geologic and soil-related hazard mitigations. As such, the proposed project, in conjunction with other projects, would not have a cumulatively significant impact associated with soil-related hazards.

Paleontological Resources and Unique Geologic Feature

None of the projects listed in Table 3-1 would occur within 0.25 mile of the project site. Construction activities associated with development of cumulative projects in the project vicinity may have the potential to encounter undiscovered geologic resources or paleontological resources. These cumulative projects would be required to mitigate for impacts through compliance with applicable federal and State laws governing geologic resources and paleontological resources. The likelihood that geologic resources or paleontological resources are present on the cumulative project sites is relatively low, given that the majority of soil disturbance associated with these projects will take place within Holocene soils too young to be fossiliferous. Although there is the possibility that previously undiscovered resources could be encountered by subsurface earthwork activities, the implementation of standard construction practices and MM GEO-6 would ensure that undiscovered geologic resources and paleontological resources are not adversely affected by cumulative project-related construction activities. Given the low potential for disruption and the comprehensiveness of mitigation measures that would apply to the cumulative projects, the project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact related to paleontological and geologic resources.

Level of Cumulative Significance

Less than significant impact.

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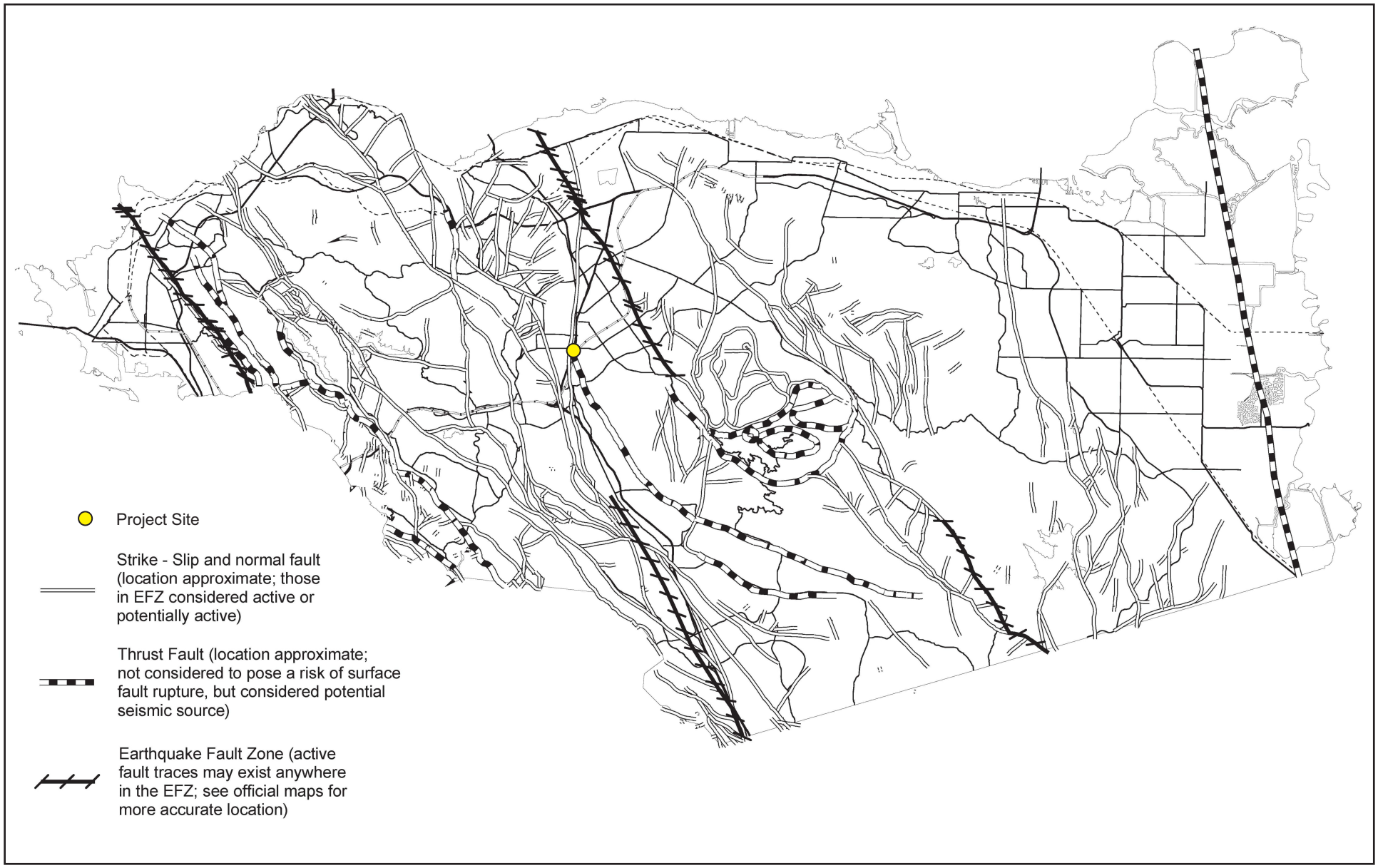

Source: U.S. Geological Survey (Graymer, Jones and Brabb, 1994; and Earthquake Fault Zone Maps (California Geological Survey)

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Exhibit 3.6-1
Regional Fault Map

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3.7 - Greenhouse Gas Emissions

3.7.1 - Introduction

This section describes the existing greenhouse gas (GHG) emissions setting and potential effects from project implementation on the project site and its surrounding area. Description and analysis are based on information provided by the Oak Road Townhouse Condominiums Air Quality and Greenhouse Gas Assessment prepared by Illingworth & Rodkin, Inc on May 17, 2021.[1] No comments were received during the Draft Environmental Impact Report (Draft EIR) scoping period related to GHG emissions.

3.7.2 - Environmental Setting

Greenhouse Effect, Global Warming, and Climate Change

Most of the energy that affects the Earth's climate comes from the sun. Some solar radiation is absorbed by the Earth's surface, and a smaller portion of this radiation is reflected by the atmosphere back toward space. As the Earth absorbs high-frequency solar radiation, its surface gains heat and then re-radiates lower frequency infrared radiation back into the atmosphere.[2]

Most solar radiation passes through gases in the atmosphere classified as GHGs; however, infrared radiation is selectively absorbed by GHGs. GHGs in the atmosphere play a critical role in maintaining the balance between the Earth's absorbed and radiated energy, the Earth's radiation budget,[3] by trapping some of the infrared radiation emitted from the Earth's surface that otherwise would have escaped to space (Figure 3.7-1). Radiative forcing is the difference between the incoming energy and outgoing energy.[4] Specifically, GHGs affect the radiative forcing of the atmosphere,[5] which in turn affects the Earth's average surface temperature. This phenomenon, the *greenhouse effect*, keeps the Earth's atmosphere near the surface warmer than it would be otherwise and allows successful habitation by humans and other forms of life.

Combustion of fossil fuels and deforestation release carbon into the atmosphere that was previously stored underground in sediments or in surface vegetation, thus exchanging carbon from the geosphere and biosphere to the atmosphere in the carbon cycle. With the accelerated increase in fossil fuel combustion and deforestation since the Industrial Revolution of the 19th Century, concentrations of GHGs in the atmosphere have increased exponentially. Such emissions of GHGs in excess of natural ambient concentrations contribute to the enhancement of the natural greenhouse effect. This enhanced greenhouse effect has contributed to *global warming*, an increased rate of warming of the Earth's average surface temperature.[6] Specifically, increases in GHGs lead to increased absorption of infrared radiation by the Earth's atmosphere and warm the lower atmosphere further, thereby increasing temperatures and evaporation rates near the surface.

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1 Illingworth & Rodkin, Inc. 2021. Oak Road Townhouse Condominiums Air Quality & Greenhouse Gas Assessment. May 17.

2 Frequencies at which bodies emit radiation are proportional to temperature. The Earth has a much lower temperature than the sun and emits radiation at a lower frequency (longer wavelength) than the high-frequency (short-wavelength) solar radiation emitted by the sun.

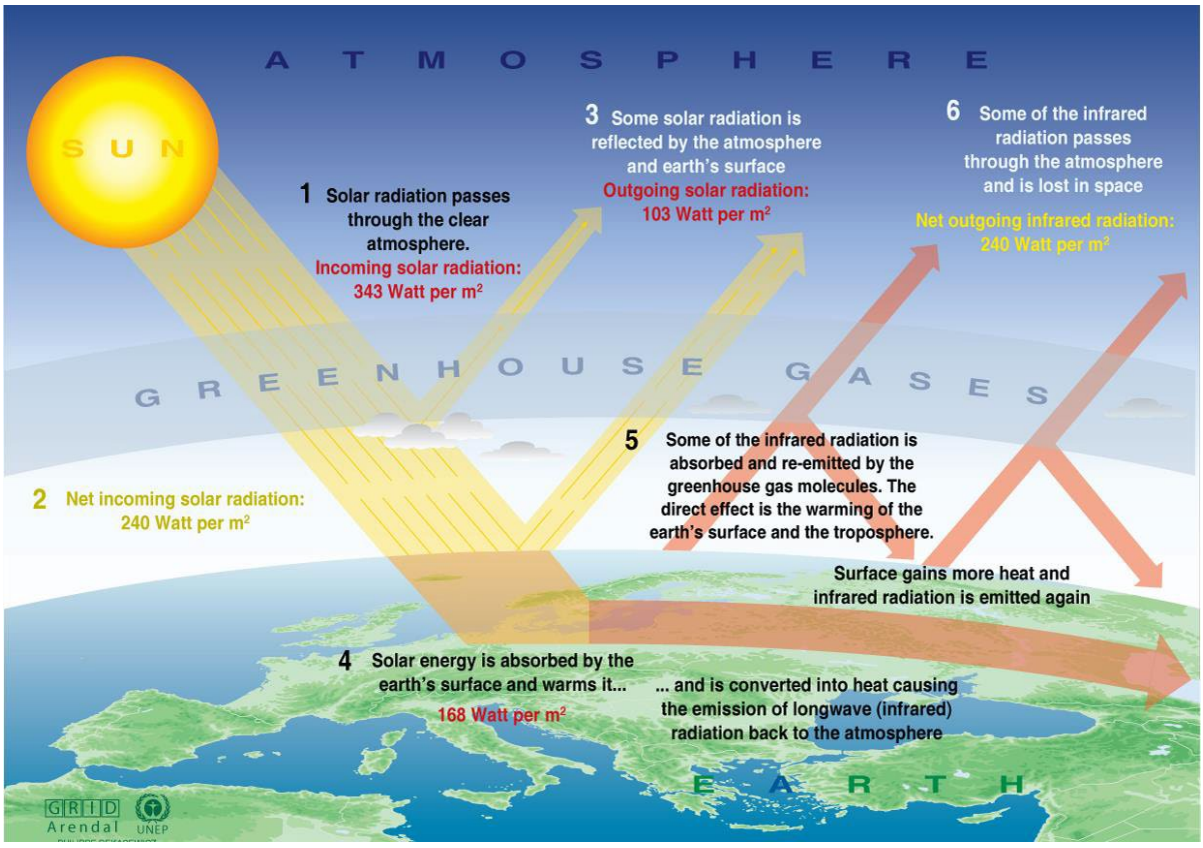
3 This includes all gains of incoming energy and all losses of outgoing energy; the planet is always striving to be in equilibrium.

4 Positive forcing tends to warm the surface while negative forcing tends to cool it.

5 This is the change in net irradiance at the tropopause after allowing stratospheric temperatures to readjust to radiative equilibrium, but with surface and tropospheric temperatures and state held fixed at the unperturbed values.

6 This condition results when the Earth has to work harder to maintain its radiation budget, because when more GHGs are present in the atmosphere, the Earth must force emissions of additional infrared radiation out into the atmosphere.

Variations in natural phenomena such as volcanoes and solar activity produced most of the global temperature increase that occurred during preindustrial times; more recently, however, increasing atmospheric GHG concentrations resulting from human activity have been responsible for most of the observed global temperature increase.[7]



Source: United Nations Environmental Program/GRID-Arendal. 2005. GRID-Arendal Annual Report.

Figure 3.7-1: The Greenhouse Effect

Global warming affects global atmospheric circulation and temperatures; oceanic circulation and temperatures; wind and weather patterns; average sea level; ocean acidification; chemical reaction rates; precipitation rates, timing, and form; snowmelt timing and runoff flow; water supply; wildfire risks; and other phenomena, in a manner commonly referred to as *climate change*. Climate change is a change in the average weather of the Earth measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

[7] These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

Temperature Predictions by the Intergovernmental Panel on Climate Change

The World Meteorological Organization and United Nations Environment Programme established the United Nations Intergovernmental Panel on Climate Change (IPCC) to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1°C (degrees Celsius) to 6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios.[8] The report also concluded that "[w]arming of the climate system is unequivocal," and that "[m]ost of the observed increase in global average temperatures since the mid-20th Century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations." Global surface temperature increased approximately 1.33°F (degrees Fahrenheit) over the last 100 years. The IPCC predicts increases in global average temperature of between 2°F and 11°F over the next 100 years, depending on the scenario.[9]

Greenhouse Gases and Global Emission Sources

Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. Prominent GHGs that naturally occur in the Earth's atmosphere are water vapor, carbon dioxide (CO_2), methane (CH_4), oxides of nitrogen (NO_X), and ozone. Anthropogenic (human-caused) GHG emissions include releases of these GHGs plus release of human-made gases with high global warming potential (GWP) (ozone-depleting substances such as chlorofluorocarbons [CFCs])[10] and aerosols, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). The GHGs listed by the IPCC (CO_2, methane, nitrous oxide, HFCs, PFCs, and sulfur hexafluoride) are discussed below, in order of abundance in the atmosphere. Water vapor, despite being the most abundant GHG, is not discussed because natural concentrations and fluctuations far outweigh anthropogenic influences, making it impossible to predict. Ozone is not included because it does not directly affect radiative forcing. Ozone-depleting substances, which include chlorofluorocarbons, halons, carbon tetrachloride, methyl chloroform, and hydrochlorofluorocarbons, are not included because HFCs and PFCs have largely replaced them.

The GWP is the potential of a gas or aerosol to trap heat in the atmosphere. The GWP of a gas is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, carbon dioxide (CO_2).

Individual GHG compounds have varying potential for contributing to global warming. For example, methane is 25 times as potent as CO_2, while sulfur hexafluoride is 22,200 times more potent than CO_2 on a molecule-per-molecule basis. To simplify reporting and analysis, methods have been set forth to describe emissions of GHGs in terms of a single gas. The most commonly accepted method for

[8] Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

[9] Ibid.

[10] CFCs destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited CFCs production in 1987.

comparing GHG emissions is the GWP methodology defined in the IPCC reference documents.[11] The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalents (CO_2e), which compares the gas in question to that of the same mass of CO_2 (by definition, CO_2 has a GWP of 1). The GWP of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. Thus, to describe how much global warming a given type and amount of GHG may cause, the CO_2e is used. A CO_2e is the mass emissions of an individual GHG multiplied by its GWP. As such, a high GWP represents high absorption of infrared radiation and a long atmospheric lifetime compared to CO_2. One must also select a time horizon to convert GHG emissions to equivalent CO_2 emissions to account for chemical reactivity and lifetime differences among various GHG species. The standard time horizon for climate change analysis is 100 years. Generally, GHG emissions are quantified in terms of metric tons (MT) of CO_2e emitted per year.

The atmospheric residence time of a gas is equal to the total atmospheric abundance of the gas divided by its rate of removal.[12] The atmospheric residence time of a gas is, in effect, a half-life measurement of the length of time a gas is expected to persist in the atmosphere when accounting for removal mechanisms such as chemical transformation and deposition.

Table 3.7-1 lists the GWP of each GHG and its lifetime. Units commonly used to describe the concentration of GHGs in the atmosphere are parts per million (ppm), parts per billion (ppb), and parts per trillion (ppt), referring to the number of molecules of the GHG in a sampling of 1 million, 1 billion, or 1 trillion molecules of air. Collectively, HFCs, PFCs, and sulfur hexafluoride are referred to as high GWP gases. CO_2 is by far the largest component of worldwide CO_2e emissions, followed by methane, nitrous oxide, and high GWP gases, in order of decreasing contribution to CO_2e.

The primary human processes that release GHGs include the burning of fossil fuels for transportation, heating, and electricity generation; agricultural practices that release methane, such as livestock grazing and crop residue decomposition; and industrial processes that release smaller amounts of high GWP gases. Deforestation and land cover conversion are also identified as contributing to global warming by reducing the Earth's capacity to remove CO_2 from the air and altering the Earth's albedo or surface reflectance, thus allowing more solar radiation to be absorbed. Specifically, CO_2 emissions associated with fossil fuel combustion are the primary contributors to human-induced climate change. CO_2, methane, and nitrous oxide emissions associated with human activities are the next largest contributors to climate change.

GHGs of California concern are defined by Assembly Bill (AB) 32 (see the Regulatory Environment subsection below for a description) and include CO_2, CH_4, NO_X, HFCs, PFCs, and SF_6. A seventh GHG, nitrogen trifluoride (NF_3), was also added under the California Health and Safety Code Section 38505(g)(7) as a GHG of concern. These GHGs are described in terms of their physical description and properties, GWP, atmospheric residence lifetime, sources, and atmospheric concentration in 2005 in Table 3.7-1.

[11] Intergovernmental Panel on Climate Change, United Nations. 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC. Geneva, Switzerland.

[12] Seinfeld, J.H. and S.N. Pandis. 2006. Atmospheric Chemistry and Physics: From Air Pollution to Climate Change, 2nd Edition.

Table 3.7-1: Description of Greenhouse Gases of California Concern

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Carbon dioxide (CO_2)	Odorless, colorless, natural gas.	1	50-200	burning coal, oil, natural gas, and wood; decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; oceanic evaporation; volcanic outgassing; cement production; land use changes
Methane (CH_4)	Flammable gas and is the main component of natural gas.	25	12	geological deposits (natural gas fields) extraction; landfills; fermentation of manure; and decay of organic matter
Nitrous oxide (N_2O)	Nitrous oxide (laughing gas) is a colorless GHG.	298	114	microbial processes in soil and water; fuel combustion; industrial processes
Chloro-fluoro-carbons (CFCs)	Nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (level of air at the Earth's surface); formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms.	3,800-8,100	45-640	refrigerants aerosol propellants; cleaning solvents
Hydro-fluoro-carbons (HFCs)	Synthetic human-made chemicals used as a substitute for CFCs and contain carbon, chlorine, and at least one hydrogen atom.	140 to 11,700	1-50,000	automobile air conditioners; refrigerants
Per-fluoro-carbons (PFCs)	Stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface.	6,500 to 9,200	10,000-50,000	primary aluminum production; semiconductor manufacturing

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Sulfur hexafluoride (SF_6)	Human-made, inorganic, odorless, colorless, and nontoxic, nonflammable gas.	22,800	3,200	electrical power transmission equipment insulation; magnesium industry, semiconductor manufacturing; a tracer gas
Nitrogen trifluoride (NF_3)	Inorganic, is used as a replacement for PFCs, and is a powerful oxidizing agent.	17,200	740	electronics manufacture for semiconductors and liquid crystal displays

Sources:
Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

The State has begun the process of addressing pollutants referred to as short-lived climate pollutants. Senate Bill (SB) 605, approved by the Governor on September 14, 2014, required the California Air Resources Board (ARB) to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016. The ARB released the Proposed Short-Lived Climate Pollutant Reduction Strategy in April 2016. The ARB has completed an emission inventory of these pollutants, identified research needs, identified existing and potential new control measures that offer co-benefits, and coordinated with other State agencies and districts to develop measures.

The short-lived climate pollutants include three main components: black carbon, fluorinated gases, and methane. Fluorinated gases and methane are described in Table 3.7-1 and are already included in the California GHG inventory. Black carbon has not been included in past GHG inventories; however, the ARB will include it in its comprehensive strategy.[13]

Black carbon is a component of fine particulate matter. Incomplete combustion of fossil fuels, biofuels, and biomass creates black carbon. Sources within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and natural and unnatural wildfires. Black carbon is not a gas but an aerosol—particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, whereas other GHGs can remain in the atmosphere for years. Black carbon can deposit on snow, where it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).

[13] California Air Resources Board (ARB). 2017. Short-Lived Climate Pollutant Reduction Strategy. March. Website: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf. Accessed June 10, 2021.

GWPs for black carbon were not defined by the IPCC in its Fourth Assessment Report. The ARB has identified a GWP of 3,200 using a 20-year time horizon and 900 using a 100-year time horizon from the IPCC Fifth Assessment. The ARB already regulates black carbon sources, air district criteria pollutants, and toxics to control fine particulate emissions from diesel engines and other combustion sources.[14] Additional controls on the sources of black carbon specifically for their GHG impacts beyond those required for toxic and fine particulates are not likely necessary.

Ozone is another short-lived climate pollutant that will be part of the strategy. Ozone affects evaporation rates, cloud formation, and precipitation levels. Ozone is not a direct emission, so its precursor emissions, volatile organic compounds (VOC) and nitrogen oxides (NO_X) on a regional scale, and CH_4 on a hemispheric scale, will be subject of the strategy.[15]

Water vapor is also considered a GHG. Water vapor is an important component of our climate system and is not regulated. Increasing water vapor leads to warmer temperatures, which causes more water vapor to be absorbed into the air. Warming and water absorption increase in a spiraling cycle. Water vapor feedback can also amplify the warming effect of other GHGs, such that the warming brought about by increased GHGs allows more water vapor to enter the atmosphere.[16]

Introduction to Global Climate Change

Global climate change is defined as the change in average meteorological conditions on Earth with respect to temperature, precipitation, and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O, CH_4, hydrofluorocarbons, perfluorocarbons and SF_6. These particular gases are important because of their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the Earth's atmosphere, but prevent radioactive heat from escaping, thus warming the Earth's atmosphere. Global climate change can occur naturally, as it has in the past with the previous ice ages. According to the ARB, the climate change since the Industrial Revolution differs from previous climate changes in both rate and magnitude.

GHGs are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse effect, the Earth's average temperature would be approximately 61°F cooler than it is currently. The cumulative accumulation of these gases in the Earth's atmosphere is considered the cause for the observed increase in the Earth's temperature.

Although California's rate of growth of GHG emissions is slowing, the State is still a substantial contributor to the U.S. emissions inventory total. In 2004, California is estimated to have produced 492 million metric tons (MMT) of carbon dioxide equivalents (MMT CO_2e) GHG emissions. Despite a population increase of 16 percent between 1990 and 2004, California has significantly slowed the rate of growth of GHG emissions because of the implementation of energy efficiency programs as well as adoption of strict emission controls.

[14] California Air Resources Board (ARB). 2017. Short-Lived Climate Pollutant Reduction Strategy. March. Website: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf. Accessed June 10, 2021.
[15] Ibid.
[16] National Aeronautics and Space Administration (NASA). 2015. The Causes of Climate Change. Facts. Website: http://climate.nasa.gov/causes/. Accessed June 10, 2021.

Global Climate Change Issue

Climate change is a global problem because GHGs are global pollutants, unlike criteria air pollutants and hazardous air pollutants (also called toxic air contaminants), which are pollutants of regional and local concern. Pollutants with localized air quality effects have relatively short atmospheric lifetimes, approximately 1 day; by contrast, GHGs have long atmospheric lifetimes, several years to several thousand years. GHGs persist in the atmosphere for a long enough time to disperse around the globe.

Although the exact lifetime of any particular GHG molecule depends on multiple variables and cannot be pinpointed, more CO_2 is currently emitted into the atmosphere than is sequestered. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through photosynthesis and dissolution, respectively. These are two of the most common processes of CO_2 sequestration. Of the total annual human-caused CO_2 emissions, approximately 54 percent is sequestered through ocean uptake, Northern Hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46 percent of human-caused CO_2 emissions is stored in the atmosphere.[17]

Similarly, effects of GHGs are borne globally, as opposed to the localized air quality effects of criteria air pollutants and hazardous air pollutants. The quantity of GHGs required to result in climate change is not precisely known and cannot be quantified, and no single project would be expected to measurably contribute to a noticeable incremental change in the global average temperature, or to global or local climates or microclimate.

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. A cumulative discussion and analysis of project impacts on global climate change is presented in this Draft EIR because, although it is unlikely that a single project will contribute significantly to climate change, cumulative emissions from many projects affect global GHG concentrations and the climate system.

Global climate change has the potential to result in sea level rise (resulting in flooding of low-lying areas), to affect rainfall and snowfall (leading to changes in water supply), to affect temperatures and habitats (affecting biological resources and public health), and to result in many other adverse environmental consequences.

Although the international, national, state, and regional communities are beginning to address GHGs and the potential effects of climate change, worldwide GHG emissions will likely continue to rise over the next decades.

Climate and Topography

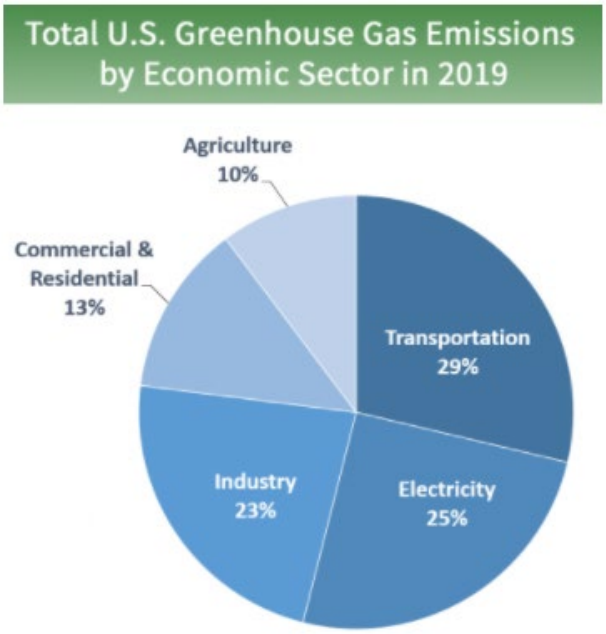
Climate is the accumulation of daily and seasonal weather events over a long period, whereas weather is defined as the condition of the atmosphere at any particular time and place. For a detailed discussion of existing regional and project site climate and topography, see Section 3.2, Air Quality.

[17] Seinfeld, J. H. and S.N. Pandis. 1998. Atmospheric Chemistry and Physics from Air Pollution to Climate Change. John Wiley & Sons.

Existing GHG Emissions

United States GHG Inventory

The United States Environmental Protection Agency (EPA) reported that in 2019, the total gross nationwide GHG emissions were 6,558.3 MMT CO_2e. [18] Figure 3.7-2 presents 2019 U.S. GHG emissions by economic sector. Total U.S. GHG emissions increased by 1.8 percent from 1990 to 2019 (from 6,233.2 MMT CO_2e in 1990 to 6,658.3 MMT CO_2e in 2019). Since 1990, U.S. emissions have increased at an average annual rate of 0.1 percent. Between 2018 and 2019, the decrease in total greenhouse gas emissions was largely driven by the decrease in CO_2 emissions from fossil fuel combustion. The decrease in CO_2 emissions from fossil fuel combustion was a result of a 1 percent decrease in total energy use and reflects a continued shift from coal to less carbon intensive natural gas and renewables in the electric power sector.



Note: Emissions shown do not include carbon sinks such as change in land uses and forestry, which removes approximately 12 percent of these GHG emissions.
Source: United States Environmental Protection Agency (EPA). 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. Website: https://www.epa.gov/sites/production/files/2021-04/documents/us-ghg-inventory-2021-main-text.pdf. Accessed June 10, 2021.

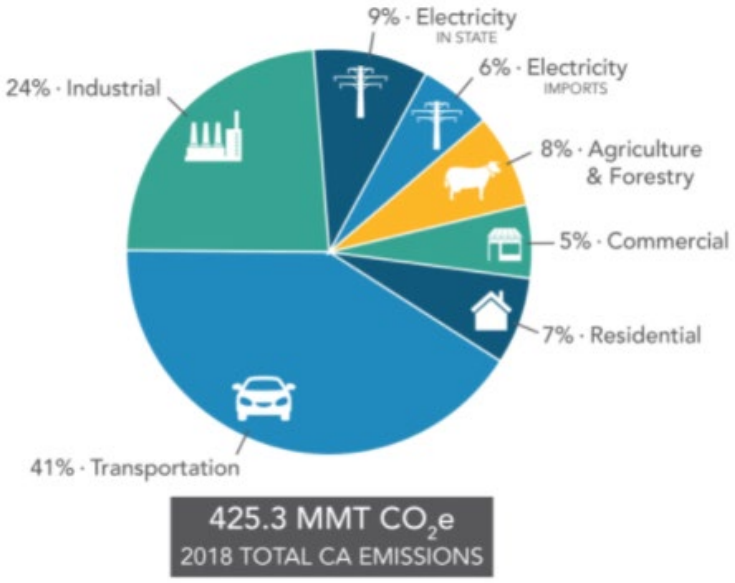
Figure 3.7-2: 2019 U.S. Greenhouse Gas Emissions by Gas

California GHG Inventory

As the second largest emitter of GHG emissions in the U.S. and the 12th to 16th largest GHG emissions emitter in the world, California contributes a large quantity (425.3 MMT CO_2e in 2018) of GHG

[18] United States Environmental Protection Agency (EPA). 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. Website: https://www.epa.gov/sites/production/files/2021-04/documents/us-ghg-inventory-2021-main-text.pdf. Accessed June 10, 2021.

emissions to the atmosphere.[19] Emissions of CO_2 are byproducts of fossil fuel combustion and are attributable in large part to human activities associated with transportation, industry/ manufacturing, electricity and natural gas consumption, and agriculture. In California, the transportation sector is the largest emitter at 41 percent of GHG emissions, followed by industry/ manufacturing at 24 percent of GHG emissions (Figure 3.7-3).[20]



Source: California Air Resources Board (ARB). 2020. California Greenhouse Gas Emission Inventory–2010 Edition. Website: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed June 10, 2021.

Figure 3.7-3: 2018 California Greenhouse Gas Emissions by Sector

California's GHG emissions have followed a declining trend since 2007. In 2018, emissions from routine GHG-emitting activities Statewide were 425.3 MMT CO_2e, 5 MMT CO_2e lower than 2016 levels. This represents an overall decrease of 14 percent since peak levels in 2004 and 7 MMT CO_2e below the 1990 level and the State's 2020 GHG target. During the 2000 to 2017 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 14 MT CO_2e per capita to 10.7 MT CO_2e per capita in 2017, a 24 percent decrease. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product [GDP]) is declining, representing a 41 percent decline since the 2001 peak, while the State's GDP has grown 52 percent during this period. For the first time since California started to track GHG emissions, the majority of California's electricity comes from zero-GHG sources (hydropower, solar, wind, and nuclear energy).[21]

[19] California Climate Change Center (CCCC). 2006. Our Changing Climate: Assessing the Risks to California. CEC-500-2006-077. July.
[20] California Air Resources Board (ARB). 2020. California Greenhouse Gas Emission Inventory–2020 Edition. Website: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed June 10, 2021.
[21] California Air Resources Board (ARB). 2019, August 26. California Greenhouse Emissions for 2000 to 2017: Trends of Emissions and Other Indicators. Website: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf. Accessed June 11, 2021.

Bay Area Air Quality Management District GHG Inventory

The Bay Area Air Quality Management District (BAAQMD) published a GHG inventory for the San Francisco Bay Area (Bay Area), which provides an estimate of GHG emissions in the base year 2011 for all counties located in the jurisdiction of BAAQMD: Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Napa, and the southern portions of Solano and Sonoma.[22] This GHG inventory is based on the standards for criteria pollutant inventories and is intended to support BAAQMD's climate protection activities.

Table 3.7-2 shows the 2011 breakdown of emissions by end-use sector for each county within BAAQMD's jurisdiction. The estimated GHG emissions are presented in CO_2e, which weights each GHG by its GWP. The GWPs used in the BAAQMD inventory are from the Second Assessment Report of the IPCC.

In 2011, GHG emissions from Contra Costa County (County) accounted for approximately 36 percent of the Bay Area's total GHG emissions with approximately 57 percent of the Bay Area's total GHG emissions coming from the industrial/commercial land uses in the County.[23] Transportation is the largest GHG emissions sector in the Bay Area, followed by industrial/commercial, electricity generation and cogeneration, and residential fuel usage. In the County, the industrial/commercial sector generate the largest amount of GHG emissions, followed by the electricity/cogeneration sector.

Table 3.7-2: 2011 County GHG Emissions by Sector (Million Metric Tons CO_2e/Year)

Sector	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano*	Sonoma*
Industrial/Commercial	2.7	17.8	0.4	0.2	1.2	1.4	4.1	2.7	0.5
Residential Fuel	1.3	1.0	0.3	0.1	0.9	0.8	1.5	0.3	0.4
Electricity/Co-gen	0.9	7.2	0.1	0.1	0.5	0.4	2.2	0.4	0.2
Off-Road Equipment	0.2	0.2	0.0	0.0	0.2	0.1	0.4	0.0	0.
Transportation	7.9	5.0	1.3	0.9	3.0	5.0	7.6	1.6	2.0
Agriculture/Farming	0.1	0.2	0.2	0.1	0.0	0.0	0.2	0.1	0.2
Total	**13.2**	**31.4**	**2.4**	**1.5**	**5.7**	**7.7**	**16.0**	**5.1**	**3.5**

Notes:
BAAQMD = Bay Area Air Quality Management District
CO_2e = carbon dioxide equivalent
co-gen = cogeneration
* Portion within BAAQMD jurisdiction
Source: Bay Area Air Quality Management District (BAAQMD). 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases–Base Year 2011. January.

[22] Bay Area Air Quality Management District (BAAQMD). 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases–Base Year 2011. January.
[23] Ibid.

Contra Costa County

A community-wide baseline (2005) GHG emissions inventory was conducted for the County as part of the development of the Contra Costa County Climate Action Plan (CAP).[24] Table 3.7-3 provides the estimated 2005 baseline by sector for the County.

Table 3.7-3: 2005 Unincorporated County GHG Emissions Baseline by Sector (excluding Stationary Source Emissions)

Sector	Metric Tons CO_2e/Year	Percentage of Total
Residential Energy	274,690	20
Nonresidential Energy	118,770	8
Solid Waste	48,450	3
Landfill	193,950	14
On-road Transportation	628,200	45
Off-Road Equipment	71,880	5
Water and Wastewater	8,080	1
Bay Area Rapid Transit (BART)	2,300	< 1
Agriculture	57,320	4
Total	1,403,610	100

Notes:
CO_2e = carbon dioxide equivalent
Source: Contra Costa County Department of Conservation and Development and Michael Baker International. 2015. Contra Costa County Climate Action Plan. December 15.

Project Site

The former Palmer School for Boys and Girls, a private K-8 school, operated at the project site from 1939 until its closure due to COVID-19 in June 2020. However, no active school currently exists on the project site and there are no existing residences or other uses within the project site that would generate GHG emissions.

Climate Change Trends and Effects

CO_2 accounts for more than 75 percent of all anthropogenic GHG emissions, the atmospheric residence time of CO_2 is decades to centuries, and global atmospheric concentrations of CO_2 continue to increase at a faster rate than ever previously recorded. Thus, the warming impacts of CO_2 will persist for hundreds of years after mitigation implementation to reduce GHG concentrations.

[24] Contra Costa County Department of Conservation and Development and Michael Baker International. 2015. Contra Costa County Climate Action Plan. December 15.

California

Substantially higher temperatures, more extreme wildfires, and rising sea levels are just some of the direct effects of climate change experienced in California.[25,26] As reported by the California Natural Resources Agency in 2009, despite annual variations in weather patterns, California has seen a trend of increased average temperatures, more extreme hot days, fewer cold nights, longer growing seasons, less winter snow, and earlier snowmelt and rainwater runoff. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and a larger proportion of total precipitation is falling as rain instead of snow.[27] Sea level rose by as much as 7 inches along the California coast over the last century, leading to increased erosion and adding pressure to the State's infrastructure, water supplies, and natural resources.

These observed trends in California's climate are projected to continue in the future. Research indicates that California will experience overall hotter and drier conditions with a continued reduction in winter snow (with concurrent increases in winter rains), as well as increased average temperatures and accelerating sea level rise. The frequency, intensity, and duration of extreme weather events such as heat waves, wildfires, droughts, and floods will also change.[28] In addition, increased air pollution and spread of insects potentially carrying infectious diseases will also occur as the climate-associated temperature and associated species clines shift in latitude.

The following is a summary of climate change factors and predicted trends specific to California. In California, climate change may result in consequences such as the following:[29,30]

- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of Southern California are estimated to increase by approximately 30 percent toward the end of the 21st Century because more winter rain will stimulate the growth of more plant "fuel" available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more Northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to experience adverse effects include wine grapes, fruit, nuts, and milk.

[25] California Natural Resources Agency (CNRA). 2009. 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008.
[26] California Climate Change Center (CCCC). 2012. Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California. CEC-500-2012-007. July.
[27] California Energy Commission. 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004. CEC-600-2006-013-D. October.
[28] California Natural Resources Agency (CNRA). 2009. 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008.
[29] California Climate Change Center (CCCC). 2006. Our Changing Climate: Assessing the Risks to California. CEC-500-2006-077. July.
[30] Moser, Susie, Guido Franco, Sarah Pittiglio, Wendy Chou, Dan Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. CEC-500-2008-071. May.

- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California's coast have risen about 7 inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- **An increase temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- **A decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

Bay Area

The following is a summary of climate change factors and predicted trends specific to the Bay Area.

Temperature, Heat, Drought, and Wildfire Events

The Bay Area is expected to experience warming over the rest of the 21st Century. Consistent with Statewide projections, the annual average temperature in the Bay Area will likely increase by 2.7°F between 2000 and 2050, based on GHGs that have already been emitted into the atmosphere. By the end of the century, the increase in the Bay Area's annual average temperature may range from approximately 3.5°F to 11°F relative to the average annual temperature simulated for the 1961–1990 baseline period used for the study, depending on the GHG emissions scenarios.[31] The projected rate of warming, especially in the latter half of the 21st Century, is considerably greater than warming rates derived from historical observed data.

Specific predictions related to temperature/heat are summarized below.

- The annual average temperature in the Bay Area has been increasing over the last several decades.
- The Bay Area is expected to see an increase in average annual temperature of 2.7°F by 2050, and 3.5°F to 11°F by 2100. Projections show a greater warming trend during the summer season. The coastal parts of the Bay Area will experience the most moderate warming trends.[32]

[31] California Climate Change Center (CCCC). 2009. Climate Change Scenarios and Sea Level Rise Estimates for the California 2009 Climate Change Scenarios Assessment. CEC-500-2009-014-F. August.
[32] Cal-Adapt. 2021. Climate Tools. Website: http://cal-adapt.org/tools/. Accessed March 23, 2021.

- Extreme heat events are expected to increase in duration, frequency, and severity by 2050. Extreme freeze events are expected to decrease in frequency and severity by 2100, but occasional colder-than-historical events may occur by 2050.[33]

Precipitation, Rainfall, and Flooding Events

Studies of the effect of climate change on the long-term average precipitation for California show some variance.[34] Considerable variability exists across individual models and examining the average changes can mask more extreme scenarios that project much wetter or drier conditions. California is expected to maintain a Mediterranean climate through the next century, with dry summers and wet winters that vary between seasons, years, and decades. Wetter winters and drier springs are also expected, but overall annual precipitation is not projected to change substantially. By midcentury, more precipitation is projected to occur in winter in the form of less frequent but larger events. The majority of global climate models predict drying trends across the State by 2100.[35]

Specific factors related to precipitation/rainfall/extreme events are summarized below.

- The Bay Area has not experienced substantial changes in rainfall depth or intensities over the past 30 years.
- The Bay Area will continue to experience a Mediterranean climate, with little change in annual precipitation projected by 2050, although a high degree of variability may persist.
- An annual drying trend is projected to occur by 2100. The greatest decline in precipitation is expected to occur during the spring months, while minimal change is expected during the winter months.
- Increases in drought duration and frequency coupled with higher temperatures, as experienced in 2012, 2013, and 2014, will increase the likelihood of wildfires.
- California is expected to see increases in the magnitude of extreme events, including increased precipitation delivered from atmospheric river events, which would bring high levels of rainfall during short time periods and increase the chance of flash floods. The Bay Area is also expected to see an increase in precipitation intensities, but possibly through less frequent events.[36]

Reduced Sierra Nevada Snowpack and Water Supply Shortages

If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate surface water supplies.

[33] Cal-Adapt. 2021. Climate Tools. Website: http://cal-adapt.org/tools/. Accessed March 23, 2021

[34] California Climate Change Center (CCCC). 2009. Climate Change Scenarios and Sea Level Rise Estimates for the California 2009 Climate Change Scenarios Assessment. CEC-500-2009-014-F. August.

[35] California Natural Resources Agency (CNRA). 2009. 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008.

[36] California Climate Change Center (CCCC). 2009. Climate Change Scenarios and Sea Level Rise Estimates for the California 2009 Climate Change Scenarios Assessment. CEC-500-2009-014-F. August.

Vectors and Disease Events

Climate change will likely increase vector insect populations and, in turn, may increase the risk of some infectious diseases, particularly those diseases that appear in warm areas, such as malaria, dengue fever, yellow fever, and encephalitis.

Air Quality and Pollution Events

Warming-induced increases in the frequency of smog (ground-level ozone) events and particulate air pollution will exacerbate respiratory disorders.[37] Although there could be health effects resulting from changes in the climate and the consequences that can occur, inhalation of GHGs at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The potential health effects of ozone and particulate matter are discussed in criteria pollutant analyses. At very high indoor concentrations (not at levels existing outside), carbon dioxide, methane, SF_6, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen.[38,39]

Contra Costa County

Temperature and Heat

Figure 3.7-4 displays a chart of measured historical (i.e., observed) and projected annual average temperatures in the County area. As shown in Figure 3.7-4, temperatures are expected to rise as part of both the low and high GHG emissions scenarios.[40] The results indicate that temperatures are predicted to increase by 3.9°F under the medium emission scenario and 6.7°F under the high emissions scenario.[41]

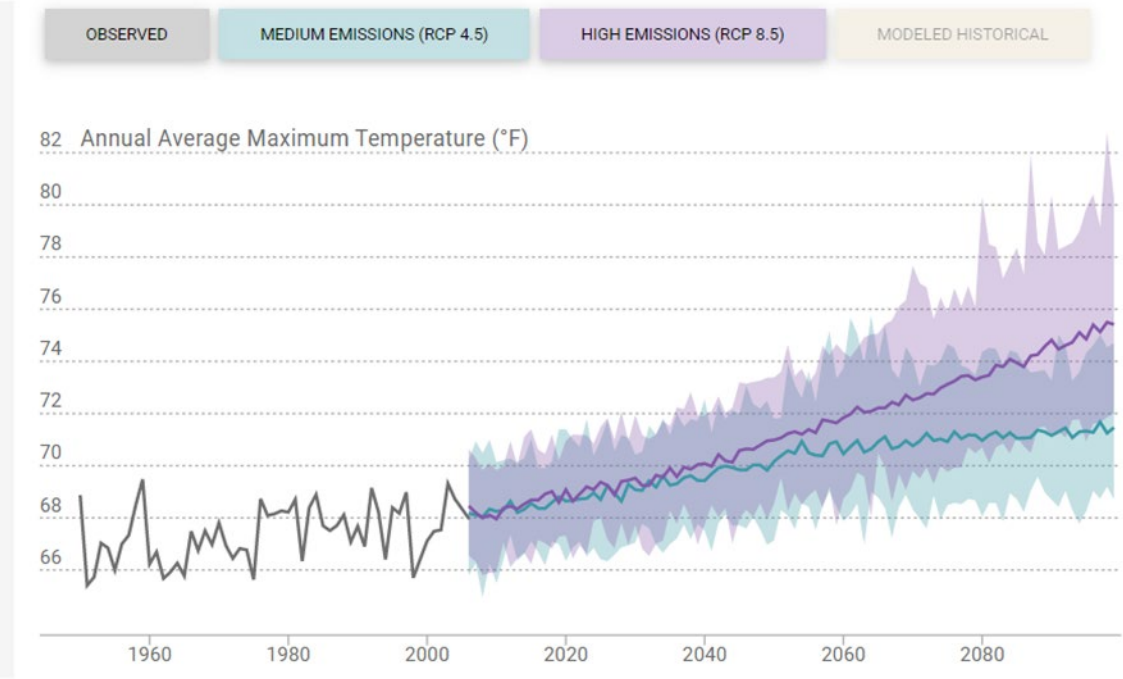
[37] United States Environmental Protection Agency (EPA). 2009. Ozone and your Health. EPA-456/F-09-001. February.

[38] National Institute for Occupational Safety and Health (NIOSH). 2018. Carbon Dioxide. November 29. Website: www.cdc.gov/niosh/npg/npgd0103.html. Accessed June 10, 2021.

[39] Occupational Safety and Health Administration (OSHA). 2003. United States Department of Labor. Safety and Health Topics: Methane. Website: www.osha.gov/dts/chemicalsampling/data/CH_250700.html. Accessed June 10, 2021.

[40] The low and high GHG emissions scenarios are based on IPCC's Special Report on Emissions Scenarios B1 and A1, respectively. The higher global GHG emissions scenario (A1) assumes a global trend of rapid economic growth. The lower GHG emissions scenario (B1) assumes the same global population as in the A1 storyline but with rapid changes in economic structures toward a service and information economy, with reductions in material intensity, and the introduction of clean and resource-efficient technologies. Overall, the B1 scenario places more focus on global environmental sustainability rather than rapid economic growth.

[41] CalAdapt. 2021. Local Climate Snapshots. Website: https://cal-adapt.org/tools/local-climate-change-snapshot/. Accessed June 10, 2021.



Source: CalAdapt 2021

Figure 3.7-4: Observed and Projected Temperatures in Contra Costa County

Drought and Wildfires

Fire hazards present a considerable problem to vegetation and wildlife habitats throughout the County. Fires easily ignite in grassland ecosystems, particularly in dry seasons. (See Section 3.16, Wildfire, for a more detailed discussion related to wildfire hazard areas and wildfire-conducive conditions.) The potential for increased temperatures and drought conditions due to climate change would result in increased risk from wildfire in these areas.

Reduced Sierra Nevada Snowpack and Water Supply Shortages

As described in Section 3.15, Utilities and Service Systems, the County receives potable water from the Contra Costa Water District (CCWD), which pumps water from four intakes in the San Joaquin Delta. Central Valley Project (CVP) provides the CCWD's water supply, which receives water from storage releases from Shasta, Folsom, and Trinity reservoirs into the Sacramento River in the San Joaquin Delta.[42] Originating in the Sierra Nevada, water flows into the Sacramento and San Joaquin Rivers into the Delta where it is drawn and transported via Contra Costa Canal. The availability of surface water supply could decline if climate change results in reduced snowpack in the Sierra Nevada.

Climate Change Impacts at the Project Site

Specific climate change impacts that could affect the project include:

[42] United States Department of the Interior Bureau of Reclamation. 2020. Central Valley Project (CVP). Website: https://www.usbr.gov/mp/cvp/. Accessed June 10, 2021.

- Water Resources Impacts. By late this century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average.
- This drying trend is caused by an apparent decline in the frequency of rain and snowfall. Even in projections with relatively small or no declines in precipitation, central and southern parts of the State can be expected to be drier from the warming effects alone—the spring snowpack will melt sooner, and the moisture in soils will evaporate during long dry summer months.[43]
- Wildfire Risks. Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires Statewide is estimated to increase from 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location.[44]
- Health Impacts. Many of the gravest threats to public health in California stem from the increase of extreme conditions, principally more frequent, more intense, and longer heat waves. Particular concern centers on the increasing tendency for multiple hot days in succession, and heat waves occurring simultaneously in several regions throughout the State. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California.[45]
- Increased Energy Demand. Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the State will drive up the demand for cooling in the increasingly hot and long summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process at higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand.[46]

[43] California Climate Change Center (CCCC). 2012, July. Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California.
[44] Ibid.
[45] Ibid.
[46] Ibid.

3.7.3 - Regulatory Framework

Global

Kyoto Protocol

The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at average of 5 percent against 1990 levels over the 5-year period from 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. Leaders did not reach a binding agreement in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2°C above preindustrial levels, subject to a review in 2015. The Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 heads of state and government, and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the United Nations. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

United Nations Climate Change Framework Convention

On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Climate Change Framework Convention. Under the Convention, governments agreed to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Paris Climate Change Agreement

Parties to the United Nations Framework Convention on Climate Change (UNFCCC) reached a landmark agreement on December 12 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a 4-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and

to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts, and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st Session of the UNFCCC Conference of the Parties, or "COP 21." Together, the Paris Agreement and the accompanying COP 21 decision: [47]

- Reaffirm the goal of limiting global temperature increase well below 2 degrees Celsius, while urging efforts to limit the increase to 1.5 degrees.
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them.
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review.
- Commit all countries to submit new NDCs every 5 years, with the clear expectation that they will "represent a progression" beyond previous ones.
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too.
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025.
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly will not "involve or provide a basis for any liability or compensation."
- Require parties engaging in international emissions trading to avoid "double counting."
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to count toward another country's NDC.

On June 1, 2017, President Trump announced the decision for the United States to withdraw from the Paris Climate Accord and the United States officially filed its intent to withdraw on November 4, 2019. Following the 1-year grace period for withdrawal from the Agreement, the United States formally withdrew from the Agreement on November 4, 2020. President Biden rejoined the Agreement on his first day in office, January 20, 2021. The United States officially became a party to the Agreement once again on February 19, 2021, after a mandatory 30-day waiting period.[48]

Continental

Western Climate Initiative (Western North America Cap-and-Trade Program)

Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and are tradeable, providing flexibility on how the emitter can comply. Each emitter caps carbon dioxide emissions from power plants, auctions carbon dioxide emission allowances, and invests the proceeds

[47] Center for Climate and Energy Solutions (C^2ES). 2015. Outcomes of the U.N. Climate Change Conference in Paris. December.
[48] United States Department of State. 2021. The United States Officially Rejoins the Paris Agreement. https://www.state.gov/the-united-states-officially-rejoins-the-paris-agreement/. Accessed February 23, 2021.

in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce North America GHG emissions to 15 percent below 2005 levels by 2020. The partners are California and the Canadian provinces of British Columbia, Manitoba, Ontario, and Québec.[49]

Federal

Clean Air Act

Coinciding with the 2009 meeting in Copenhagen, on December 7, 2009, the EPA issued an Endangerment Finding under Section 202(a) of the Clean Air Act, opening the door to federal regulation of GHGs. The Endangerment Finding notes that GHGs threaten public health and welfare and are subject to regulation under the Clean Air Act. To date, the EPA has not promulgated regulations on GHG emissions, but it has already begun to develop them.

Previously the EPA had not regulated GHGs under the Clean Air Act, because it asserted that the Act did not authorize it to issue mandatory regulations to address global climate change and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. In *Massachusetts v. Environmental Protection Agency et al.* (127 S. Ct. 1438 [2007]); however, the United States Supreme Court held that GHGs are pollutants under the Clean Air Act and directed the EPA to decide whether the gases endangered public health or welfare (see discussion below).

The EPA had also not moved aggressively to regulate GHGs because it expected Congress to make progress on GHG legislation, primarily from the standpoint of a cap-and-trade system. However, proposals circulated in both the House of Representatives and the Senate have been controversial and it may be some time before United States Congress adopts major climate change legislation. The EPA's Endangerment Finding paves the way for federal regulation of GHGs with or without Congress.

United States Clean Air Act Permitting Programs (New GHG Source Review)

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

> This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of

[49] Western Climate Initiative, Inc. 2017. Program Design. Website: http://www.wci-inc.org/program-design.php. Accessed June 10, 2021.

these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

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

Energy Independence and Security Act

The Energy Policy Act of 2005 created the Renewable Fuel Standard program. The Energy Independence and Security Act of 2007 expanded this program by:

- Expanding the Renewable Fuel Standard program to include diesel in addition to gasoline.
- Increasing the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- Establishing new categories of renewable fuel, and setting separate volume requirements for each one.
- Requiring the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

This expanded Renewable Fuel Standard program lays the foundation for achieving substantial reductions of GHG emissions from the use of renewable fuels, reducing the use of imported petroleum, and encouraging the development and expansion of the nation's renewable fuels sector.

Signed on December 19, 2007, by President George W. Bush, the Energy Independence and Security Act (EISA) of 2007 aims to:

- Move the United States toward greater energy independence and security.
- Increase the production of clean renewable fuels.
- Protect consumers.
- Increase the efficiency of products, buildings, and vehicles.
- Promote research on and deploy GHG capture and storage options.
- Improve the energy performance of the federal government.
- Increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy.

EISA reinforces the energy reduction goals for federal agencies put forth in Executive Order 13423, as well as introduces requirements that are more aggressive. The three key provisions enacted are the

Corporate Average Fuel Economy Standards, the Renewable Fuel Standard, and the appliance/lighting efficiency standards.

The EPA is committed to developing, implementing, and revising both regulations and voluntary programs under the following subtitles in EISA, among others:

- Increased Corporate Average Fuel Economy Standards
- Federal Vehicle Fleets
- Renewable Fuel Standard
- Biofuels Infrastructure
- Carbon Capture and Sequestration[50]

The EPA and National Highway Traffic Safety Administration Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards Final Rule

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light-duty trucks. The law has become more stringent over time. On May 19, 2009, the President put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 MMT and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

The EPA and the NHTSA issued final rules on a second phase joint rulemaking, establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012.[51] The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles. The final standards are projected to result in an average industry fleet wide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

The EPA and NHTSA issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that began in the 2014 model year and achieve up to a 20 percent reduction in CO_2

[50] United States Environmental Protection Agency (EPA). 2019. Summary of the Energy Independence and Security Act. Website: https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act. Accessed June 10, 2021.

[51] United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. EPA-420-F-12-051. August.

emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles, and a 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

The State of California has received a waiver from the EPA to have separate, stricter Corporate Average Fuel Economy Standards. Although global climate change did not become an international concern until the 1980s, efforts to reduce energy consumption began in California in response to the oil crisis in the 1970s, resulting in the incidental reduction of GHG emissions. In order to manage the State's energy needs and promote energy efficiency, AB 1575 created the California Energy Commission (CEC) in 1975.

Massachusetts et al. v. EPA (U.S. Supreme Court GHG Endangerment Ruling)

Massachusetts et al. v. EPA (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four GHGs, including CO_2, under Section 202(a)(1) of the Clean Air Act (CAA). The Supreme Court decided on April 2, 2007, that GHGs are air pollutants covered by the CAA. The Court held that the Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations; and
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed under "Clean Vehicles" below. After a lengthy legal challenge, the United States Supreme Court declined to review an Appeals Court ruling upholding that upheld the EPA Administrator findings.

United States Consolidated Appropriations Act (Mandatory GHG Reporting)

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States, and intends to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities

that emit 25,000 MT or more per year of GHG emissions are required to submit annual reports to the EPA. The first annual reports for the largest emitting facilities, covering calendar year 2010, were submitted to the EPA in 2011.

State

California AB 1493: Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the by the United States District Court for the District of Columbia in 2011.[52]

The standards are to be phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in an approximately 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.[53]

Amendments to the Low Emission Vehicle (LEV) Program, referred to as LEV III or the Advanced Clean Cars program, incorporated the second phase of implementation for the Pavley Bill. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will reduce pollutants from gasoline and diesel-powered cars, and deliver increasing numbers of zero emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The regulations will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.[54]

California Executive Order S-3-05 (GHG Emissions Reduction Targets)

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

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

[52] California Air Resources Board (ARB). 2017. Clean Car Standards—Pavley, Assembly Bill 1493. January 11. Website: https://ww3.arb.ca.gov/cc/ccms/ccms.htm. Accessed June 10, 2021.
[53] California Air Resources Board (ARB). 2011. Facts About the Advanced Clean Cars Program. November 9.
[54] California Air Resources Board (ARB). 2011. Status of Scoping Plan Recommended Measures.

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

California AB 32: Global Warming Solutions Act and Scoping Plan

The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since enactment of AB 32, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The ARB is the State agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

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

The ARB approved the 1990 GHG emissions level of 427 MMT CO_2e on December 6, 2007.[55] Therefore, to meet the State's target, emissions generated in California in 2020 are required to be equal to or less than 427 MMT CO_2e. Emissions in 2020 in a business-as-usual (BAU) scenario were estimated to be 596 MMT CO_2e, which do not account for reductions from AB 32 regulations.[56] At that rate, a 28 percent reduction was required to achieve the 427 MMT CO_2e 1990 inventory. In October 2010, the ARB prepared an updated 2020 forecast to account for the effects of the 2008 recession and slower forecasted growth. The 2020 inventory without the benefits of adopted regulation is now estimated at 545 MMT CO_2e. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels.[57]

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. Updated emission inventories prepared by the ARB for 2000 through 2012 demonstrate progress achieved to date.[58] The State has also achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target. Also shown are the average reductions needed from all Statewide sources (including all existing sources) to reduce GHG emissions back to 1990 levels.

- **1990:** 427 million MT CO_2e (AB 32 2020 Target)
- **2000:** 463 million MT CO_2e (an average 8 percent reduction needed to achieve 1990 base)

[55] California Air Resources Board (ARB). 2007. Staff Report: California 1990 Greenhouse Gas Level and 2020 Emissions Limit. November 16, 2007. Website: www.arb.ca.gov/cc/inventory/pubs/reports/staff_report_1990_level.pdf. Accessed June 10, 2021.

[56] California Air Resources Board (ARB). 2008. Climate Change Scoping Plan: A Framework for Change. December. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed June 10, 2021.

[57] California Air Resources Board (ARB). 2010. 2020 Greenhouse Gas Emissions Projection and BAU Scenario Emissions Estimate. October 28. Website: http://www.arb.ca.gov/cc/inventory/archive/captrade_2010_projection.pdf. Accessed June 10, 2021.

[58] California Air Resources Board (ARB). 2014. California Greenhouse Gas Emission Inventory: 2000–2012. Trends of Emissions and Other Indicators. Website: http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-12_report.pdf. Accessed March 23, 2021.

- **2010:** 450 million MT CO_2e (an average 5 percent reduction needed to achieve 1990 base)
- **2020:** 545 million MT CO_2e BAU (an average 21.7 percent reduction from BAU needed to achieve 1990 base)

The ARB Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32.[59] The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

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

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. Capped strategies are subject to the proposed Cap-and-Trade Program. The Scoping Plan states that the inclusion of these emissions within the cap-and trade program will help to meet 2020 emission targets despite some degree of uncertainty in the emission reduction estimates for any individual measure. Calculated implementation of the capped strategies should achieve a sufficient amount of reductions by 2020 to meet the emission target contained in AB 32. Uncapped strategies that will not be subject to the cap-and-trade emissions requirements provide a margin of safety by accounting for additional GHG emission reductions.[60]

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

[59] California Air Resources Board (ARB). 2008. Climate Change Scoping Plan: A Framework for Change. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed March 23, 2021.

[60] California Air Resources Board (ARB). 2008. Climate Change Scoping Plan: A Framework for Change. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed March 23, 2021.

progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and activities Climate for the next several years. The Update does not set new targets for the State, but describes a path that would achieve the long-term 2050 goal of Executive Order S-05-03 for emissions to decline to 80 percent below 1990 levels by 2050.

AB 32 does not give the ARB a legislative mandate to set a target beyond the 2020 target from AB 32 or to adopt additional regulations to achieve a post-2020 target. The Update estimates that reductions averaging 5.2 percent per year would be required after 2020 to achieve the 2050 goal. With no estimate of future reduction commitments from the State, identifying a feasible strategy including plans and measures for adoption by local agencies is not currently possible.[61]

The Cap-and-Trade Program is a key element of the Scoping Plan. It sets a Statewide limit on sources responsible for 85 percent of California's GHG emissions, and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide covered entities the flexibility to seek out and implement the lowest cost options to reduce emissions. The program conducted its first auction in November 2012. Compliance obligations began for power plants and large industrial sources in January 2013. Other significant milestones include linkage to Québec's Cap-and-Trade system in January 2014 and starting the compliance obligation for distributors of transportation fuels, natural gas, and other fuels in January 2015.[62]

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 Statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, the program only guarantees GHG emissions reductions on a cumulative basis. As summarized by the ARB in the First Update:

> The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative.[63]

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more

[61] California Air Resources Board (ARB). 2014. First Update to the Climate Change Scoping Plan. Website: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm. Accessed June 10, 2021.

[62] California Air Resources Board (ARB). 2015. ARB Emissions Trading Program. Website: http://www.arb.ca.gov/cc/capandtrade/guidance/cap_trade_overview.pdf. Accessed June 10, 2021.

[63] California Air Resources Board (ARB). 2014. First Update to the Climate Change Scoping Plan. Website: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm. Accessed June 11, 2021.

than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program assures that California will meet its 2020 GHG emissions reduction mandate:

> The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the "capped sectors." Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by ARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures.[64]

California Senate Bill 375: Sustainable Communities and Climate Protection Act

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

Concerning California Environmental Quality Act (CEQA), SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA determinations for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that ARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

[64] Ibid.

California SB 1368: Emission Performance Standards

In 2006, the State Legislature adopted SB 1368, which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds of CO_2 per megawatt-hour (MWh).

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

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

The LCFC was subject to legal challenge in 2011. Ultimately, on August 8, 2013, the Fifth District Court of Appeal (California) ruled that the ARB failed to comply with CEQA and the Administrative Procedure Act when adopting regulations for Low Carbon Fuel Standards. In a partially published opinion, the Court of Appeal directed that Resolution 09-31 and two executive orders of the ARB approving LCFS regulations promulgated to reduce GHG emissions be set aside. However, the Court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while the ARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, the ARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The second public hearing for the new LCFS regulation occurred on September 24 and 25, 2015, where the LCFS regulation was adopted. The Final Rulemaking Package adopting the regulation was filed with the Office of Administrative Law (OAL) on October 2, 2015. The OAL approved the regulation on November 16, 2015.[65]

[65] California Air Resources Board (ARB). 2015. Low Carbon Fuel Standard Regulation. November 20. Website: http://www.arb.ca.gov/regact/2015/lcfs2015/lcfs2015.htm. Accessed March 23, 2021.

California Executive Order S-13-08

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

California SBX 7-7: Water Conservation Act

This 2009 legislation directs urban retail water suppliers to set individual 2020 per capita water use targets and begin implementing conservation measures to achieve those goals. Meeting this Statewide goal of 20 percent decrease in demand will result in a reduction of almost 2 million acre-feet in urban water use in 2020.

California SB 97 and the CEQA Guidelines Update

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The Code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division including but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)."

Section 21097 was also added to the Public Resources Code, providing an exemption until January 1, 2010, for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, by stating that failure to analyze adequately the effects of GHGs would not violate CEQA. The Natural Resources Agency completed the approval process, and the Amendments became effective on March 18, 2010.

The 2010 CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

Section 15064.4(b) of the CEQA Guidelines provides direction for lead agencies for assessing the significance of impacts of GHG emissions:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

- The extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The CEQA Guidelines amendments do not identify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. Instead, they call for a "good-faith effort, based on available information, to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project." The amendments encourage lead agencies to consider many factors in performing a CEQA analysis and preserve lead agencies' discretion to make their own determinations based upon substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts, respectively. GHG mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze GHG emissions in an EIR when a project's incremental contribution of emissions may be cumulatively considerable; however, it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic GHG analysis and later project-specific tiering, as well as the preparation of GHG Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to Section 15183.5(b).

In addition, the 2010 CEQA amendments revised Appendix F of the CEQA Guidelines, which focuses on Energy Conservation. The sample environmental checklist in CEQA Guidelines Appendix G was amended to include GHG questions. The most recent sample environmental checklist in Appendix G was further amended in 2018 to include two energy questions.

CEQA emphasizes that the effects of GHG emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis (CEQA Guidelines § 15130(f)).

Center for Biological Diversity v. California Department of Fish and Wildlife (California Supreme Court GHG Ruling)

In a November 30, 2015, ruling, the California Supreme Court in *Center for Biological Diversity (CBD) v. California Department of Fish and Wildlife (CDFW)* on the Newhall Ranch project concluded that whether the project was consistent with meeting Statewide emission reduction goals is a legally permissible criterion of significance, but the significance finding for the project was not supported by a reasoned explanation based on substantial evidence. The Court offered potential solutions on pages 25–27 of the ruling to address this issue summarized below:

Specifically, the Court advised that:

- **Substantiation of Project Reductions from BAU**. A lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with Statewide goals. The Court suggested a lead agency could examine the "data behind the Scoping Plan's business-as-usual model" to determine the necessary project-level reductions from new land use development at the proposed location (p. 25).
- **Compliance with Regulatory Programs or Performance Based Standards**. A lead agency "might assess consistency with AB 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities. (See Final Statement of Reasons, *supra*, at p. 64 [greenhouse gas emissions 'may be best analyzed and mitigated at a programmatic level.'])" To the extent a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Resources Board or other State agencies, a lead agency could appropriately rely on their use as showing compliance with 'performance based standards' adopted to fulfill 'a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions' (CEQA Guidelines § 15064.4(a)(2), (b)(3); *see also id.*, § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including 'plans or regulations for the reduction of greenhouse gas emissions']) (p. 26).
- **Compliance with GHG Reduction Plans or CAPs**. A lead agency may utilize "geographically specific GHG emission reduction plans" such as climate action plans or GHG emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis (p. 26).
- **Compliance with Local Air District Thresholds**. A lead agency may rely on "existing numerical thresholds of significance for greenhouse gas emissions" adopted by, for example, local air districts (p. 27).

Therefore, consistent with 2019 CEQA Guidelines Appendix G, the three factors identified in CEQA Guidelines Section 15064.4 and the recently issued Newhall Ranch opinion, the GHG impacts would be considered significant if the project would:

- Conflict with a compliant GHG Reduction Plan if adopted by the lead agency.
- Exceed the applicable GHG Reduction Threshold.
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs.

California SB 350: Clean Energy and Pollution Reduction Act

In 2015, the State Legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the Renewables Portfolio Standard, higher energy efficiency requirements for buildings, initial strategies toward a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum Statewide

were removed from the Bill due to opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce Statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. The California Public Utility Commission, the CEC, and local publicly owned utilities will achieve this target.
- Reorganize the Independent System Operator (ISO) to develop regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.[66]

California Executive Order B-30-15

On April 29, 2015, the Governor issued an Executive Order to establish a California GHG emissions reduction target of 40 percent below 1990 levels by 2030. The Governor's Executive Order aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The Executive Order sets a new interim Statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It also directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MM CO_2e. Further, the Executive Order requires the State to update its climate adaptation plan every three years and continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Executive Order is not legally enforceable against local governments and the private sector. Legislation that would update AB 32 to make post-2020 targets and requirements a mandate is in process in the State Legislature.

California Senate Bill 32

The Governor signed SB 32 in September of 2016, giving the ARB the statutory responsibility to include the 2030 target previously contained in Executive Order B-30-15 in the 2017 Scoping Plan Update. SB 32 states, "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." The 2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017. The major elements of the framework proposed to achieve the 2030 target are as follows:

1. SB 350
   - Achieve 50 percent Renewables Portfolio Standard by 2030.
   - Doubling of energy efficiency savings by 2030.
2. Low Carbon Fuel Standard
   - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).

[66] California State Senate. 2015. SB 350: Clean Energy and Pollution Reduction Act of 2015. October 7.

3. Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
   - Maintaining existing GHG standards for light- and heavy-duty vehicles.
   - Put 4.2 million Zero Emission Vehicles (ZEVs) on the roads.
   - Increase ZEV buses, delivery and other trucks.
4. Sustainable Freight Action Plan
   - Improve freight system efficiency.
   - Maximize use of near-ZEVs and equipment powered by renewable energy.
   - Deploy over 100,000 zero emission trucks and equipment by 2030.
5. Short-Lived Climate Pollutant Reduction Strategy
   - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
   - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
6. SB 375 Sustainable Communities Strategies
   - Increased stringency of 2035 targets.
7. Post-2020 Cap-and-Trade Program
   - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
   - The ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
8. 20 percent reduction in GHG emissions from the refinery sector.
9. By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

California Code of Regulations Title 24

Part 6 (Energy Efficiency Standards for Residential and Nonresidential Buildings)

California Code of Regulations Title 24 Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2016 Building Energy Efficiency Standards went into effect on January 1, 2017.[67] The 2019 Building Energy Efficiency Standards went into effect on January 1, 2020.

Part 11 (California Green Building Standards Code)

California Code of Regulations Title 24, Part 11, is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The code is updated on a regular basis, with the most recent update consisting of the 2016 California Green

[67] California Energy Commission (CEC). 2016. 2016 Building Energy Efficiency Standards: Frequently Asked Questions. Website: https://www.energy.ca.gov/sites/default/files/2019-05/2016_Building_Energy_Efficiency_Standards_FAQ.pdf. Accessed June 11, 2021.

Building Standards Code (CALGreen) that became effective January 1, 2017.[68] State law provides methods for local enhancements, allowing local jurisdictions to adopt requirements that are more stringent. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50 percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings must meet to achieve certification for occupancy, which local building officials generally enforce.

California Model Water Efficient Landscape Ordinance

AB 1881 (the Water Conservation Act) required the Model Water Efficient Landscape Ordinance (Ordinance). The Bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with the 2020 mandate (SBX-7-7) are expected for the Ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed the California Department of Water Resources (DWR) to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015, which became effective on December 15, 2015. New development projects that include landscaped areas of 500 square feet or more are subject to the Ordinance. The update requires:

- More efficient irrigation systems
- Incentives for graywater usage
- Improvements in on-site stormwater capture
- Limiting the portion of landscapes that can be planted with high water use plants
- Reporting requirements for local agencies.

California Green Building Code

The Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations Title 24, Part 6) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technology and methods. The most recent update of standards became effective on January 1, 2017. California's building efficiency standards (including standards for energy efficient appliances). The Energy Commission staff has estimated that the implementation of the 2016 Building Energy Efficiency Standards may reduce Statewide annual electricity consumption by approximately 281 gigawatt-hours per year and reduce GHG emissions by 160 thousand MT CO_2e per year.[69]

Regional

Bay Area 2017 Clean Air Plan

The BAAQMD is responsible for attaining and maintaining federal and State air quality standards in the San Francisco Bay Area Air Basin, as established by the federal CAA and the California Clean Air

[68] California Building Standards Commission. 2016. 2016 California Green Building Standards Code. July.
[69] California Energy Commission (CEC). 2016. 2016 Building Energy Efficiency Standards for Residential and Nonresidential Buildings. CEC-400-2015-037-CMF. June.

Act (CCAA), respectively. The CAA and CCAA require that plans be developed for areas that do not meet air quality standards. BAAQMD adopted Spare the Air, Cool the Climate (Bay Area Clean Air Plan) on April 19, 2017, to provide a regional strategy to improve Bay Area air quality and meet public health goals.[70] The control strategy described in the Bay Area Clean Air Plan includes a wide range of control measures designed to reduce emissions and lower ambient concentrations of harmful pollutants, safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, and reduce GHG emissions to protect the climate.

In addition, the BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin. The program includes GHG reduction measures that promote energy efficiency, reduce fossil fuel combustion, and decrease emissions of potent GHGs and pollutants.[71]

The BAAQMD CEQA Air Quality Guidelines also assist lead agencies in complying with CEQA requirements regarding potentially adverse impacts on air quality. The BAAQMD advises lead agencies to consider adopting a GHG reduction strategy capable of meeting AB 32 goals. This is consistent with the approach to analyzing GHG emissions described in State CEQA Guidelines Section 15183.5.

Local

Contra Costa County General Plan

The Contra Costa County General Plan (General Plan) establishes goals, objectives, policies, and implementation measures associated with GHG emissions.[72] Those goals, policies, and implementation measures that are relevant to this analysis are listed below.

Transportation and Circulation Element

Goal 5-I To encourage use of transit.

Goal 5-J To reduce single-occupant auto commuting and encourage walking and bicycling.

Goal 5-L To reduce greenhouse emissions from transportation sources through provision of transit, bicycle, and pedestrian facilities.

Policies

Policy 5-3 Transportation facilities serving new urban development shall be linked to and compatible with existing and planned roads, bicycle facilities, pedestrian facilities and pathways of adjoining areas, and such facilities shall use presently available public and semi-public right-of-way where feasible.

Policy 5-20 New development (including redevelopment and rehabilitation projects) shall contribute funds and/or institute programs to reduce parking demand and/or provide adequate parking.

[70] Bay Area Air Quality Management District (BAAQMD). 2017. Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. April 19.

[71] Bay Area Air Quality Management District (BAAQMD). 2017. Climate Protection Planning Program. April 20. Website: http://www.baaqmd.gov/plans-and-climate/climate-protection/climate-protection-program. Accessed June 11, 2021.

[72] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan. January 18.

Policy 5-21 New development shall contribute funds and/or institute programs to provide adequate bicycle and pedestrian facilities where feasible.

Policy 5-23 All efforts to develop alternative transportation systems to reduce peak period traffic congestion shall be encouraged.

Policy 5-24 Use of alternative forms of transportation, such as transit, bike, and pedestrian modes, shall be encouraged in order to provide basic accessibility to those without access to a personal automobile and to help minimize automobile congestion and air pollution.

Policy 5-25 Improvement of public transit shall be encouraged to provide for increased use of local, commuter and intercity public transportation.

Conservation Element

Goal 8-K To encourage the use of renewable resources where they are compatible with the maintenance of environmental quality.

Goal 8-L To reduce energy use in the County to avoid risks of air pollution and energy shortages which could prevent orderly development.

Policies

Policy 8-1 Resource utilization and development shall be planned within a framework of maintaining a healthy and attractive environment.

Implementation Measure 8-bs

Include provisions for solar access within design review of projects.

Goal 8-AB To continue to support federal, State, and regional efforts to reduce air pollution in order to protect human and environmental health.

Goal 8-AD To reduce the percentage of Average Daily Traffic (ADT) trips occurring at peak hours.

Policies

Policy 8-98 Development and roadway improvements shall be phased to avoid congestion.

Policy 8-101 A safe, convenient, and effective bicycle and trail system shall be created and maintained to encourage increased bicycle use and walking as alternatives to driving.

Policy 8-102 A safe and convenient pedestrian system shall be created and maintained in order to encourage walking as an alternative to driving.

Implementation Measure 8-dl

Review major development applications for consistency with regional air quality plan assumptions.

Contra Costa County Climate Action Plan

On December 15, 2015, the Contra Costa County Board of Supervisors approved the CAP,[73] which identifies specific measures through which the County can achieve a GHG reduction target of 15 percent below baseline levels by the year 2020. In addition to reducing GHG emissions, the CAP includes proposed policies and actions to improve public health and provide additional community benefits, and it lays the groundwork for achieving long-term GHG reduction goals for 2020 and 2035.

3.7.4 - Impacts and Mitigation Measures

According to CEQA Guidelines Appendix G Environmental Checklist, to determine whether impacts related to GHG emissions are significant environmental effects, the following questions are analyzed and evaluated. Would the proposed project:

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

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Approach to Analysis

GHG Emissions Generation Calculation Methodology

GHG emissions associated with construction and operation of the proposed project were estimated using the California Emissions Estimator Model (CalEEMod) emissions modeling program and the EMFAC2021 mobile source emission rate program.[74]

Construction

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site GHG emissions principally consist of exhaust emissions from heavy-duty construction equipment. Off-site GHG emissions would occur from motor vehicle exhaust from material delivery vehicles and construction worker traffic.

Operation

For operational GHG emissions, the BAAQMD provides three alternative thresholds:

- compliance with a qualified Greenhouse Gas Reduction Strategy,
- 1,100 MT CO_2e per year, or
- 4.6 MT CO_2e per service population per year.

The BAAQMD's thresholds of significance listed above were established based on meeting the 2020 GHG targets set forth in the AB 32 Scoping Plan.[75] AB 32 requires that Statewide GHG emissions be

[73] Contra Costa County Department of Conservation and Development and Michael Baker International. 2015. Contra Costa County Climate Action Plan. December 15.

[74] California Air Resources Board (ARB). 2021. EMFAC2021 Web Database. Website: https://arb.ca.gov/emfac/emissions-inventory/6aa88134ef9a3a82c8dcb69350177cb31e5c8b7f. Accessed June 17, 2021.

[75] California Air Resources Board (ARB). 2008. Climate Change Scoping Plan. December. Website: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed June 11, 2021.

reduced to 1990 levels by 2020. SB 32 extended California's GHG reduction programs beyond 2020 and contains language to authorize the ARB to achieve a Statewide GHG emission reduction of at least 40 percent below 1990 levels by December 31, 2030. The ARB approved the 2017 California's Climate Change Scoping Plan update.[76] The 2017 Scoping Plan update outlines the proposed framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels.

Because the proposed project would be constructed after 2020, the BAAQMD quantitative thresholds of significance listed above was adjusted to a "substantial progress" threshold that was calculated based on the SB 32 target of 40 percent below 1990 levels (i.e., 60 percent of 1990 levels). The mass emission threshold of significance applied in this analysis is 660 MT CO_2e per year (1,100 x 0.60 = 660). If operation of the proposed project would generate GHG emissions that exceed the bright-line threshold, the proposed project would need to be analyzed against an appropriate efficiency threshold.

According to the County's CAP, unincorporated County GHG emissions in its 2005 baseline year totaled approximately 1,403,610 MT CO_2e/year.[77] Consistent with the Governor's Office of Planning and Research (OPR) guidance on CAP development, the 2005 baseline year should demonstrate a 15 percent reduction by 2020 to be consistent with the reduction targets contained in AB 32 to be representative of 1990 emission levels. A 15 percent reduction would result in an emissions inventory target of approximately 1,193,069 MT CO_2e/year. As SB 32 requires a 40 percent reduction from 1990 levels by 2030, unincorporated Contra Costa County would therefore have a GHG emissions inventory target of approximately 715,841 MT CO_2e/year. According to the Association of Bay Area Governments' (ABAG) Plan Bay Area 2040 projections, unincorporated Contra Costa County would have an estimated 184,585 residents and 39,895 jobs in 2030, totaling a 2030 service population of 224,480 persons.[78] With a GHG emissions inventory target of approximately 715,841 MT CO_2e/year and service population of 224,480 persons in 2030, the efficiency metric for unincorporated Contra Costa County in 2030 would be 3.2 MT CO_2e per service population per year. As such, an efficiency threshold of 3.2 MT CO_2e per service population per year is utilized in this analysis. The proposed project would have a potentially significant impact if both the bright-line and efficiency thresholds are exceeded.

Indirect GHG Emissions

For GHG emissions, CalEEMod contains calculations to estimate indirect GHG emissions. Indirect emissions are emissions where the location of consumption or activity is different from where the actual emissions generate. For example, electricity would be consumed at the proposed residences; however, the emissions associated with producing that electricity are generated off-site at a power plant.

[76] California Air Resources Board (ARB). 2017. California's 2017 Climate Change Scoping Plan. Website: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf. Accessed June 11, 2021.

[77] Contra Costa County. 2015. Contra Costa County Climate Action Plan. December 15. Website: https://www.contracosta.ca.gov/DocumentCenter/View/39791/Contra-Costa-County-Climate-Action-Plan?bidId=. Accessed September 16, 2021.

[78] Association of Bay Area Governments (ABAG). 2018. Plan Bay Area Projections 2040. November. Website: https://mtc.ca.gov/sites/default/files/Projections_2040-ABAG-MTC-web.pdf. Accessed September 16, 2021.

CalEEMod includes calculations for indirect GHG emissions for electricity consumption, water consumption, and solid waste disposal. For water consumption, CalEEMod calculates the embedded energy (e.g., treatment, conveyance, and distribution) associated with providing each gallon of potable water to the project. For solid waste disposal, CalEEMod calculates the GHG emissions generated as solid waste generated by the project decomposes in a landfill.

Specific Thresholds of Significance

GHG Emissions Generation

The County utilizes BAAQMD quantitative thresholds for evaluation of GHG emissions, as applicable. BAAQMD provides multiple options in its 2017 BAAQMD CEQA Guidelines for operational GHG emissions generation significance thresholds. However, at the time of this analysis, BAAQMD has not yet provided a construction-related GHG emissions generation significance threshold but it does recommend that construction-generated GHGs be quantified and disclosed. As previously stated, the proposed project will be analyzed against the BAAQMD-adjusted bright-line threshold to demonstrate consistency with GHG legislative reduction targets codified by SB 32. If the proposed project exceeds the bright-line threshold, it will then be analyzed against the above-mentioned efficiency threshold. The proposed project would have a potentially significant impact if both thresholds are exceeded.

GHG Emissions Reduction Plan Consistency

The proposed project would be determined to conflict with an applicable GHG emissions reduction plan if it would not adhere to applicable GHG reduction measures included in the Contra Costa County CAP.

Impact Evaluation

Greenhouse Gas Emissions

Impact GHG-1:	**The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.**

GHG emissions associated with development of the proposed project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines. CalEEMod was used to predict GHG emissions from operation of the site assuming full buildout of the proposed project.

Construction

As shown in Table 3.7-4, GHG emissions associated with construction were estimated to be 368 MT of CO_2e for the total construction period. These would represent the GHG emissions generated from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the County nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG

emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Table 3.7-4: Project GHG Emissions: Construction Phase

Year	GHG Emissions MT CO_2e Per Year
2022	120
2023	248
Total Construction Emissions	**368**

Notes:
BAAQMD = Bay Area Air Quality Management District
MT = metric ton
CO_2e = carbon dioxide equivalent
Source: CalEEMod Version 2016.3.2; Appendix B.

Operation

The proposed project would contribute to global climate change through direct and indirect emissions of GHG from transportation sources (passenger vehicles, trucks), energy (natural gas and purchased energy), water use and wastewater generation, and solid waste generation. The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully developed site under the proposed project. As the proposed project is residential in nature, it would be required to comply with the standards contained in the 2019 California Building Code, Title 24, Part 6, Subchapter 8, which requires rooftop solar systems for each dwelling units. Therefore, the annual electricity consumption was estimated utilizing the CalEEMod model and the minimum solar system capacity was calculated to determine how much the required solar system would offset the proposed project's electricity related GHG emissions (Appendix B). According to the CalEEMod model, the proposed project is estimated to consume approximately 635,440 kWh per year, and according to the solar system capacity calculations, the proposed project would generate an estimated 301,400 kWh per year. Therefore, the electricity related GHG emissions estimated for project operation were reduced to reflect the GHG emissions generated from the electricity consumed that would not be covered by the rooftop solar system and are shown below. As shown in Table 3.7-5, the annual GHG emissions resulting from operation of the proposed project are estimated to be 677 MT of CO_2e in 2024 and would exceed the 660 MT CO_2e/year bright-line threshold.

While the proposed project would involve demolition of the existing Palmer School and it is normal practice to include existing emission estimates to demonstrate net GHG emissions resulting from the proposed project, the Palmer School was not in operation at the time the Notice of Preparation (NOP) was issued for this project. Consistent with the BAAQMD's CEQA Air Quality Guidelines,[79] "[t]his net calculation is not permitted for emission sources that ceased to operate, or the land uses

[79] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed September 16, 2021.

were vacated and/or demolished, prior to the circulation of the NOP or the commencement of environmental analysis." Nonetheless, because the school could become operational in the future, operational GHG emission estimates for operation of Palmer School are provided in Table 3.7-6 for information purposes only.

Table 3.7-5: Annual Project GHG Emissions

Emission Source	2024 GHG Emissions Proposed Project (MT CO_2e/year)[1]
Bright-Line Threshold Analysis	
Area	2
Energy (Electricity Only)[2]	29
Mobile	607
Waste	29
Water	10
Total	677
BAAQMD-Adjusted Bright-Line Threshold[3]	660
Exceeds Threshold?	**Yes**
Efficiency Threshold Analysis	
Project Service Population (Employees + Residents)[4]	359
Total GHG Emissions Per Service Population	2.6
Efficiency Threshold[5]	**3.2**
Exceeds Threshold?	**No**

Notes:
BAAQMD = Bay Area Air Quality Management District
MT = metric ton CO_2e = carbon dioxide equivalent
[1] Manual summation of the sources may not equal to the Total due to rounding.
[2] Electricity GHG emissions shown here already account for an approximately 53 percent reduction in building energy-related GHGs resulting from the incorporation of rooftop solar.
[3] BAAQMD Bright-Line Threshold is based on BAAQMD's 1,100 MT CO_2e/year bright-line threshold for AB 32 and the SB 32 GHG reduction target of 40 percent below 1990 levels by year 2030.
[4] The proposed project's service population is based on unincorporated Contra Costa County average persons per household of 2.87 in 2021, as provided by the California Department of Finance.
[5] Efficiency metric threshold is based on unincorporated Contra Costa County forecasted emissions inventory based on its 2005 inventory and consistent with 2030 legislative reduction targets under SB, divided by the County's forecasted 2030 service population.
Source: CalEEMod Version 2016.3.2; Appendix B.

Table 3.7-6: Annual Palmer School GHG Emissions

Emission Source	2024 GHG Emissions Palmer School (MT CO_2e/year)[1]
Area	0
Energy	47
Mobile	928
Waste	34
Water	2
Total	1,011

Notes:
BAAQMD = Bay Area Air Quality Management District
MT = metric ton
CO_2e = carbon dioxide equivalent
[1] Manual summation of the sources may not equal to the Total due to rounding.
Source: CalEEMod Version 2016.3.2; Appendix B.

As illustrated above, the proposed project would result in GHG emissions that would exceed the BAAQMD's significance threshold adjusted for the 2030 legislative GHG reduction targets codified by SB 32. As a result, the proposed project was analyzed against the efficiency threshold which was calculated to demonstrate consistency with the 40 percent below 1990 emission levels reduction target of SB 32. As shown therein, the proposed project would not exceed the efficiency threshold and would be consistent with the GHG emission reductions required under SB 32. This impact would be less than significant.

Level of Significance

Less than significant impact.

GHG Emissions Reduction Plan Consistency

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

The following discusses project consistency with applicable plans adopted for the purpose of reducing GHG emissions, which include ARB's Scoping Plan and the Contra Costa County CAP.

ARB Scoping Plan

The ARB Scoping Plan is the State's strategy to achieve the GHG emissions reduction goals under AB 32 and SB 32, as well as a long-term strategy to achieve the State's overall carbon neutrality goals for 2050 under Executive Order S-03-05. It is applicable to State agencies but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require the County to adopt

policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the State agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other Statewide actions that affect a local jurisdiction's emissions inventory from the top down.

Contra Costa County Climate Action Plan

The County adopted its CAP on December 15, 2015. The CAP is intended to streamline future environmental review of development projects in the County by following the CEQA Guidelines and meeting the BAAQMD expectations for a qualified GHG reduction strategy through the year 2020. While the County's CAP is designed to demonstrate consistency with 2020 GHG reduction targets presented by AB 32, it does not incorporate necessary reductions to meet the 2030 GHG reduction targets codified by SB 32. Therefore, the proposed project's consistency with the County's CAP is analyzed here to determine whether the proposed project is consistent with the local GHG reduction strategy, instead of utilizing the County's CAP for CEQA streamlining purposes. The County's strategy is structured around the following six topic areas: energy efficiency and conservation, renewable energy, land use and transportation, solid waste, water conservation, and government operations.

The proposed project incorporates several design elements that would reduce GHG emissions, such as conformance to the 2019 Building Energy Efficiency Standards and CALGreen building regulations and installation of a photovoltaics (PV) system. In addition, a development checklist under the CAP has been filled out for the proposed project to demonstrate compliance. The proposed project would also be consistent with the measures in the CAP, as identified in Table 3.7-7.

Table 3.7-7: Contra Costa County Climate Action Plan Consistency

Applicable Goals	Measures	Consistency Analysis
Energy Efficiency and Conservation		
Increase energy efficiency in residential and commercial buildingstock, and reduce community-wide electricity and natural gas use.	EE-1: Provide opportunities for residentialbuildings to become more energy efficient.	**Consistent.** The proposed project would comply with the CaliforniaBuilding Code and the 2019 Building Energy Efficiency Standards. This would improve energy efficiency by 10.7 percent and 1 percent for electricity and natural gas, respectively, compared to the 2016 Building Energy Efficiency Standards.
	EE-4: Reduce urban heat islands through vegetation management and cool surfaces.	
Renewable Energy		
Increase the production of renewable energy from small-scale andcommercial-scale renewable energy installations.	RE-1: Promote installation of alternative energy facilities on homes and businesses	**Consistent.** The proposed project would install a PV systemin accordance with the requirements contained in Title 24, Part 6, Subchapter 8, of the 2019 California Building Code.

Applicable Goals	Measures	Consistency Analysis
Land Use and Transportation		
Reduce transportation emissions.	LUT-1: Maintain and expand access to goods, services, and other destinations through increased transportation alternatives (mobility improvements) and improved proximity (land use improvements).	**Consistent**. The proposed project would include a bike repair space on-site, which would further facilitate the use of alternative modes of transportation, such as bicycling.
	LUT-4: Reduce vehicle miles traveled.	**Consistent**. The proposed project site is served by several County Connection bus routes and is located 0.35 mile of a major transit stop, the Pleasant Hill BART station.
Waste Reduction and Recycling		
Increase recyclingand composting inthe commercial sector.	W-1: Develop a waste reduction strategy toincrease recycling and reuse of materials.	**Consistent**. The proposed project site is served by The Central Contra Costa Solid Waste Authority (RecycleSmart). RecycleSmart holds franchise agreements with waste franchises that provide solid waste collection and disposal of residential and commercial solid waste.
Water Conservation		
Conserve water.	WE-1: Reduce water demand.	**Consistent**. The proposed project would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures and water efficient irrigation systems.
Source: Contra Costa County. 2015. December 15. Climate Action Plan. Website: http://www.co.contra-costa.ca.us/DocumentCenter/View/39791. Accessed June 18, 2021.		

Level of Significance

Less than significant impact.

3.7.5 - Cumulative Impacts

GHG emissions and global climate change inherently represent cumulative impacts. GHG emissions cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the GHG emissions from past, present, and future projects and activities have contributed to and would contribute to global climate change and its associated environmental impacts. According to the BAAQMD, project GHG emissions are inherently cumulative and do not require the estimation of cumulative projects in the region of the project. Thus, the determination of GHG cumulative impacts is based on the State target established by AB 32 to reduce GHG emissions to 1990 levels by 2020. In order to ensure that this goal would be achieved, Air Districts and Lead

Agencies developed GHG thresholds to ensure compliance with the State target. Projects with GHG emissions in conformance with these thresholds, therefore, would not be considered significant for purposes of CEQA.

As analyzed in Impact GHG-1, the proposed project would have a GHG emissions benefit when compared to the existing emissions and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Although the emissions from cumulative projects would add an incremental amount to the overall GHG emissions that cause global climate change impacts, emissions from projects consistent with the GHG thresholds would not be a "cumulatively considerable" contribution under CEQA. As such, there would be a less than significant impact related to GHG emissions generation.

Level of Cumulative Significance

Less than significant impact.

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3.8 - Hazards and Hazardous Materials

3.8.1 - Introduction

This section describes the existing hazards and hazardous materials in the project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to hazards and hazardous materials that could result from implementation of the proposed project. Information included in this section is based on a Phase I Environmental Site Assessment and Phase II Environmental Investigation Report (Phase I ESA and Limited Phase II Investigation) prepared by Roux Associates, Inc. (Roux) in August 2021. This report is included as Appendix F.

During the Notice of Preparation (NOP) comment period, the following comment was received related to the proposed project regarding Hazards and Hazardous Materials:

- Concern regarding release of asbestos during demolition could cause permanent damage to the community.

3.8.2 - Environmental Setting

Fundamentals

Hazards

This description of existing conditions focuses on hazards from fire and overhead power lines, as well as hazardous materials and wastes. A hazard is a situation that poses a level of threat to life, health, property, or the environment. Hazards can be dormant or potential, with only a theoretical risk of harm. However, once a hazard becomes active, it can create an emergency. A hazardous situation that has already occurred is called an incident. Emergency response is action taken in response to an unexpected and dangerous occurrence in an attempt to mitigate its impact on people, structures, or the environment. Emergency situations can range from natural disasters to hazardous materials problems and transportation incidents.

Hazards Materials and Wastes

Hazardous materials include but are not limited to hazardous materials, hazardous substances, and hazardous wastes, as defined in Section 25501 and Section 25117, respectively, of the California Health and Safety Code. A hazardous material is any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or to the environment, if released; and any material that a handler or an administering regulatory agency under Health and Safety Code Section 25501 has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment. Various properties of a substance may cause that substance to be considered hazardous, including:

- Toxicity—causes human health effects;
- Ignitability—has the ability to burn;
- Corrosivity—causes severe burns or damage to materials; and
- Reactivity—causes explosions or generates toxic gases.

Hazardous Building Materials

Many older buildings contain building materials consisting of hazardous materials. These materials include lead-based paint (LBP), asbestos-containing material (ACM), and polychlorinated biphenyls (PCBs).

Prior to the United States Environmental Protection Agency (EPA) ban in 1978, LBP was commonly used on interior and exterior surfaces of buildings. Disturbances such as sanding and scraping activities, renovation work, gradual wear and tear, old peeling paint, and paint dust particulates have been found to contaminate surface soils or cause lead dust to migrate and affect indoor air quality. Exposure to residual lead can cause severe health effects, especially in children.

Asbestos is a naturally occurring fibrous material that was extensively used as a fireproofing and insulating agent in building construction materials before such uses were banned by the EPA in the 1970s. In addition, many types of electrical equipment contained PCBs as an insulator, including transformers and capacitors. After PCBs were determined to be a carcinogen in the mid to late 1970s, the EPA banned PCB use in new equipment and began a program to phase out certain existing PCB-containing equipment. For example, fluorescent lighting ballasts manufactured after January 1, 1978, do not contain PCBs, and are required to have a label clearly stating that PCBs are not present in the unit.

Hazardous Substances

A hazardous substance can be any biological, natural, or chemical substance, whether solid, liquid, or gas, which may cause harm to human health. Hazardous substances are classified based on their potential health effects, whether acute (immediate) or chronic (long-term). Dangerous goods are classified based on immediate physical or chemical effects, such as fire, explosion, corrosion, and poisoning. An accident involving dangerous goods could seriously harm human health or damage property or the environment. Harm to human health may happen suddenly (acute), such as dizziness, nausea, and itchy eyes or skin; or it may happen gradually over years (chronic), such as dermatitis or cancer. Some people can be more susceptible than others. Hazardous substances and dangerous goods can include antiseptic used for a cut, paint for walls, a cleaning product for the bathroom, chlorine in a pool, carbon monoxide from a motor vehicle, fumes from welding, vapors from adhesives, or dust from cement, stone, or rubber operations. Such hazardous substances can make humans very sick if they are not used properly.

Hazardous Wastes

Hazardous waste is any hazardous material that is to be discarded, abandoned, or recycled. The criteria that define a material as hazardous also define a waste as hazardous. Specifically, materials and waste may be considered hazardous if they are poisonous (toxic); can be ignited by open flame (ignitable); corrode other materials (corrosive); or react violently, explode, or generate vapors when mixed with water (reactive). Soil or groundwater contaminated with hazardous materials above specified regulatory State or federal thresholds is considered hazardous waste if it is removed from a site for disposal. If handled, disposed, or otherwise handled improperly, hazardous materials and hazardous waste can result in public health hazards if released into the soil or groundwater or through airborne releases in vapors, fumes, or dust. Soil and groundwater having concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as

hazardous waste when excavated or pumped from an aquifer. The California Code of Regulations, Title 22, Sections 66261.20–24 contains technical descriptions of toxic characteristics that could cause soil or groundwater to be classified as hazardous waste.

Hazardous Materials Listing

The Cortese List is a list of known hazardous materials or hazardous waste facilities that meet one or more of the provisions of Government Code Section 65962.5, including:

- The list of hazardous waste and substances sites from the California Department of Toxic Substances Control (DTSC) EnviroStor database.[1]
- The list of Leaking Underground Storage Tank (LUST) sites by County and fiscal year from the California State Water Resources Control Board (State Water Board) GeoTracker database.[2]
- The list of solid waste disposal sites identified by the State Water Board with waste constituents exceeding hazardous waste levels outside the waste management unit.[3]
- The list of active cease-and-desist orders and cleanup and abatement orders from the State Water Board.[4]
- The list of hazardous waste facilities subject to corrective action under Section 25187.5 of the Health and Safety Code, as identified by the DTSC.[5]

Existing Fire-related Conditions and Presence of Hazardous Materials

Hazards in the County and project area discussed in this section are primarily related to fire and hazardous materials. Fire hazards and hazardous materials are typically site-specific, so existing conditions related to fire hazards and the transport, use, and disposal of hazardous materials are discussed below under “project site.”

Fire hazards present a considerable problem to vegetation and wildlife habitats throughout the County. Grassland fires easily ignite, particularly in dry seasons. These fires are relatively easily controlled if they can be reached by fire equipment; the burned slopes, however, are highly subject to erosion and gullying. While brushlands are naturally adapted to frequent light fires, fire protection in recent decades has resulted in heavy fuel accumulation on the ground. Wildfire is a serious hazard in undeveloped areas and on large lot home sites with extensive areas of unirrigated vegetation, particularly near areas of natural vegetation and steep slopes, since fires tend to burn more rapidly on steeper terrain. Wildfire is also a serious hazard in areas of high wind, given that fires will travel faster and farther geographically when winds are higher.

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1 California Department of Toxic Substances Control (DTSC). EnviroStor Database Map. Website: https://www.envirostor.dtsc.ca.gov/public/. Accessed May 12, 2021.
2 California State Water Resources Control Board (State Water Board). GeoTracker Database Map. Website: https://geotracker.waterboards.ca.gov/map/. Accessed May 12, 2021.
3 California Environmental Protection Agency (Cal/EPA). 2020. Regulated Site Portal. Website: https://siteportal.calepa.ca.gov/nsite/map/results. Accessed May 12, 2021.
4 California State Water Resources Control Board (State Water Board). GeoTracker Database Map. Website: https://geotracker.waterboards.ca.gov/map/. Accessed May 12, 2021.
5 California Environmental Protection Agency (Cal/EPA). Hazardous Waste and Substances Site List (“Cortese” list of sites subject to Corrective Action pursuant to Health and Safety Code 25187.5). Website: https://www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST. Accessed May 12, 2021.

Contra Costa County

Contra Costa County (County) contains extensive heavy industrial development that may be associated with hazardous materials uses along its west and north coasts. These heavy industrial uses present potential risks to public safety due to explosion and flammability of petroleum and chemical materials.[6] In addition, storage tanks and pipelines are located throughout the County and could present public safety risks due to geologic conditions. The County does not designate any routes for hazardous material transportation.[7]

Hazardous materials such as asbestos and lead are also likely present in building materials and paints in older structures. Emergency response in the County is coordinated by the Contra Costa County Fire Protection District (CCCFPD). The CCCFPD provides response services to hazardous materials incidents, as well as fire protection and emergency medical services, as discussed further in Section 3.13, Public Services and Recreation.

Project Site

In 2021, a Phase I ESA and Limited Phase II Investigation was prepared by Roux Environmental Consulting and Management (Roux) for the project site in accordance with the American Society of Testing and Materials (ASTM) Standard E 1527-13 and the EPA's All Appropriate Inquiries rule adopted November 2013 (Appendix F).[8] Roux reviewed prior site investigation documents, aerial photographs, topographic maps, Sanborn fire insurance maps, and agency files. Roux reviewed records available at local and regional public agencies through website research, office visits, telephone or written contacts, and environmental database searches. Roux interviewed knowledgeable persons about the site and conducted a site reconnaissance on July 31, 2020, to observe existing property conditions, including the presence of hazardous materials and/or wastes. The findings of these reviews and interviews lead Roux to identify one Recognized Environmental Conditions (REC) and two Business Environmental Risks (BERs) at the project site. Finally, to assess the REC and one of the BERs, Roux conducted subsurface investigations between August and December 2020.[9]

Databases searches did not yield records of underground storage tanks (USTs) or LUSTs. However, the project site owner, who escorted Roux personnel on two site visits in July and August 2020, stated that a 50-gallon UST was removed from the site approximately 25 years earlier. Based on the relatively small size of the UST, it was removed without regulatory oversight. The project site owner stated no staining or odors were observed in the underlying soil once the UST was removed. Although the UST was small and no impacts were reportedly observed, the UST was removed without proper oversight and no soil samples were collected below the UST. Files provided by the CCCFPD did not reveal records associated with the project site or this UST. Although no indication of a release has been reported at the project site and the tank was relatively small, it is possible that releases from the gasoline UST could have historically occurred, which is considered a REC.

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[6] California Environmental Protection Agency (Cal/EPA). Hazardous Waste and Substances Site List ("Cortese" list of sites subject to Corrective Action pursuant to Health and Safety Code 25187.5). Website: https://www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST. Accessed May 12, 2021.

[7] Ibid.

[8] Roux Associates, Inc. 2021. Phase I Environmental Site Assessment and Focused Phase II Environmental Investigation Report 2740 Jones Road Walnut Creek, California. August 23.

[9] Ibid.

During a soil investigation conducted on August 14, 2020, Roux advanced five soil borings (RB-1 through RB-5) to 3 feet below ground surface (bgs) using a hand auger. One of the borings, RB-2, located at the approximate location of the former UST, was additionally advanced from 3 to 5 feet bgs using a direct push technology rig and converted into a temporary 5-foot soil vapor probe. Based on an elevated benzene concentration found in the soil vapor sample collected from RB-2, additional soil sampling took place on October 7, 2020, when four soil borings, RB-6 through RB-9, located around RB-2, were advanced to 5 feet bgs and converted into a 5-foot temporary soil vapor probes. Additionally, on December 15, 2020, Roux conducted groundwater sampling was conducted in the vicinity of boring RB-2.

Concentrations detected in soil vapor samples (collected at the approximate location of the former UST) were compared to Regional Water Quality Control Board (RWQCB) February 2019 Residential Vapor Intrusion Environmental Screening Levels (ESLs). Based on the results of the additional investigation, benzene in soil vapor from all five soil vapor probes (RB-2 and RB-6 through RB-9) exceeded the RWQCB Residential ESL. However, these concentrations are relatively low and oxygen concentrations in soil vapor indicate that conditions in soil in the vicinity of RB-2 are favorable to the natural degradation of petroleum hydrocarbons. In addition, groundwater investigation confirmed that no benzene source exists in groundwater in the vicinity of RB-2.

Benzene detection in the ground water sample was below the RWQCB Vapor Intrusion ESL. No other volatile organic compounds were detected in the grab groundwater sample. Based on the results of the additional investigation, benzene in soil vapor from all five soil vapor probes (RB-2 and RB-6 through RB-9) exceeded the RWQCB Residential ESL. However, the concentrations were relatively low and oxygen concentrations in soil vapor indicate that conditions in soil in the vicinity of RB-2 are favorable to the natural degradation of petroleum hydrocarbons. In addition, the groundwater investigation confirmed that no benzene source exists in groundwater in the vicinity of RB-2. However, soil aeration should be completed as mitigation to address the benzene detected in soil vapor. The project site was utilized for orchards between 1939 and the 1960s. Potential residual pesticide impacts in shallow soils is considered by Roux to be a BER. During the soil sampling discussed above, and to assess if shallow soil has been impacted by historical agricultural use, soil samples were collected from borings RB-1 through RB-5, located throughout the project site. Soil samples were taken at 1 and 3 feet bgs.

Concentrations detected in soil were compared to the RWQCB February 2019 Residential Soil Direct Exposure ESLs as well as the San Francisco Bay Area natural background concentrations in soil, specifically for arsenic. The soil sampling results indicate that all detections, including pesticides, metals, total petroleum hydrocarbons (TPH), and volatile organic compounds (VOCs), were below the applicable Residential ESLs background levels, and arsenic concentrations were below natural background concentration. These results include samples collected from RB-2, RB-6, and RB-9 based on elevated photo ionization detector (PID) readings during logging.

Three irrigation wells were observed at the project site. One of the wells is located in the former school courtyard in the southern portion of the project site, reportedly set at a depth of approximately 60 feet bgs, according to the project site owner. Accompanying the well is a filter and a pressure tank. The remaining two irrigation wells are located closer to the northern boundary of

the project site behind the buildings at 2747 Oak Road and 2771 Oak Road, and are reportedly not active and the depths are unknown. The well behind 2771 Oak Road is uncovered. Roux identified these wells as a BER, stating that these wells would need to be properly decommissioned prior to redevelopment.

A public records search of the DTSC indicated that the facility had an active listing in the Hazardous Waste Tracking System (HAZNET) in 2012. The project site owner was interviewed as part of the Phase I ESA and Limited Phase II Investigation and stated that he does not have information regarding this listing.

Additional site observations identified in the Phase I ESA and Limited Phase II Investigation include the following:

- No hazardous substances were observed on-site other than small containers of conventional cleaning supplies and insecticides.
- Several transformers were observed outside the project site on utility poles along Oak Road; however, they appeared to be in good condition and are too high to pose a leaking risk to the soil or groundwater.
- No staining or stressed vegetation was observed at the project site.
- Several drains were located within bathroom spaces and outside in the paved courtyard area; however, no staining was observed around the drains.
- Garbage collection services ceased at the project site around June 2020, following the closure of the Palmer School.
- No wastewater processes were observed on the project site.

Radon

Radon is a carcinogenic, radioactive gas resulting from the natural breakdown of uranium in soil, rock, and water. Radon gas enters a building through cracks in foundations and walls. Once inside the building, radon decay products may become attached to dust particles and inhaled, or the decayed radioactive particles alone may be inhaled and cause damage to lung tissue. The EPA has established a safe radon exposure threshold of 4 picocuries per liter of air (pCi/l).

The California Department of Public Health has conducted more than 48,000 indoor radon tests in more than 1,700 zip codes throughout the State.[10] Table 3.8-1 summarizes indoor radon tests conducted in the four Walnut Creek zip codes. Approximately 7 percent of the indoor radon tests yielded results above 4 pCi/l. The California Department of Public Health classifies areas with 0 to 7 percent of samples exceeding 4 pCi/l to be areas of low radon potential.

[10] California Department of Public Health. 2016. California Indoor Radon Test Results. February. Website: https://www.cdph.ca.gov/Programs/CEH/DRSEM/CDPH%20Document%20Library/EMB/Radon/Radon%20Test%20Results.pdf. Accessed June 16, 2021.

Table 3.8-1: Indoor Radon Test Levels

Zip Code	No. of Indoor Test Results	No. of Test Results ≥ 4 pCi/L
94595 (Saranap/Rossmoor)	9	1
94596 (Downtown)	39	1
94597 (Contra Costa Centre)	52	5
94598 (Ygnacio Valley)	39	3
Total	**139**	**10 (7%)**

Notes:
pCi/L = picocuries per liter
Project site is located in the 94597 zip code.
Source: California Department of Public Health 2016.

Low Frequency Electromagnetic Fields

Electrical transmission and distribution lines emit extremely low frequency electromagnetic fields (EMFs), which have been suspected to be linked to cancer. However, scientific research has never conclusively established a link between EMFs and cancer. In 2007, the World Health Organization (WHO) issued a report titled "Environmental Health Criteria 238, Extremely Low Frequency Fields"[11] that concluded that evidence between extremely low frequency EMFs and childhood leukemia is not strong enough to be considered causal, although it did note that the issue still was of concern. The same report indicated that there is inadequate evidence or no evidence linking low frequency EMFs and health effects associated with all other diseases.

A high voltage power line parallels the Iron Horse Trail approximately 800 feet east of the project site.

3.8.3 - Regulatory Framework

Federal

Occupational Health and Safety Act

The Occupational Safety and Health Administration (OSHA) of the United States Department of Labor is responsible for implementing and enforcing federal laws and regulations that address worker health and safety. OSHA requires specific training for hazardous materials users and handlers, provision of information (procedures for personal safety, hazardous materials storage and handling, and emergency response) to employees who may be exposed to hazardous materials, and acquisition of Material Safety Data Sheets (MSDS) from materials manufacturers. MSDS describe the risks, as well as proper handling and procedures, related to hazardous materials. Employee training must include response and remediation procedures for hazardous material releases and exposures. Construction workers and operational employees at the project site would be subject to these requirements.

[11] World Health Organization (WHO). 2007. Environmental Health Criteria 238, Extremely Low Frequency Fields. Website: https://www.who.int/peh-emf/publications/Complet_DEC_2007.pdf. Accessed June 16, 2021.

Code of Federal Regulations, Titles 29 and 40

Regulations in Code of Federal Regulations Title 29 include requirements to manage and control exposure to LBP and ACM. In California, these requirements are implemented by Cal/OSHA under California Code of Regulations Title 8 (see further discussion of California Code of Regulations Title 8 below). The removal and handling of ACM is governed primarily by EPA regulations under Code of Federal Regulations Title 40. The regulations require that the appropriate State agency be notified before any demolition, or before any renovations, of buildings that could contain asbestos or ACM above a specified threshold.

Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act

The EPA is responsible for implementing and enforcing federal laws and regulations pertaining to hazardous materials. The primary legislation includes the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) and the Emergency Planning and Community Right-to-Know Act (known as SARA Title III). RCRA and the 1984 RCRA amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes and mandate that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment, including detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities. As permitted by RCRA, in 1992, the EPA approved California's program called the Hazardous Waste Control Law (HWCL), administered by the DTSC, to regulate hazardous wastes in California, as discussed further below. The purpose of CERCLA is to identify and clean up chemically contaminated sites that pose a significant environmental health threat, and the Hazard Ranking System is used to determine whether a site should be placed on the National Priorities List for cleanup activities. SARA relates primarily to emergency management of accidental releases and requires annual reporting of continuous emissions and accidental releases of specified compounds that are compiled into a nationwide Toxics Release Inventory. Finally, SARA Title III requires formation of State and local emergency planning committees that are responsible for collecting material handling and transportation data for use as a basis for planning and provision of chemical inventory data to the community at large under the "right-to-know" provision of the law.

Hazardous Materials Transportation Act

Under the Hazardous Materials Transportation Act of 1975, the United States Department of Transportation (USDOT), Office of Hazardous Materials Safety regulates the transportation of hazardous materials on water, rail, highways, through air, or in pipelines, and enforces guidelines created to protect human health and the environment and reduce potential impacts by creating hazardous material packaging and transportation requirements. It also includes provisions for material classification, packaging, marking, labeling, placarding, and shipping documentation. The USDOT provides hazardous materials safety training programs and supervises activities involving hazardous materials. In addition, the USDOT develops and recommends regulations governing the multimodal transportation of hazardous materials.

Aboveground Petroleum Storage Act, and Spill Prevention, Control, and Countermeasure Rule

The Aboveground Petroleum Storage Act of 1990, and the Spill Prevention, Control, and Countermeasure (SPCC) Rule (amended 2010) of the Oil Pollution Prevention regulation (40 Code of Federal Regulations [CFR] Part 112) require the owner or operator of a tank facility with an aggregate storage capacity greater than 1,320 gallons to notify the local Certified Unified Program Agency (CUPA) and prepare an SPCC Plan. The SPCC Plan must identify appropriate spill containment measures and equipment for diverting spills from sensitive areas and must discuss facility-specific requirements for the storage system, inspections, recordkeeping, security, and training.

Clean Water Act

The Clean Water Act (CWA) (Title 33 § 1251 *et seq*. of the United States Code [33 USC 1251, *et seq*.]) is the major federal legislation governing water quality. The CWA established the basic structure for regulating discharges of pollutants into waters of the United States (not including groundwater). The objective of the act is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters."[12] The CWA establishes the basic structure for regulating the discharge of pollutants into waters of the United States. Responsibility for administering the CWA resides with the State Water Board and nine RWQCBs; the San Francisco Bay RWQCB administers the CWA for western Contra Costa County. Section 404 of the CWA regulates temporary and permanent fill and disturbance of waters of the United States, including wetlands. The United States Army Corps of Engineers (USACE) requires that a permit be obtained if a project proposes to place fill in navigable waters and/or to alter waters of the United States below the ordinary high-water mark in non-tidal waters. Section 401 of the CWA requires compliance with State water quality standards for actions within State waters. Compliance with the water quality standards required under Section 401 is a condition for issuance of a Section 404 permit. Under Section 401 of the CWA, every applicant for a permit or license for any activity that may result in a discharge to a water body must obtain a State water quality certification from the RWQCB to demonstrate that the proposed activity would comply with State water quality standards.

State

California Hazardous Waste Control Law

The HWCL is the primary hazardous waste statute in the State of California and implements RCRA as a "cradle-to-grave" waste management system for handling hazardous wastes in a manner that protects human health and the environment and reduces potential resulting impacts of hazardous waste. The law specifies that generators of hazardous waste have the primary duty to determine whether their waste is hazardous and to ensure proper management. The HWCL also establishes criteria for the reuse and recycling of hazardous waste used or reused as raw materials. The law exceeds federal requirements by mandating source reduction planning and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates several types of waste and waste management activities that are not covered by federal law.

[12] United States Environmental Protection Agency (EPA). 2018. Clean Water Act (CWA) and Federal Facilities. Website: https://www.epa.gov/enforcement/clean-water-act-cwa-and-federal-facilities#:~:text=CWA%20is%20the%20primary%20Federal,in%20compliance%20with%20a%20permit. Accessed May 12, 2021.

California Health and Safety Code

The California Health and Safety Code (Health and Safety Code [HSC] § 25141)[13] defines hazardous waste as a waste or combination of waste that may:

> . . . because of its quantity, concentration, or physical, chemical, or infection characteristics:
>
> (1) Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitation-reversible illness.
>
> (2) Pose a substantial present or potential hazard to human health or the environment, due to factors including but not limited to carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of or otherwise managed.

These regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management practices for hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous waste that commonly would be disposed of in landfills.

Under both the RCRA and the HWCL, hazardous waste manifests must be retained by the generator for a minimum of 3 years. The generator must match copies of the manifests with copies of manifest receipts from the treatment, disposal, or recycling facility.

In accordance with Chapter 6.11 of the California Health and Safety Code (HSC § 25404, *et seq*.), local regulatory agencies enforce many federal and State regulatory programs through the CUPA program, including:

- Hazardous Materials Business Plans (HMBPs) (HSC § 25501, *et seq*.);
- Uniform Fire Code requirements (Uniform Fire Code [UFC] § 80.103, as adopted by the State Fire Marshal under HSC § 13143.9);
- Underground storage tanks (HSC § 25280, *et seq.*);
- Aboveground storage tanks (HSC § 25270.5(c)); and
- Hazardous waste generator requirements (HSC § 25100, *et seq.*).

Contra Costa Health Services Hazardous Materials Division is the CUPA for the County. As the CUPA, they enforce State statutes and regulations through the Hazardous Materials Unified Program Agency, which oversees aboveground petroleum tanks; generation of hazardous materials; storage and treatment; USTs; generation of medical waste; the accidental release prevention program; and Local Oversight Program. If a facility ever handles any individual hazardous material in an aggregate amount equal to or greater than 55 gallons (liquids), 500 pounds (solids), or 200 cubic feet (gases), an HMBP must be submitted. An HMBP must include:

[13] FindLaw. 2020. California Code, Health and Safety Code - HSC § 25141. Website: https://codes.findlaw.com/ca/health-and-safety-code/hsc-sect-25141.html. Accessed May 12, 2021.

- Details that include facility floor plans and identify the business conducted at the site.
- An inventory of hazardous materials handled or stored on the site.
- An emergency response plan.
- A training program in safety procedures and emergency response for new employees who may handle hazardous materials, with an annual refresher course in the same topics for those same employees.

California Code of Regulations, Title 8

Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations. These regulations concern the use of hazardous materials in the workplace, including requirements for employee safety training; availability of safety equipment; accident and illness prevention programs; hazardous substance exposure warnings; and preparation of emergency action and fire prevention plans.

Cal/OSHA also enforces hazard communication program regulations, including procedures for identifying and labeling hazardous substances, and requires that MSDS be available for employee information and training programs. Cal/OSHA standards are generally more stringent than federal regulations. Construction workers and operational employees at the project site would be subject to these requirements.

California Code of Regulations, Title 8, Section 1529 authorizes Cal/OSHA to implement the survey requirements of Code of Federal Regulations Title 29 relating to asbestos. These federal and State regulations require facilities to take all necessary precautions to protect employees and the public from exposure to asbestos. Workers who conduct asbestos abatement must be trained in accordance with federal and State OSHA requirements. The Bay Area Air Quality Management District (BAAQMD) oversees the removal of regulated ACMs (see "Asbestos Demolition, Renovation, and Manufacturing Rule" below).

California Code of Regulations Title 8, Section 1532.1 includes requirements to manage and control exposure to LBP. These regulations cover the demolition, removal, cleanup, transportation, storage, and disposal of lead-containing material. The regulations outline the permissible exposure limit, protective measures, monitoring, and compliance to ensure the safety of construction workers exposed to lead-based material. Loose and peeling LBP must be disposed of as a State and/or federal hazardous waste if the concentration of lead equals or exceeds applicable hazardous waste thresholds. Federal and State OSHA regulations require a supervisor who is certified in identifying existing and predictable lead hazards to oversee air monitoring and other protective measures during demolition activities in areas where LBP may be present. Special protective measures and notification of Cal/OSHA are required for highly hazardous construction tasks related to lead, such as manual demolition, abrasive blasting, welding, cutting, or torch burning of structures, where LBP is present.

California Code of Regulations Title 22, Division 4.5

California Code of Regulations Title 22, Division 4.5 contains the Environmental Health Standards for the Management of Hazardous Waste, which includes California waste identification and classification regulations. California Code of Regulations, Title 22, Chapter 11, Article 3, "Soluble Threshold Limits Concentrations/Total Threshold Limits Concentration Regulatory Limits," identifies the concentrations at which soil is determined to be a California hazardous waste. California's Universal Waste Rule (22 CCR § 66273) provides an alternative set of management standards in lieu of regulation as hazardous wastes for certain common hazardous wastes, as defined in California Code of Regulations, Title 22, Section 66261.9. Universal wastes include fluorescent lamps, mercury thermostats, and other mercury-containing equipment. Existing structures may contain fluorescent light ballasts that could contain mercury or lead. The Alternative Management Standards for Treated Wood Waste (22 CCR § 67386) were developed by the DTSC to allow for disposal of treated wood as a non-hazardous waste, to simplify and facilitate the safe and economic disposal of such waste. Chemically treated wood can contain elevated levels of hazardous chemicals (e.g., arsenic, chromium, copper, pentachlorophenol, or creosote) that equal or exceed applicable hazardous waste thresholds. The Alternative Management Standards provide for less stringent storage requirements and extended accumulation periods, allow shipments without a hazardous waste manifest and a hazardous waste hauler, and allow disposal at specific non-hazardous waste landfills.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State must adopt water quality policies, plans, and objectives that protect the State's waters for the use and enjoyment of the people. Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The RWQCBs are required to formulate and adopt water quality control plans (also known as basin plans) for all areas of the region and establish water quality objectives in the plans. The Porter-Cologne Act sets forth the obligations of State Water Board and RWQCBs to adopt and periodically update water quality control plans that recognize and reflect the differences in existing water quality, the beneficial uses of the region's groundwater and surface water, and local water quality conditions and problems. It also authorizes the State Water Board and RWQCBs to issue and enforce waste discharge requirements and to implement programs for controlling pollution in State waters. Finally, the Porter-Cologne Act also authorizes the State Water Board and RWQCBs to oversee site investigation and cleanup for unauthorized releases of pollutants to soils and groundwater and in some cases to surface waters or sediments.

California Emergency Response Plan

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local governments and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the California Governor's Office of Emergency Services, which coordinates the responses of other agencies. The Contra Costa County Office of the Sheriff's Emergency Services Division coordinates response to emergencies in unincorporated areas of the County. Emergency response team members respond and work with local fire and police agencies, emergency medical providers, the California Highway Patrol, California

Department of Forestry and Fire Protection (CAL FIRE), the California Department of Fish and Wildlife (CDFW), and the California Department of Transportation (Caltrans).

California Department of Forestry and Fire Protection

CAL FIRE has mapped fire threat potential throughout California. CAL FIRE maps fire threat based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The threat levels include no fire threat, moderate, high, and very high fire threat. Further, the maps designate the County as the Local Responsibility Area (LRA) for the project site. Additionally, CAL FIRE produced a 2010 Strategic Fire Plan for California, which contains goals, objectives, and policies to prepare for and mitigate the effects of fire on California's natural and built environments. CAL FIRE's Office of the State Fire Marshal provides oversight of enforcement of the California Fire Code as well as overseeing hazardous liquid pipeline safety.

California Building Standards Code

The State of California provided a minimum standard for building design through the 2019 California Building Standards Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations. The 2019 CBC is based on the 2018 International Building Code, but has been modified for California conditions. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local City and County building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all new high-rise buildings and residential buildings; the establishment of fire resistance standards for fire doors, building material; and specific types of construction.

California Public Resources Code

The California Public Resources Code includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that use an internal combustion engine; [14] specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on-site for various types of work in fire-prone areas.

These regulations include the following:

- Earthmoving and portable equipment with internal combustion engines shall be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (Public Resources Code [PRC] § 4442).
- Appropriate fire suppression equipment shall be maintained during the highest fire danger period—from April 1 to December 1 (PRC § 4428).
- On days when a burning permit is required, flammable materials shall be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor shall maintain the appropriate fire suppression equipment (PRC § 4427).

[14] A spark arrestor is a device that prohibits exhaust gases from an internal combustion engine from passing through the impeller blades where they could cause a spark. A carbon trap is commonly used to retain carbon particles from the exhaust.

- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines shall not be used within 25 feet of any flammable materials (PRC § 4431).

Regional

BAAQMD Asbestos Demolition, Renovation, and Manufacturing Rule

The removal of building ACMs is subject to the limitations of BAAQMD Regulation 11, Rule 2, "Hazardous Materials; Asbestos Demolition, Renovation, and Manufacturing." This rule prohibits visible emissions to outside air from any operation involving the demolition of any structure containing asbestos, and sets out requirements for demolition of such structures, including a pre-demolition survey conducted by a certified professional. All friable (i.e., crushable by hand) or non-friable ACMs that may be damaged must be abated before demolition in accordance with applicable requirements. Friable ACMs must be disposed of as asbestos waste at an approved facility. Non-friable ACMs may be disposed of as non-hazardous waste at landfills that accept such wastes.

Association of Bay Area Governments Hazard Mitigation Plan

The Association of Bay Area Governments (ABAG) multi-jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area was updated in 2010 in partnership with the Bay Conservation and Development Commission. Adapting to Rising Tides Program to support local governments in the regional plan for existing and future hazards of climate change. This detailed 5-year plan identifies potential natural and human-made hazards, assesses their potential risks, and includes mitigation methods to reduce risks. The potential hazards identified in the plan include earthquakes and liquefaction, wildfires, floods, drought, solar storms, dam or levee failure, disease outbreak, freezes, wind, heat, thunder and lightning storms, siltation, tornadoes, hazardous materials, slope failure and mudflows, and other hazards. Similarly, mitigation measures include hazard event planning, emergency preparedness coordination, education, facility upgrades, and monitoring actions.

Local

Contra Costa County Hazard Mitigation Plan

Contra Costa County and a partnership of local governments within the County have developed a Hazard Mitigation Plan (HMP) to reduce future losses resulting from disasters. Hazard mitigation is the use of long- and short-term strategies to reduce the loss of life, personal injury, and property damage that can result from a disaster. It involves planning efforts, policy changes, programs, capital projects, and other activities that can mitigate the impacts of hazards. The HMP contains the following goals aimed at reducing the vulnerability from natural hazards within the County in a cost-effective manner:

Goal 1 Save, or protect lives and reduce injury.

Goal 2 Increase resilience of infrastructure and critical facilities.

Goal 3 Avoid, minimize, or reduce damage to property.

Goal 4 Encourage the development and implementation of long-term, cost-effective, and environmentally sound mitigation projects.

Goal 5 Build and support capacity to enable local government and the public to prepare, respond, and recover from the impact of natural hazards.

Contra Costa County Emergency Operations Plan

The Contra Costa County Operational Area Emergency Operations Plan (EOP) addresses response to emergency incidents affecting the County. The Contra Costa Operational Area consists of the cities/towns, special districts, reclamation districts, municipal improvement districts and the unincorporated areas within the County. The EOP is based on the functions and principles of the California Standardized Emergency Management System, the National Incident Management System, and the Incident Command System. It identifies how the County emergency operational system fits into the overall California and national risk-based, all-hazard emergency response and recovery operations plans.

Contra Costa County General Plan

The General Plan establishes the following goals, policies, and implementation measures related to hazards and hazardous materials relevant to this analysis:

Hazardous Materials Uses

Goal 10-I To provide public protection from hazards associated with the use, transport, treatment, and disposal of hazardous substances.

Goal 10-N To provide for a continuing high level of public protection services and coordination of services in a disaster.

Policies

Policy 10-62 Storage of hazardous materials and wastes shall be strictly regulated.

Policy 10-68 When an emergency occurs in the transportation of hazardous materials, the County Office of Emergency Services shall be notified as soon as possible.

Policy 10-86 In order to ensure prompt public protection services, dwelling unit numbers shall be required to be easily seen from the street or road.

Fire Protection

Goal 7-AA To incorporate requirements for fire-safe construction into the land use planning and approval process.

Goal 7-AD To provide special fire protection for high-risk land uses and structures.

Policies

Policy 7-64 New development shall pay its fair share of costs for new fire protection facilities and services.

Policy 7-66 Sprinkler systems may be required in new residential structures, where necessary to protect health, safety, and welfare.

Policy 7-81 All structures located in Hazardous Fire Areas, as defined in the Uniform Fire Code, shall be constructed with fire-resistant exterior materials, such as fire-safe roofing, and their surroundings are to be irrigated and landscaped with fire-resistant plants, consistent with drought resistance and water conservation policies.

Policy 10-89 Every high-rise building shall be designed and constructed to provide for the evacuation of occupants and/or for the creation of a safe environment in case of a substantial disaster, such as a severe earthquake or fire.

Implementation Measures

Implementation Measure 7-at

The Conservation and Development Department shall include fire agency code requirements requested by the districts as advisory notes to the applicant within proposed conditions of project approval when the Planning Agency is considering subdivisions, development plans, use permits and other entitlement requests.

Implementation Measure 7-au

Fire protection agencies shall be afforded the opportunity to review projects and submit conditions of approval for consideration to determine whether:

- There is an adequate water supply for firefighting;
- Road widths, road grades and turnaround radii are adequate for emergency equipment; and
- Structures are built to the standards of the Uniform Building Code, the Uniform Fire Code, other State regulations, and local ordinances regarding the use of fire-retardant materials and detection, warning, and extinguishment devices.

Public Facilities/Services Element

Policies

Policy 7-64 New development shall pay its fair share of costs for new fire protection facilities and services.

Policy 7-72 Special fire protection measures shall be required in high-risk uses (e.g., mid-rise and high-rise buildings, and those developments in which hazardous materials are used and/or stored) as conditions of approval or else be available by the district prior to approval.

Policy 7-81 All structures located in Hazardous Fire Areas, as defined in the Uniform Fire Code, shall be constructed with fire-resistant exterior materials, such as fire-safe roofing, and their surroundings are to be irrigated and landscaped with fire-resistant plants, consistent with drought resistance and water conservation policies.

Safety Element

Goal 10-I To provide public protection from hazards associated with the use, transport, treatment, and disposal of hazardous substances.

Goal 10-N To provide for a continuing high level of public protection services and coordination of services in a disaster.

Policies

Policy 10-62 Storage of hazardous materials and wastes shall be strictly regulated.

Policy 10-67 In order to provide for public safety, urban and suburban development should not take place in areas where they would be subject to safety hazards from oil and gas wells. Development near oil and gas wells should meet recognized safety standards.

Policy 10-69 Industry should be encouraged to utilize underground pipelines, rail, and water transportation of hazardous materials to the greatest extent feasible to take advantage of the greater separation from the general public provided by these modes of transportation.

Policy 10-86 In order to ensure prompt public protection services, dwelling unit numbers shall be required to be easily seen from the street or road.

Contra Costa County Ordinance Code

Division 450, Hazardous Materials and Wastes, of the Ordinance Code provides regulations regarding hazardous material response plans, inventories, underground storage, and risk management. In part, this Ordinance Code requires that any business that handles a specific quantity of hazardous materials establish a HMBP for emergency response to a release or threatened release of a hazardous material.

3.8.4 - Impacts and Mitigation Measures

Significance Criteria

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist, to determine whether impacts related to hazards and hazardous materials have significant environmental effects, the following questions are analyzed and evaluated. Would the proposed project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

d) Be located on a site which is included on a list of hazardous materials sites compiled under Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working the project area?

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury, or death involving wildland fires?

Approach to Analysis

This evaluation focuses on whether the proposed project would result in changes to the physical environment that would cause or exacerbate adverse effects related to the use, transportation, disposal, accidental release, or emission of hazardous materials. The evaluation also includes a determination of whether the proposed project would result in changes to the physical environment, or would impair or interfere with emergency response plans, or would expose people or structures to increased wildfire hazards or dangers from overhead power lines. For the evaluation of potential construction-related and operational impacts from existing hazardous materials in project site soils, sediments, groundwater, surface water, and structures, the results of environmental sampling are compared to identified screening levels. The following analysis is based, in part, on information provided by the General Plan and the Phase I ESA prepared for the proposed project.

Additional analyses regarding hazards and health risk related to emissions of toxic air contaminants (TACs) are addressed in Section 3.2, Air Quality. Flooding and inundation hazards, including those related to erosion and mudflow, are addressed in Section 3.9, Hydrology and Water Quality. Transportation-related safety hazards are addressed in Section 3.14, Transportation. Other geotechnical-related safety hazards, such as earthquakes, are addressed in Section 3.6, Geology and Soils. Finally, excessive noise exposure with respect to airport use or air traffic is addressed in Section 3.11, Noise.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of hazards and hazardous materials impacts resulting from implementation of the proposed project.

- Routine transport, use, and/or disposal of hazardous materials.
- Regular transport of hazardous materials to/from the project site on an unsuitable road or use of highly volatile hazardous materials.
- Location within 0.25-mile of an existing or proposed school in conjunction with hazardous emissions or handle hazardous materials, waste, or substances.

- Listing on hazardous materials site list and distance of project site to listed hazardous material sites. These lists include the following:
  - The California Environmental Protection Agency (Cal/EPA)
  - California Facility Inventory Database (CA FID) UST and State Water Efficiency and Enhancement Program (SWEEP)
  - Hazardous Waste Tracking System
  - DTSC EnviroStor and BAAQMD
  - State Water Board GeoTracker regulated facilities databases for files related to possible RECs
- Location proximate to an airport and reduction of safety of people working or residing in the area.
- Impairing implementation of or interference with an adopted emergency response plan or emergency evacuation plan via blockage of an evacuation route or provision of only one access point for emergency vehicles.
- Placement of structures in a designated wildland fire urban interface zone or proximate to unmanaged open space area that is susceptible to wildfires.

Impact Evaluation

Routine Transport, Use, or Disposal of Hazardous Materials

Impact HAZ-1:	**The proposed project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.**

Construction

During construction, both within the project site and within the areas proposed for the off-site improvements, the proposed project would be expected to involve the transport, use, and disposal of hazardous materials, such as diesel fuels, aerosols, and paints. The proposed project would be subject to the Hazardous Materials Transportation Act, California Public Resources Code, and other State and local regulations that would reduce and limit the associated risks. Any handling, transporting, use, or disposal would comply with applicable laws, policies, and programs set forth by various federal, State, and local agencies and regulations, including the EPA, RCRA, Caltrans, and HMP.

During project site preparation, all existing structures, pavement, and landscaping would be demolished. Given the age of the existing structures on the project site, it is conceivable that ACM and LBP may exist within these structures, and their removal could potentially create a significant hazard to construction workers. This represents a potentially significant impact. However, implementation of Mitigation Measure (MM) HAZ-1a, which requires the applicant to conduct asbestos and lead paint surveys prior to demolition activities and to safely remove and dispose of any such materials in accordance with State standards, would ensure impacts are reduced to a less than significant level.

As described in the Phase I ESA and Limited Phase II Investigation, no hazardous materials other than small containers of conventional cleaning supplies and insecticides were observed at the project site. With implementation of HAZ-1b, which would require proper removal and disposal of these existing materials, impacts related to these potential hazards would be less than significant.

As described in the Phase I ESA and Limited Phase II Investigation, three irrigation wells were observed on-site: One at a depth of approximately 60 feet bgs and accompanied by a filter and a pressure tank, and two of unknown depths. In addition, one of these wells was observed to be uncovered. Should these groundwater irrigation wells be encountered during ground-disturbing activities, construction workers could potentially be exposed to a significant hazard. This represents a potentially significant impact. Therefore, MM HAZ-1c would be implemented, which requires proper closure of the three irrigation wells in accordance with local, State, and federal regulations. With implementation of MM HAZ-1c, impacts related to the irrigation wells would be less than significant.

As described in the Phase I ESA and Limited Phase II Investigation, a 50-gallon UST was removed from the site approximately 25 years ago without regulatory oversight. Although no indication of a release has been reported and the tank was relatively small, it is possible that releases from the gasoline UST could have historically occurred, which is considered a REC. Benzene concentrations in soil vapor from all five soil vapor probes in the vicinity of the former UST (RB-2 and RB-6 through RB-9) exceeded the RWQCB Residential ESL. While concentrations were relatively low and oxygen concentrations in soil vapor indicate that conditions in soil in the vicinity of RB-2 are favorable to the natural degradation of petroleum hydrocarbons, this represents a potentially significant impact for construction workers. With implementation of HAZ-1d, which would require soil aeration, impacts related to these potential hazards would be less than significant.

With implementation of MM HAZ-1a, MM HAZ-1b, MM HAZ-1c, and MM HAZ-1d, construction-related impacts associated with hazardous materials on the project site would be considered less than significant.

Operation

During project operations, hazardous materials may be handled on the project site. Because of the nature of the project, hazardous materials used on-site may vary but would likely be limited to small quantities of fertilizers, herbicides, pesticides, solvents, cleaning agents, and similar materials used for daily residential operations and maintenance activities. These types of materials are common for residential developments such as the project and represent a low risk to people and the environment when used as intended. Further, compliance with applicable plans and regulations, including the Contra Costa County General Plan (General Plan) policies, would provide public protection from hazards associated with the use, transport, treatment, and disposal of hazardous substances. Therefore, operational impacts related to public hazard risk as a result of hazardous materials transport, use, or disposal would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM HAZ-1a Conduct Asbestos and Lead Surveys Prior to Demolition

Prior to the issuance of demolition permits for the existing structures, the applicant shall retain a licensed professional to conduct asbestos and lead paint surveys. These surveys shall be conducted prior to the disturbance or removal of any suspect asbestos-containing materials (ACM) and lead-based paint (LBP), and these materials shall be characterized for asbestos and lead by a reliable method. All activities involving ACM and LBP shall be conducted in accordance with governmental regulations, and all removal shall be conducted by properly licensed abatement contractors.

MM HAZ-1b Proper Disposal of Hazardous Materials Such As Cleaning Supplies and Insecticides

Prior to the issuance of a grading permit, the applicant shall remove and dispose of all materials observed during the site reconnaissance for the Phase I Environmental Site Assessment (Phase I ESA) in accordance with applicable local, State, and federal regulations. The materials include, but are not limited to containers of cleaning supplies and insecticides.

MM HAZ-1c Closure of On-site Irrigation Wells

Prior to the issuance of a grading permit, the three on-site irrigation wells shall be properly closed under permit in accordance with applicable local, State, and federal regulations.

MM HAZ-1d Soil Aeration

The applicant shall complete the soil aeration and soil vapor testing during demolition and rough grading operations. Once the soil aeration is completed which consists of spreading excavated soil on the ground in an approximately 18-inch-thick layer, mixing of the soil (tilling) shall be performed regularly to maintain aerobic conditions (presence of oxygen). The soil shall be thoroughly tilled using equipment such as a Terex RS600 Reclaimer/Stabilizer. An Environmental Health Licensed Professional shall spot check to ensure that the process is implemented.

A total of six tilling passes shall be performed through the proposed excavation area (approximately 30 feet long by 20 feet wide and 6 feet deep with a total volume of 135 cubic yards). During the tilling operation, air quality monitoring shall be performed with a photo ionization detector (PID) 3 inches above the soils and also in the breathing zone. Dust control measures shall be implemented during the aeration process (as spelled out in MM AIR-2), and dust monitoring shall be performed in the perimeter of the project site.

Soil vapor sampling shall be performed at the end of aeration/tilling operations prior to backfill. If the soil vapor sampling finds no benzene Environmental Screening Level (ESL) exceedances, then the applicant shall have the Phase I Environmental Site Assessment and Phase II Environmental Investigation Report prepared by Roux Associates, Inc. (Roux) in August 2021, updated memorializing the implementation of the mitigation and confirming that no Recognized Environmental Conditions (REC) exist on the site and provide a copy to the Department of Conservation and Development, Community Development Division demonstrating that benzene levels no longer exceed the ESL.

If soil vapor exceedances are identified after soil excavation and aeration, then a Soil Management Plan (SMP) shall be prepared and forwarded to an appropriate environmental oversight agency for disposition. A copy of the SMP will also be provided to the Department of Conservation and Development, Community Development Division.

All construction work shall cease in the area of the underground storage tank (UST) as shown in the Roux report, including the aeration area, until the disposition of the SMP is determined by the environmental oversight agency. Once the issue has been addressed to the satisfaction of the environmental oversight agency, evidence shall be provided to the satisfaction of the Department of Conservation and Development, Community Development Division and construction activities may resume on the former UST area.

Level of Significance After Mitigation

Less than significant impact.

Hazardous Materials Upset Risk

Impact HAZ-2:	**The proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.**

Construction

Construction activity, both within the project site and within the areas proposed for the off-site improvements, would be expected to involve the transport, use, and disposal of hazardous materials, such as diesel fuels, aerosols, and paints. The use of these materials would be subject to the Hazardous Materials Transportation Act, California Public Resources Code, and other State and local regulations that would limit the use of hazardous materials and reduce the associated risks of exposure. Any handling, transporting, use, or disposal would comply with applicable laws, policies, and programs set forth by various federal, State, and local agencies and regulations, including the EPA, RCRA, Caltrans, the Hazardous Materials Transportation Act, and the Contra Costa County HMP. Therefore, construction impacts related to hazardous materials upset risk would be less than significant.

Operation

The project proposes 19 residential buildings consisting of 125 townhouse condominium units along with associated structures, landscaping and open space, and parking. As such, the proposed project would not be expected to include industrial or retail development that involves hazardous materials such as gas stations, paint stores, or auto parts stores. Unlike industrial or retail facilities, residential development does not involve the type or quantity of hazardous materials that could pose a significant environmental accident.

Small quantities of hazardous materials would be used on-site during operation of the project, but not in sufficient quantities to create significant hazard in the unlikely event of upset or accident. These types of materials are common in such residential projects and represent a low risk to people and the environment when used as intended, and would not be expected to result in the release of hazardous materials into the environment. As such, operational impacts related to hazardous materials upset risk would be less than significant.

Level of Significance

Less than significant impact.

Hazardous Emissions Proximate to a School

Impact HAZ-3:	**The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.**

Construction

The project site, including the areas proposed for off-site improvements, are not located within 0.25-mile of an existing or proposed school. The closest school, Fusion Academy (a private school), is located approximately 0.33 mile to the north. Construction activity would be expected to involve the transport, use, and disposal of hazardous materials, such as diesel fuels, aerosols, and paints. The handling, transport, use, and disposal of hazardous materials must comply with the Hazardous Materials Transportation Act, California Public Resources Code, and other State and local regulations, which further limits the risk of emissions. As such, the proposed project would not emit hazardous emissions or handle hazardous materials within 0.25 mile of a school. Therefore, construction impacts related to hazardous emissions proximate to a school would be less than significant.

Operation

The project site is not located within 0.25 mile of a school. In addition, the proposed project would not be expected to include industrial or retail development that involves hazardous materials such as gas stations, paint stores, or auto parts stores. Unlike industrial or retail facilities, residential development does not involve the type or quantity of hazardous materials that could pose a significant environmental accident. Therefore, operational impacts related to hazardous emissions proximate to a school would be less than significant.

Level of Significance

Less than significant impact.

Government Code Section 65962.5 Sites

Impact HAZ-4: **The proposed project could be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.**

Construction

Impacts related to locating a project on a hazardous materials site per Government Code Section 65962.5 are limited to operational impacts. No respective construction impacts would occur.

Operation

Roux conducted regulatory records review of DTSC EnviroStor; RWQCB, including Geotracker and Stormwater Multiple Application and Report Tracking System (SMARTS); California Department of Oil, Gas, and Geothermal Resources (DOGGR) for files related to possible RECs was conducted for the project site. in addition, Roux also submitted public record requests to relevant regulatory agencies, including DTSC EnviroStor and HWTS, RWQCB Geotracker and SMARTS, BAAQMD, the City of Walnut Creek, CCCFPD, Contra Costa Health Services Hazardous Materials Program, and Contra Costa County Department of Conservation and Development. The results are compiled in the Phase I ESA and Limited Phase II Investigation included as Appendix F.

As described in the Phase I ESA and Limited Phase II Investigation, benzene concentrations in soil vapor from five soil vapor probes in the vicinity of the former 50-gallon UST exceeded the RWQCB Residential ESL. While concentrations were relatively low and oxygen concentrations in soil vapor indicate that conditions in soil in the vicinity of the approximate location of the former UST are favorable to the natural degradation of petroleum hydrocarbons, this represents a potentially significant impact for construction workers. With implementation of MM HAZ-1d, which would require soil aeration, impacts related to these potential hazards would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM HAZ-1d.

Level of Significance After Mitigation

Less than significant impact.

Proximity to Public Airport Safety Hazard

Impact HAZ-5: **The proposed project would not be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and result in a safety hazard or excessive noise for people residing or working the project area.**

Construction

Impacts related to exposure of people to safety hazards or excessive noise in proximity to an airport are limited to operational impacts. No respective construction impacts would occur.

Operation

As part of operation, the project would not be located within an airport land use plan or within 2 miles of a public airport. The closest public airport, Buchanan Field, is located approximately 4.4 miles to the north of the project site. At this distance, the project is not located within an airport land use plan or within 2 miles of a public airport. Therefore, no impact related to exposure of people to safety hazards or excessive noise in proximity to an airport would occur.

Level of Significance

No impact.

Emergency Response and Evacuation

Impact HAZ-6:	**The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

Construction

During construction, it is expected that construction equipment and vehicles would be accessing and leaving the project site, which in turn could potentially impede evacuation or emergency vehicle access. However, as discussed under Impact TRANS-5 in Section 3.14, Transportation, the proposed project would result in less than significant impacts related to emergency vehicle access. In addition, the proposed project would comply with the Contra Costa County Emergency Plan, ensuring efficient response to emergency incidents associated with emergencies affecting Contra Costa County. Therefore, construction impacts related to emergency response and evacuation would be less than significant.

Operation

The Contra Costa County Operational Area EOP outlines general procedures in response to emergency crises, such as evacuations. Included in this Plan is information regarding evacuations and shelter-in-place orders as well as who has the authority to issue these orders. The main arterial roads into and out of the project vicinity are Jones Road and Oak Road, which would serve as the main emergency response and evacuation routes into and out of the project vicinity. With adherence to the procedures of the Contra Costa County Operational Area EOP, the project would not conflict with the Contra Costa County Operational Area EOP or General Plan safety policies.

As indicated in Section 3.12, Population and Housing. the proposed project would not create a permanent increase in population unaccounted for in the General Plan that could lead to overwhelming call for police and fire services. In addition, the project site would be designed in accordance with the County's standards to accommodate emergency vehicle access by providing two points of access that would be available to emergency vehicles. Therefore, operational impacts related to emergency response and evacuation would be less than significant.

Level of Significance

Less than significant impact.

Wildland Fires

Impact HAZ-7: The proposed project would not expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires.

Construction

Impacts related to wildland fire hazard risks are limited to operational impacts. No respective construction impacts would occur.

Operation

As indicated by the General Plan, fire hazards present a considerable problem throughout the County, primarily within undeveloped areas with natural vegetation and steep slopes. The project site is located in a County island and is surrounded to the east, west, and south by the City of Walnut Creek, to the northeast by the City of Concord, and to the northwest by the City of Pleasant Hill. It is relatively flat in elevation (approximately 90 to 95 feet above mean sea level). The project site is mostly surrounded by urbanized uses on areas relatively flat in elevation, lacking in woodlands or vegetation that could provide fuel load for wildfire, or steep slopes that could cause fire to spread more rapidly. The project site is surrounded by other features that provide fuel breaks in the event of a fire, such as Oak Road and Jones Road. In addition, the Contra Costa Canal is approximately 450 to 650 feet south of the project site.

According to CAL FIRE, the project site is not located in a Moderate, High, or Very High Fire Hazard State Responsibility Area.[15] Two miles west of the project site (Briones Regional Park) is designated as a High Fire Hazard Severity Zone.[16] The BAAQMD monitors the Bay Area's air quality at a number of stations, and the closest station to the project site is located in the City of Concord, approximately 4 miles to the northeast. The average wind speed at this station varied from month to month and ranged from 7–16 mph in 2020.[17] Given that the project site is not located on or near steep terrain surrounded by natural vegetation, is surrounded by urban uses, and does not consistently experience high winds, the project site would not be prone to wildfires.

Compliance with applicable State and local plans and regulations would decrease the risk of impacts related to wildland fire hazards. Specifically, the General Plan policies incorporate requirements for fire-safe construction into the land use planning and approval process and ensure special fire protection for high-risk land uses and structures. Contra Costa County also implements the Contra Costa County Operational Area EOP, which addresses the response to emergency incidents associated with emergencies affecting Contra Costa County. Furthermore, as indicated in Section 3.13, Public Services and Recreation, the proposed project would be adequately served in terms of

[15] California Department of Forestry and Fire Protection (CAL FIRE). 2007 Contra Costa County Fire Hazard Severity Zone in State Responsibility Area. Website: https://osfm.fire.ca.gov/media/6662/fhszs_map7.pdf. November 7. Accessed May 17, 2021.

[16] California Department of Forestry and Fire Protection (CAL FIRE). 2007 Contra Costa County Fire Hazard Severity Zone in State Responsibility Area. Website: https://osfm.fire.ca.gov/media/6662/fhszs_map7.pdf. November 7. Accessed May 17, 2021.

[17] Bay Area Air Quality Management District (BAAQMD). 2019. Meteorology Data. Website: https://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data/#/met?date=2020-05-24&id=203&view=monthly&style=chart. Accessed May 24, 2021.

fire protection services by the CCCFPD. Finally, proposed structures would be required to comply with the California Fire Code with regard to emergency access and types of building materials. Therefore, impacts related to wildland fire risk would be less than significant.

Level of Significance

Less than significant impact.

3.8.5 - Cumulative Impacts

The geographic scope of the cumulative analysis related to hazards and hazardous materials is the project vicinity or roughly the western portion of the County. The analysis also considers the foreseeable development projects listed in Table 3-1 (See Chapter 3, Environmental Impact Analysis) in unincorporated Contra Costa County and the surrounding cities, in addition to the proposed project.

Hazardous Materials Exposure Risk

In general, exposure to hazardous materials may cause localized adverse effects. A combination of federal, State, and local regulations limit or minimize the potential for exposure to hazardous materials. Development listed in Table 3-1 primarily consists of residential and commercial development. The types and sizes of development anticipated in the project area would not involve large quantities of hazardous materials or activities that transport or handle hazardous materials. Cumulative projects would be subject to the Hazardous Materials Transportation Act, California Public Resources Code, and other State and local regulations that would reduce and limit the associated risks. Any handling, transporting, use, or disposal would comply with applicable laws, policies, and programs set forth by various federal, State, and local agencies and regulations, including the EPA, RCRA, Caltrans, and HMP.

However, cumulative projects listed in Table 3-1 may include demolition of existing structures that have the potential to contain hazardous building materials. Building materials may contain ACM and LBP. To address potential release of hazardous materials, the County would assess structures and impose standard mitigation (required testing, removal, and proper disposal) to minimize release prior to any demolition. Additionally, regional, State, and federal regulations would apply to countywide development, and, for these reasons cumulative projects, would result in a less than significant cumulative impact related to exposure to hazardous materials.

Moreover, the proposed project's incremental contribution would not be significant. To reduce the proposed project's impacts to below a level of significance and ensure a less than significant contribution to cumulative impacts, the proposed project would implement MM HAZ-1a through MM HAZ-1c, and comply with all applicable policies related to transport, use, and disposal of hazardous materials, as discussed above.

Hazards and Emergency Response

The main arterial streets that would serve as the most likely evacuation routes out of the central portion of the County include I-680, SR-24, and Ygnacio Valley Road. Planned uses as proposed by the cumulative projects are contemplated in the General Plan, would result in predominantly in-fill development, and would not significantly increase need for emergency services, including those

related to wildfires. Furthermore, all construction would adhere to the regulations included in the California Fire Code that are designed to minimize the potential for the release of hazardous materials or uncontrolled fires. Once development is proposed, the County would assess the needs for fire protection services and inform efforts to improve or expand needed facilities.

As listed in Table 3-1, cumulative development in the County primarily consists of residential and commercial development. New residential developments would contribute to increases in the County's population. All development would, however, comply with emergency access requirements as projects condition. Furthermore, cumulative development in County, including the proposed project, would not result in permanent road closures, nor impede established emergency access routes, nor interfere with emergency response requirements. As such, there would be a less than significant cumulative impact associated with hazards and emergency response. Moreover, as discussed above, the proposed project would fully comply with all applicable regulations and, therefore, its contribution would not be cumulatively considerable.

Level of Cumulative Significance

Less than significant impact.

3.9 - Hydrology and Water Quality

3.9.1 - Introduction

This section describes the existing hydrology and water quality setting and potential effects from project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on the Contra Costa County General Plan (General Plan) and the site-specific documents prepared in 2021 by Ruggeri-Jensen-Azar: Preliminary Hydrology and Hydraulics Calculations prepared in January 2021 and updated in March 2021[1] and Preliminary Stormwater Control Plans prepared in January 2021 and updated in March 2021.[2] The updated documents are included in Appendix G. No comments were received during the Notice of Preparation (NOP) comment period related to hydrology and water quality.

3.9.2 - Environmental Setting

Surface Hydrology

Walnut Creek Watershed

The Contra Costa Clean Water Program (CCCWP) designates watersheds in the County. According to the CCCWP, the project site is located within the Walnut Creek Watershed, which encompass 93,556 acres in central Contra Costa County. Draining the west side of Mount Diablo and the east side of the East Bay Hills, its major tributaries include San Ramon Creek, Bollinger Creek, Las Trampas Creeks, Pine Creek, and Galindo Creek. These tributaries constitute important watersheds draining into the Walnut Creek, and together the form the Walnut Creek Watershed.[3]

Project Site

The project site does not contain any creeks or bodies of water. The closest creek to the project site is Walnut Creek, located approximately 1750 feet to the south. The Contra Costa Canal is approximately 450-600 feet to the south. The project site is at elevations ranging from approximately 90 to 95 feet above mean sea level.

Surface Water Quality

Contra Costa County

The San Francisco Bay Regional Water Quality Control Board (RWQCB) and the County monitor surface water quality in the County. The Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin outlines the beneficial water uses that the California State Water Resources Control Board (State Water Board) will protect, and the water quality objectives and strategies for achieving these objectives.

[1] Ruggeri-Jensen-Azar. 2021. Preliminary Hydrology and Hydraulics Calculations for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.
[2] Ruggeri-Jensen-Azar. 2021. Preliminary Stormwater Control Plans for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.
[3] Contra Costa Clean Water Program (CCCWP). Walnut Creek Watershed. 2021 Website: https://www.cccleanwater.org/userfiles/kcfinder/files/Walnut-Creek-Watershed-cropped.jpg. Accessed May 12, 2021.

Project Site

The project site would be subject to regulations imposed by the San Francisco Bay RWQCB and the County.

Groundwater Basin Hydrology

Contra Costa County Area

The Contra Costa Water District Draft 2020 Urban Water Management Plan (UWMP) identified the Ygnacio Valley, Clayton Valley, Pittsburg Plain, and East Contra Costa Groundwater Basins as the primary groundwater basins within its service area.[4]

The Ygnacio Valley Groundwater Basin is located in northern Contra Costa County along the south shore of Suisun Bay. The basin surface area is approximately 15,900 acres bounded by Suisan Bay to the North, Interstate 680 (I-680) to the west, by the Concord Fault to the east, and by the City of Walnut Creek to the south.[5] The Ygnacio Valley Groundwater Basin underlies the City of Pleasant Hill and City of Walnut Creek.

The Ygnacio Valley Basin occupies a structural depression between the Berkeley Hills and the Diablo Range. Thick alluvial deposits that cover a faulted and folded complex of consolidate Cretaceous and Tertiary rocks underlie the basin. The water-bearing units in the basin are Quaternary alluvium and alluvial valley fill deposits. Aquifers in the basin area are hydrologically connected to the Sacramento River.[6]

Project Site

The project site is located on the southern edge of the Ygnacio Valley Groundwater Basin.[7] Three irrigation wells are located on the project site.

Groundwater Water Quality

Contra Costa County Area

According to the California Department of Water Resources (DWR) Bulletin 118: Ygnacio Valley Groundwater Basin, no published groundwater quality data is available for the Basin.[8]

Project Site

The project site is located within the Ygnacio Valley Groundwater Basin and is under the jurisdiction of the San Francisco Bay RWQCB.

[4] Contra Costa Water District. 2021 Draft 2020 Urban Water Management Plan. Website: https://www.ccwater.com/DocumentCenter/View/9851/2020-Urban-Water-Management-Plan-Draft-PDF. April 21. Accessed May 12, 2021.

[5] California Department of Water Resources (DWR). 2004. San Francisco Bay Hydrologic Region California Groundwater Bulletin 118: Ygnacio Valley Groundwater Basin. Website: https://www.contracosta.ca.gov/DocumentCenter/View/34130/CDWR-2004_Ygnacio-Valley-Bulletin-118. Accessed May 12. 2021.

[6] Ibid.

[7] Ibid.

[8] Ibid.

Stormwater Runoff

Contra Costa County

The San Francisco Bay RWQCB administers the National Pollution Discharge Elimination System (NPDES) stormwater permitting program and regulates stormwater in the San Francisco Bay region. The County is a permittee under the Phase II NPDES Municipal Stormwater Permit, and implements the County-specific components of the CCCWP.

The Contra Costa County Flood Control District (Flood Control District) guides regional drainage plans throughout the County. The Flood Control District owns property throughout the County for the purpose of constructing and maintaining regional flood control basins, channels, and creeks.[9]

Project Site

The project site is generally flat with a gentle slope of approximately 5 percent in the northeasterly direction toward Oak Road, northwesterly toward Jones Road and with a localized portion of the site at the southwesterly portion of the site drains toward Jones Road as well. Currently, the on-site drainage and storm runoff generally sheet flows across the site or captured by on-site small drainage inlets connected by underground storm drain pipes and discharged into the existing storm drain facilities in Jones Road or Oak Road. Based on field observation and record drawings, it appears majority of the existing on-site drainage is discharged or conveyed via underground storm drains to the existing 30-inch storm drains in Oak Road. The project site is located within the County Flood Control Drainage Area 44B.[10]

Flooding and Inundation

Contra Costa County

100-year Flood

Flood hazard areas—those areas susceptible to flooding—are mapped by the Federal Emergency Management Agency (FEMA). FEMA maps do not consider future conditions. To protect such areas from flood hazards, FEMA administers the National Flood Insurance Program (NFIP). The NFIP is a federal program created to avert future flood losses through building and zoning ordinances and to provide federally backed flood insurance protection for property owners. The County is a participant in the NFIP.

To support the NFIP, FEMA publishes Flood Insurance Rate Maps (FIRMs) for participating communities for flood insurance and floodplain management purposes. The FIRMs delineate different special flood hazard area zones. Special flood hazard areas associated with the 1 percent probability of annual exceedance are zones that begin with the letter “A” (e.g., Zone A, Zone AE, and Zone AO).

[9] Contra Costa County. 2021. Welcome to the Flood Control District. Website: https://www.contracosta.ca.gov/5586/Flood-Control-District. Accessed June 4, 2021.

[10] Ruggeri-Jensen-Azar. 2021. Preliminary Hydrology and Hydraulics Calculations for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.

Mudflow

Mudflows typically occur on steep slopes where vegetation is not sufficient to prevent rapid erosion. In the County, mudflows could occur on steep slopes near Mount Diablo, Briones Regional Park, and adjacent to waterway banks.

Project Site

100-year Flood

According to FEMA FIRM National Flood Hazard Layer Viewer, the project site is designated Zone X—area of minimal flood hazard.[11]

Mudflow

The project site is relatively flat and does not contain steep, unvegetated slopes susceptible to mudflows.

3.9.3 - Regulatory Framework

Federal

Clean Water Act

The Clean Water Act (CWA) (33 United States Code [USC] § 1251, *et seq*.) is the major federal legislation governing the water quality aspects of construction and operation of the proposed project or variant. The CWA established the basic structure for regulating discharges of pollutants into waters of the United States (not including groundwater) and waters of the State. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." The CWA establishes the basic structure for regulating the discharge of pollutants into waters of the United States.

The CWA authorizes the United States Environmental Protection Agency (EPA) to implement pollution control programs. Under the CWA, it is unlawful for any person to discharge any pollutant from a point source into navigable waters, unless an NPDES permit is obtained. In addition, the CWA requires each state to adopt water quality standards for receiving water bodies and to have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality objectives necessary to support those uses.

Responsibility for protecting water quality in California resides with the State Water Board and nine RWQCBs. The State Water Board establishes Statewide policies and regulations for the implementation of water quality control programs mandated by federal and State water quality statutes and regulations. The RWQCBs develop and implement water quality control plans (basin plans) that consider regional beneficial uses, water quality characteristics, and water quality problems. Water quality standards applicable to the proposed project are listed in the San Francisco Bay RWQCB Basin Plan.

[11] Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) Viewer FIRMette. 2020. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed June 4, 2021.

Section 303—Water Quality Standards and Total Maximum Daily Loads

Section 303(c)(2)(b) of the CWA requires states to adopt water quality standards for all surface waters of the United States based on the water body's designated beneficial use. Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based on biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards.

CWA Section 303(d) requires states and authorized Native American tribes to develop a list of water quality–impaired segments of waterways. The list includes waters that do not meet water quality standards necessary to support a waterway's beneficial uses even after the minimum required levels of pollution control technology have been installed. Listed water bodies are to be priority ranked for development of a Total Maximum Daily Load (TMDL). A TMDL is a calculation of the total maximum daily load (amount) of a pollutant that a water body can receive on a daily basis and still safely meet water quality standards. The TMDLs include waste load allocations for urban stormwater runoff as well as municipal and industrial wastewater discharges, with allocations apportioned for individual Municipal Separate Storm Sewer Systems (MS4s) and wastewater treatment plants, including those in Contra Costa County. For stormwater, load reductions would be required to meet the TMDL waste load allocations within the 20 years required by the TMDLs.

The State Water Board, RWQCBs, and EPA are responsible for establishing TMDL waste load allocations and incorporating approved TMDLs into water quality control plans, NPDES permits, and Waste Discharge Requirements (WDRs) in accordance with a specified schedule for completion. The San Francisco Bay RWQCB develops TMDLs for the Contra Costa County area.

Section 401—Water Quality Certification

Section 401 of the CWA requires compliance with State water quality standards for actions within State waters. Under CWA Section 401, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must first obtain a certificate from the appropriate agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the State Water Board delegates authority to either grant water quality certification or waive the requirements to the nine RWQCBs. The San Francisco Bay RWQCB is responsible for the project site.

Section 402—National Pollution Discharge Elimination System Permits

The RWQCBs administer the NPDES stormwater permitting program, under Section 402(d) of the federal CWA, on behalf of EPA. The objective of the NPDES program is to control and reduce levels of pollutants in water bodies from discharges of municipal and industrial wastewater and stormwater runoff. CWA Section 402(d) establishes a framework for regulating nonpoint-source stormwater discharges (33 USC § 1251). Under the CWA, discharges of pollutants to receiving water are prohibited unless the discharge complies with an NPDES permit. The NPDES permit specifies discharge prohibitions, effluent limitations, and other provisions, such as monitoring deemed necessary to protect water quality based on criteria specified in the National Toxics Rule (NTR), the California Toxics Rule (CTR), and the Basin Plan.

Discharge prohibitions and limitations in an NPDES permit for wastewater treatment plants are designed to maintain public health and safety, protect receiving water resources, and safeguard the water's designated beneficial uses. Discharge limitations typically define allowable effluent quantities for flow, biochemical oxygen demand, total suspended matter, residual chlorine, settleable matter, total coliform, oil and grease, pH, and toxic pollutants. Limitations also typically encompass narrative requirements regarding mineralization and toxicity to aquatic life. Under the NPDES permits issued to the City/County to operate the treatment plants, the City/County is required to implement a pretreatment program. This program must comply with the regulations incorporated in the CWA and the General Pretreatment Regulations (Code of Federal Regulations [CFR] Title 40, Part 403 [40 CFR 403]).

Section 404—Permitting Discharges of Dredge or Fill Material

Section 404 of the CWA regulates temporary and permanent fill and disturbance of wetlands and waters of the United States. Under Section 404, the discharge (temporary or permanent) of dredged or fill material into waters of the United States, including wetlands, typically must be authorized by the United States Army Corps of Engineers (USACE) through either the Nationwide Permit (general categories of discharges with minimal effects) or the Individual Permit.

River and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires that regulated activities conducted below the ordinary high-water elevation of navigable waters of the United States be approved and permitted by the USACE. Regulated activities include the placement or removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Navigable waters of the United States are those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high-water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce. Section 10 also regulates tributaries and backwater areas that are associated with navigable waters of the United States and are located below the ordinary high-water elevation of the adjacent navigable waterway.

A project proponent can apply for a permit/letter of permission for work regulated under Section 404 (CWA) and Section 10 (Rivers and Harbors Act) by completing and submitting one application form. An application for a USACE permit will serve as an application for both Section 404 and Section 10 permits.

Federal Antidegradation Policy

The federal antidegradation policy is designed to protect existing water uses, water quality, and national water resources. The federal policy directs states to adopt a Statewide policy that includes the following primary provisions:

- Existing instream uses and the water quality necessary to protect those uses shall be maintained and protected.

- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the State finds that allowing lower water quality is necessary for important local economic or social development.
- Where high-quality waters constitute an outstanding national resource, such as waters of national and State parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

National Toxics Rule and California Toxics Rule

In 1992, the EPA promulgated the NTR under the CWA to establish numeric criteria for priority toxic pollutants for 14 states to bring all states into compliance with the requirements of CWA Section 303(c)(2)(B). The NTR established water quality standards for 42 pollutants not covered under California's Statewide water quality regulations at that time. Because of the court-ordered revocation of California's Statewide basin plans in September 1994, the EPA initiated efforts to promulgate additional federal water quality standards for California. In May 2000, the EPA issued the CTR, which includes all the priority pollutants for which the EPA has issued numeric criteria not included in the NTR.

Executive Order 11988

Executive Order 11988, "Floodplain Management," directs all federal agencies to avoid, to the extent possible, long- and short-term adverse impacts of occupancy and modification of floodplains, and to avoid supporting development in a floodplain either directly or indirectly wherever there is a practical alternative. Compliance requirements are outlined in 23 Code of Federal Regulations 650, Subpart A, "Location and Hydraulic Design of Encroachment on Floodplains."

If a project involves significant encroachment into the floodplain, the final environmental document must include:

- The reasons why the proposed action must be located in the floodplain;
- Alternatives considered and the reasons they were not practical, and
- A statement indicating whether the action conforms to applicable State or local floodplain protection standards.

National Toxics Rule and California Toxics Rule

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 were enacted to reduce the need for flood protection structures and limit disaster relief costs by restricting development in floodplains. FEMA, established in 1979, is responsible for predicting hazards from flooding events and forecasting the level of inundation under various conditions. As part of its duty to develop standards for delineating fluvial and coastal floodplains, FEMA provides information on FIRMs about the potential for flood hazards and inundation and, where appropriate, designates regions as Special Flood Hazard Areas (SFHAs). SFHAs are defined as areas that have a 1 percent chance of flooding in a given year.

FEMA also administers the NFIP, a federal program that enables property owners in participating communities to purchase insurance as protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State must adopt water quality policies, plans, and objectives that protect the State's waters for the use and enjoyment of the people. Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The RWQCBs are required to formulate and adopt basin plans for all areas in the region and establish water quality objectives in the plans. The Porter-Cologne Act sets forth the obligations of the State Water Board and RWQCBs to adopt and periodically update basin plans. The San Francisco Bay RWQCB is responsible for the project site.

Basin plans are the regional water quality control plans required by both the CWA and the Porter-Cologne Act that establish beneficial uses, water quality objectives, and implementation programs for each of the nine regions in California. The Act also requires waste dischargers to notify the RWQCBs of their activities by filing reports of waste discharge and authorizes the State Water Board and RWQCBs to issue and enforce WDRs, NPDES permits, CWA Section 401 water quality certifications, or other approvals. The RWQCBs are also authorized to issue waivers to reports of waste discharge and WDRs for broad categories of "low threat" discharge activities that have minimal potential to cause adverse water quality effects when implemented according to prescribed terms and conditions.

California Code of Regulations (Wetlands and Waters Definition)

The State Water Board indicates that no single accepted definition of wetlands exists at the State level, and that the RWQCBs may have different requirements and levels of analysis regarding the issuance of water quality certifications. Generally, an area is a wetland if, under normal circumstances:

(1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;

(2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and

(3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Under California State law, waters of the State mean "any surface water or groundwater, including saline waters, within the boundaries of the State." As such, water quality laws apply to both surface water and groundwater. After the U.S. Supreme Court decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (53 USC 159), the Office of Chief Counsel of the State Water Board released a legal memorandum confirming the State's jurisdiction over isolated wetlands. The memorandum stated that under the Porter-Cologne Act, discharges to wetlands and

other waters of the State are subject to State regulation, and this includes isolated wetlands. In general, the State Water Board regulates discharges to isolated waters in much the same way as it does for waters of the United States, using the Porter-Cologne Act rather than CWA authority.

National Pollutant Discharge Elimination System

The NPDES permits all involve similar processes, which include submitting notices of intent for discharging to water in areas under the San Francisco Bay RWQCB's jurisdiction and implementing Best Management Practices (BMPs) to minimize those discharges. The San Francisco Bay RWQCB may also issue site-specific WDRs, or waivers to WDRs, for certain waste discharges to land or waters of the State.

Construction Activity

The State Water Board stormwater general permit for construction activity (Order 2009-009-DWQ, as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ) applies to all construction activities that would disturb 1 acre of land or more. Construction activities subject to the general construction activity permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters.

Through the NPDES and WDR processes, the State Water Board seeks to ensure that the conditions at a project site during and after construction do not cause or contribute to direct or indirect impacts on water quality (i.e., pollution and/or hydromodification) upstream and downstream. To comply with the requirements of the Construction General Permit, the project applicant must file a notice of intent with the State Water Board to obtain coverage under the permit; prepare a Storm Water Pollution Prevention Plan (SWPPP); and implement inspection, monitoring, and reporting requirements appropriate to the proposed project's risk level as specified in the SWPPP. The SWPPP includes a site map, describes construction activities and potential pollutants, and identifies BMPs that will be employed to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources, such as petroleum products, solvents, paints, and cement. The permit also requires the discharger to consider using post-construction permanent BMPs that will remain in service to protect water quality throughout the life of the project. All NPDES permits also have inspection, monitoring, and reporting requirements.

Project sites served by the combined sewer system are not required to obtain coverage under the NPDES Construction General Permit.

Industrial General Stormwater Permit

The Statewide stormwater NPDES permit for general industrial activity (Order 2014-0057-DWQ, superseding Order 97-03-DWQ) regulates discharges associated with 10 broad categories of industrial activities, such as operation of wastewater treatment works, and with recycling facilities. The industrial general permit requires the implementation of Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology to achieve performance standards. The permit also requires development of a SWPPP that identifies the site-specific sources of pollutants and describes the measures at the facility applied to reduce stormwater pollution. A monitoring plan is also required.

Stormwater

In November 1990, the EPA published regulations establishing NPDES permit requirements for municipal and industrial stormwater discharges. Phase I of the permitting program applied to municipal discharges of stormwater in urban areas where the population exceeded 100,000 persons. Phase II of the NPDES stormwater permit regulations, which became effective in March 2003, required that NPDES permits be issued for construction activity for projects disturbing 1–5 acres. Phase II of the municipal permit system (known as the NPDES General Permit for Small MS4s, Order No. 2003-0005-DWQ as amended by 2013-0001-DWQ) required small municipalities of fewer than 100,000 persons to develop stormwater management programs. This permit authorizes discharges of stormwater and some categories of non-stormwater that are not "significant contributors of pollutants."

California Toxics Rule and State Implementation Policy

The CTR, presented in 2000 in response to requirements of EPA's NTR, establishes numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The CTR criteria are regulatory criteria adopted for inland surface waters, enclosed bays, and estuaries in California that are on the CWA Section 303(c) list for contaminants. The CTR includes criteria for the protection of aquatic life and human health. Human health criteria (water- and organism-based) apply to all waters with a municipal and domestic water supply beneficial use designation as indicated in the basin plans. The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, also known as the State Implementation Policy, was adopted by the State Water Board in 2000. It establishes provisions for translating CTR criteria, NTR criteria, and basin plan water quality objectives for toxic pollutants into:

- NPDES permit effluent limits.
- Effluent compliance determinations.
- Monitoring for 2,3,7,8-tcdd (dioxin) and its toxic equivalents.
- Chronic (long-term) toxicity control provisions.
- Site-specific water quality objectives.
- Granting of effluent compliance exceptions.

The goal of the State Implementation Plan is to establish a standardized approach for permitting discharges of toxic effluent to inland surface waters, enclosed bays, and estuaries throughout the State.

Local

Contra Costa County General Plan

Conservation Element

The General Plan Conservation Element sets forth the following applicable goals, policies, and implementation measures that are relevant to hydrologic resources:

Goal 8-T To conserve, enhance, and manage water resources, protect their quality, and assure an adequate long-term supply of water for domestic, fishing, industrial and agricultural use.

Goal 8-U To maintain the ecology and hydrology of creeks and streams and provide an amenity to the public, while at the same time preventing flooding, erosion and danger to life and property.

Goal 8-V To preserve and restore remaining natural waterways in the County which have been identified as important and irreplaceable natural resources.

Goal 8-W To employ alternative drainage system improvements which rely on increased retention capacity to lessen or eliminate the need for structural modifications to watercourses, whenever economically possible.

Goal 8-X To enhance opportunities for public accessibility and recreational use of creeks, streams, drainage channels and other drainage system improvements.

Policies

Policy 8-74 Preserve watersheds and groundwater recharge areas by avoiding the placement of potential pollution sources in areas with high percolation rates.

Policy 8-75 Preserve and enhance the quality of surface and groundwater resources.

Policy 8-77 Provide development standards in recharge areas to maintain and protect the quality of groundwater supplies.

Policy 8-78 Where feasible, existing natural waterways shall be protected and preserved in their natural state, and channels which already are modified shall be restored. A natural waterway is defined as a waterway which can support its own environment of vegetation, fowl, fish, and reptiles, and which appears natural.

Policy 8-79 Creeks and streams determined to be important and irreplaceable natural resources shall be retained in their natural state whenever possible to maintain water quality, wildlife diversity, aesthetic values, and recreation opportunities.

Policy 8-82 Riparian habitat shall be protected by providing for channel cross-sections adequate to carry 100-year flows, as per policies contained in the Public Facilities/Services Element. If it is not possible to provide a channel cross section sufficient to carry the 100-year flow, then detention basins should be developed.

Policy 8-86 Existing native riparian habitat shall be preserved and enhanced by new development unless public safety concerns require removal of habitat for flood control or other public purposes.

Policy 8-87 On-site water control shall be required of major new developments so that no increase in peak flows occurs relative to the site's pre-development condition, unless Planning Agency determines that off-site measures can be employed which are equally effective in preventing adverse downstream impacts.

Policy 8-91 Grading, filling and construction activity near watercourses shall be conducted in such a manner as to minimize impacts from increased runoff, erosion, sedimentation, biochemical degradation, or thermal pollution.

Policy 8-92 Revegetation of a watercourse shall employ native vegetation, providing the type of vegetation is compatible with the watercourse's maintenance program and does not adversely alter channel capacity.

Implementation Measure 8-cy

Through the environmental review process, the likely effects of construction and other proposed activities on nearby natural watercourses and related open space shall be determined. Measures shall be identified that will mitigate these effects and encourage the preservation of natural waterways and related open space. Such measures may include, but are not limited to:

(1) Clustering of buildings and other site design features;
(2) Restoration or enhancement of other riparian habitat within or near the project area; and
(3) Purchase of development rights for lands within other stream setback areas.

Contra Costa County Ordinance Code

Division 914 of the Ordinance Code addresses drainage. Section 914-2.002 requires that all portions of a subdivision shall be protected from flood hazards and storm drainage facilities within the subdivision shall be designed and constructed in compliance with current specifications and design standards of the Public Works Department.

Division 1014, Stormwater Management and Discharge Control, carries out the conditions in the County's NPDES Permit issued by the San Francisco Bay RWQCB that require implementation of appropriate source control and site design measures and stormwater treatment measures for projects that create or replace 1 acre or more of impervious surface.

Contra Costa County Green Infrastructure Plan

The County Green Infrastructure Plan provides a blueprint for how the County will add to and replace its "gray" infrastructure system of pipes and storm drains with "green" infrastructure or Low Impact Development (LID) practices throughout unincorporated areas. The Green Infrastructure Plan is a requirement of the NPDES Municipal Regional Stormwater Permit, issued by the San Francisco Bay RWQCB on November 19, 2015.[12] The intent of the Green Infrastructure Plan is to demonstrate how the County will move away from traditional stormwater infrastructure and toward green stormwater infrastructure to mitigate some of the impacts of urbanization on water quality to the creeks, waterways, and the San Francisco Bay. The focus of the County Green Infrastructure Plan is the integration of stormwater treatment into County-owned properties, parking lots, and road right-of-way. As a long-term (2020-2040) blueprint, it seeks to show how the County intends to gradually

[12] Contra Costa County Public Works. 2019. Green Infrastructure Plan. Website: https://www.contracosta.ca.gov/DocumentCenter/View/61241/CCCPW-GI-Plan_Final_07-26-19-PDF?bidId=. Accessed June 4, 2021.

transform its urban landscape and storm drainage systems by allowing runoff to flow through stormwater treatment facilities (i.e., bioswales and bioretention cells) that remove many urban pollutants before they enter the storm drain system.

A parcel located at the intersection of North Broadway and Ygnacio Valley Road, approximately 1 mile south of the project site, is identified as a future location for a Green Infrastructure project. This area was selected for its location adjacent to old urban land uses where stormwater pollutants are the highest.

3.9.4 - Impacts and Mitigation Measures

Significance Criteria

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist, to determine whether impacts related to hydrology and water quality are significant environmental effects, the following questions are analyzed and evaluated. Would the proposed project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project may impede sustainable groundwater management of the basin?

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

   i) result in substantial erosion or siltation on- or off-site;
   ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
   iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
   iv) impede or redirect flood flows?

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

e) Conflict with or obstruct implementation of a Water Quality Control Plan or sustainable groundwater management plan?

Approach to Analysis

Impacts related to hydrology and water quality were determined by reviewing information regarding regional and local hydrology, climate, topography, and geology contained in the General Plan, San Francisco Bay RWQCB Basin Plan, FEMA FIRMs, project utility plans, and the site-specific Drainage Study and Stormwater Control Plan (Appendix G).

The evaluation of impacts is based on a comparison of existing conditions to anticipated conditions once the proposed project is constructed and operational, such as changes in impervious area, as well as facilities potentially located within flood zones. Specifically, the impact evaluation focuses on the effect of the proposed project on surface and groundwater quality, groundwater supply, and drainage (in terms of erosion, siltation, flooding, stormwater system exceedance, and polluted runoff). Water quality conditions are compared with water quality standards and WDRs by identifying potential contaminants and pollution pathways, amount of impervious area, and runoff treatment requirements. Finally, as part of the analysis, inundation and flooding on the project site is assessed by reviewing potential inundation zone elevations relative to the final grade elevations of facilities and features for the proposed project.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of hydrology and water quality impacts resulting from implementation of the proposed project.

- Violate any water quality standards or waste discharge requirements established by a regulatory body with jurisdiction over the project area.
- Deplete groundwater supplies or interfere with groundwater recharge such that the production rate or volumes of wells or aquifers would drop.
- Alter an existing drainage pattern through alteration of the course of a stream or river or increased impervious surfaces and resulting in erosion, siltation, or flooding on- or off-site.
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Expose people to pollutants due to inundation related to flooding, tsunami, or seiche.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Impact Evaluation

Surface and Groundwater Quality

Impact HYD-1:	**The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.**

Construction

Construction activities, including the areas proposed for off-site improvements, would expose soils on the project site to potential water erosion and construction equipment-related pollutants. Runoff from graded areas could carry eroded soils and pollutants into the storm drainage systems and into the Walnut Creek, increasing sedimentation and degrading downstream water quality. These sediments also could be carried downstream and discharged into the Suisan Bay leading to the San Francisco Bay and ultimately into the Pacific Ocean, degrading surface water quality, or allowed to seep into the associated groundwater table. This would represent a potentially significant construction impact related to surface and groundwater quality.

First encountered groundwater in the vicinity of the project site has been measured at varying depths and is generally encountered at depths ranging from approximately 23.5 feet below ground surface (BGS) to 56 feet BGS.[13] However, as detailed in the Preliminary Geotechnical Exploration, groundwater was encountered at depths between 10.6 feet BGS and 18.8 feet BGS. The Preliminary Geotechnical Exploration further states that the project site has areas of shallow ground water which could affect the proposed development.[14] Specifically shallow groundwater can (*i*) impede grading operations, (*ii*) require dewatering during grading and construction of improvements, (*iii*) cause moisture damage to sensitive floor coverings, and (*iv*) transmit moisture vapor through slabs, causing buildup of mold/mildew, fogging of windows and damage to computers and other sensitive equipment. Based on the existing data groundwater depths on-site, removal of existing fill on the site and deep utility trench excavation may encounter groundwater. The project contractor should evaluate site conditions and select properly designed dewatering and shoring systems. Groundwater levels may fluctuate seasonally, and may be significantly influenced by irrigation of plantings, water and/or sewer leaks and other factors.[15]

Given that proposed construction would disturb more than 1 acre of land, the proposed project would be required to comply with the terms of the NPDES permits and the Contra Costa County Ordinance Code Chapter 1014-4, which requires the preparation and implementation of a SWPPP. The SWPPP includes BMPs to ensure reduction of pollutants from construction activities potentially entering surface waters. Additionally, implementation of the SWPPP would also prevent pollutants from entering the Ygnacio Valley Basin by preventing pollutants from moving off-site.

Although construction activities have the potential to generate increased sedimentation, compliance with applicable policies and regulations would minimize the potential to degrade water quality in downstream water bodies to the maximum extent possible. As a result, construction-related project impacts related to surface and groundwater, and respective water quality would be less than significant.

Operation

The project site is located in an urbanized area with mostly impervious surfaces. Project operation would generate runoff, which may carry pollutants such as pesticides, fertilizers, and deposits of fluids and metals from motor vehicles into the Contra Costa Canal or allow seepage of such pollutants into the associated groundwater table. This would represent a potentially significant operational impact related to surface and groundwater quality.

The proposed project would increase impervious surfaces by 36,420 square feet compared to existing conditions,[16] and therefore could generate increased amounts of runoff that could carry pollutants into the Contra Costa Canal or the Ygnacio Valley Basin. However, the proposed project

[13] Roux Associates, Inc. 2021. Phase I Environmental Site Assessment and Limited Phase II Environmental Investigation Report 2740 Jones Road Walnut Creek, California. August 23.

[14] Ruggeri-Jensen-Azar. 2021. Preliminary Hydrology and Hydraulics Calculations for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.

[15] Darwin Myers Associates. 2021. Geologic Peer Review/30-Day Comments RZ21-3258, SD21-9559 & DP21-3001 Oak Road Townhouse Condominiums. March 19.

[16] Ruggeri-Jensen-Azar. 2021. Preliminary Hydrology and Hydraulics Calculations for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.

would comply with the County's NPDES program and the CCCWP, and all County Ordinance Codes related to stormwater pollution, which would minimize the potential to degrade water quality in downstream water bodies to the maximum extent possible.

As described in the Preliminary Hydrology and Hydraulics Calculations Control Plan, the on-site storm drain system has been designed to meet the County's hydraulic requirements. Based on the hydrograph and hydromodification calculations, it appears on-site storage facilities of 2,800 cubic feet would be needed to mitigate the potential increase of post-development flows and to meet the hydromodification requirements. To meet this requirement, two underground storage vaults are proposed to capture, store, and release the post-development storm flow into the existing off-site storm drainage facilities. These two vaults are placed at the downstream ends of the on-site storm drains at the respective discharge points at Oak Road and Jones Road.[17]

As described in the Preliminary Stormwater Control Plans, the proposed project would utilize and integrate the bioretention technique and approach to meet the LID treatments in compliance with the requirements set forth in the County C.3 Technical Guidance. Bioretention functions as soil and plant-based filtration that removes pollutants through a variety of physical, biological, and chemical process. These facilities consist of a layer of cobble stone (mulch is not recommend), planted landscape (grass, shrub, or trees), sandy loam soil (with a minimum percolation rate of 5 inches/hour and a maximum percolation rate of 10 inches/hour), drain rock and under drains. The stormwater runoff from impervious surface is directed and passed through the bioretention areas and distributed evenly along a ponding area. Stormwater runoff will percolate through the sandy loam treatment soil and eventually captured by the under drains and discharged into the underground storm drains.[18]

Due to the nature of the development and space needed for utilities, underground utility boxes, transformers, and backflow devices, etc., there is limited available open space or landscape area for treatment purposes. Given the physical constraints and limitations, treatment would be optimized by breaking up the new and/or replaced impervious areas in small drainage management areas and using drainage swales, curb openings, and bubble ups to convey the runoff to the treatment areas in paseos, landscape pockets between walkways/buildings and the center open space area on the project site. By implementing this approach, LID bioretention treatment areas are dispersed throughout the site, enabling the project to treat 100 percent of the impervious surface with the bioretention measures.[19]

Therefore, operation-related project impacts related to surface and groundwater, and water quality would be less than significant.

[17] Ruggeri-Jensen-Azar. 2021. Preliminary Hydrology and Hydraulics Calculations for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.

[18] Ruggeri-Jensen-Azar. 2021. Preliminary Stormwater Control Plans for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.

[19] Ruggeri-Jensen-Azar. 2021. Preliminary Stormwater Control Plans for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.

Level of Significance

Less than significant impact.

Groundwater Supply/Recharge

Impact HYD-2: **The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project may impede sustainable groundwater management of the basin.**

Construction

Impacts related to depletion of groundwater supplies or interference with groundwater recharge are limited to operational impacts. No construction impacts would occur in the project site because construction activities would not involve the use of groundwater.

Operation

As detailed in the Phase I Environmental Site Assessment and Limited Phase II Investigation Report, the three irrigation wells located on the project site would be decommissioned prior to redevelopment.[20]

The proposed project would increase impervious surfaces by 36,420 square feet compared to existing conditions.[21] However, the proposed project would incorporate LID techniques as described above in the Impact HYD-1 discussion. In addition, as described in Section 3.14, Utilities and Services Systems, the Contra Costa Water District would be able to provide adequate water services to the project site and the rest of its service area during normal, dry, and multiple dry years, and no groundwater would be used. Thus, the project would not interfere substantially with groundwater supply, recharge, or groundwater management. Therefore, impacts related to groundwater recharge and supply would be less than significant.

Level of Significance

Less than significant impact.

Drainage Leading to Erosion/Siltation, Flooding, Additional Sources of Polluted Runoff, or Impedance of Flood Flows

Impact HYD-3: **The proposed project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**

i) result in substantial erosion or siltation on- or off-site;

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

[20] Roux Associates, Inc. 2021. Phase I Environmental Site Assessment and Limited Phase II Environmental Investigation Report 2740 Jones Road Walnut Creek, California. August 23.

[21] Ruggeri-Jensen-Azar. 2021. Preliminary Hydrology and Hydraulics Calculations for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

(iv) impede or redirect flood flows?

i) Construction-related Erosion and Siltation

The proposed project would have a significant impact if it were to substantially alter the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation on- or off-site. Such drainage effects could occur from grade changes at the project site, exposure of soils for periods of time during stormwater discharge, or alterations to creek beds. These types of changes would have a potentially significant impact related to on-site drainage patterns.

The proposed project would involve construction in an area that is currently characterized almost entirely by impervious surfaces, and the on-site drainage and storm runoff generally sheet flows across the site or is captured by small drainage inlets on-site that are connected by underground storm drain pipes and discharge into existing storm drain facilities in Jones Road and Oak Road.

Construction activity, such as grading and excavation, could result in an alteration to this drainage pattern, potentially resulting in erosion or siltation that could result in polluted runoff exiting the site. This would represent a potentially significant impact.

Implementation of Mitigation Measure (MM) HYD-3 would ensure the proposed project complies with regulations of the NPDES permit consistent with Division 1014 of the Ordinance Code. Additionally, as part of compliance with Division 1014 of the Ordinance Code, the proposed project would also be required to prepare and implement a SWPPP to ensure that erosion, siltation, and flooding are prevented or minimized to the maximum extent feasible during construction. The SWPPP includes both structural (physical devices or measures) and operational (timing of construction) BMPs that would prevent or reduce the discharge of pollutants directly or indirectly into waterbodies. As part of the SWPPP, erosion and control measures would be implemented throughout the duration of construction, including rock barrier bags placed around the catch basin until the site is paved, temporary sediment basins, placement of coarse aggregate gravel at each driveway entrance to the site such that mud or sediments would not be tracked off-site by construction vehicles, and maintaining the site to minimize sediment from entering any storm drain system in stormwater runoff. Therefore, the construction impact related to alteration of drainage patterns resulting in erosion or siltation would be less than significant.

Operation-related Erosion and Siltation

The project site is in an urbanized area and primarily consists of impervious surfaces. Development of the project site would increase impervious surfaces by 36,420 square feet compared to existing conditions,[22] and could result in increased amounts of stormwater runoff that could carry pollutants off-site.

[22] Ruggeri-Jensen-Azar. 2021. Preliminary Hydrology and Hydraulics Calculations for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.

Implementation of MM HYD-3 would ensure the proposed project collects and conveys stormwater entering or originating from the project site consistent with Division 1014 of the Ordinance Code. MM HYD-3 would also require the project applicant to prepare and submit a Final Storm Water Control Plan and Stormwater Control Operation and Maintenance Plan for review and approval by the County Public Works Department. Implementation of MM HYD-3 would ensure a permanent funding source for the operation and maintenance of project stormwater facilities, which would result in a reduction of stormwaters flowing from the site compared to the current condition (see also Section (iii) below). In addition, the proposed project would comply with the County's NPDES program and the CCCWP as well as all relevant provisions of the Ordinance Code related to stormwater pollution, and would also be required to pay drainage fees in accordance with Flood Control Ordinance number 89-24. Therefore, the potential operational impacts related to alteration of drainage pattern resulting in erosion or siltation would be less than significant.

ii) Construction-related Surface Runoff

As described previously, implementation of MM HYD-3 would ensure the proposed project would comply with regulations of the NPDES permit consistent with Division 1014 of the Ordinance Code. Additionally, as part of compliance with the Ordinance Code, the proposed project would be required to prepare and implement a SWPPP to ensure that erosion, siltation, and flooding are prevented or minimized to the maximum extent feasible during construction. The SWPPP would include both structural (physical devices or measures) and operational (timing of construction) BMPs that would prevent or reduce the amount of stormwater runoff that could be deposited directly or indirectly into waterbodies. As part of the SWPPP, erosion and control measures would be implemented throughout the duration of construction that would also limit the volume of stormwater that would be discharged. These measures would include rock barrier bags placed around the catch basin until the site is paved, and temporary sediment basins that would retain stormwater to prevent significant peak flows. As such, construction impacts related to flooding would be less than significant with mitigation incorporated.

Operation-related Surface Runoff

The proposed project would develop a 5.94-acre project site that is currently composed of mostly impervious surfaces. Under existing conditions, stormwater runoff generally sheet flows across the site or is captured by small drainage inlets on-site that connect by underground storm drain pipes and discharge into existing storm drain facilities in Jones Road and Oak Road.

The proposed project would increase impervious surfaces by 36,420 square feet compared to existing conditions,[23] which could increase surface runoff and potentially cause flooding on- or off-site. This would represent a potentially significant impact.

The applicant would be required to comply with Division 914 of the Ordinance Code, which addresses drainage, including provisions requiring appropriate collection and conveyance. The applicant would also be required to implement MM HYD-3, which would ensure that the site discharges to facilities with adequate capacity, and that downstream facilities, if necessary, be made

[23] Ruggeri-Jensen-Azar. 2021. Preliminary Hydrology and Hydraulics Calculations for Oak Road Townhouse Condominiums Contra Costa County, California. March 22.

adequate to accommodate runoff from and through the site. As part of the proposed on-site drainage improvements, runoff from impervious areas on the project site would be routed to 34 bioretention areas for treatment before being discharged into underground storm drains; these improvements would ensure that post-construction surface runoff would be less than existing conditions. Therefore, operation of the proposed project would not result in substantial off-site flooding.

iii) Construction-related Exceedance of Storm Drain Capacity

During construction, the proposed project could increase stormwater runoff generation, which could potentially lead to flooding on or off-site. However, the proposed project would be required to implement a SWPPP as part of its Construction General Permit to ensure that stormwater generation and pollutants are prevented or minimized to the maximum extent feasible during construction through the implementation of standard BMPs. Therefore, the construction impact related to exceedance of storm drain capacity and stormwater pollution would be less than significant.

Operation-related Exceedance of Storm Drain Capacity

The proposed project would not increase impervious surfaces compared to existing conditions, and therefore is not likely generate increased amounts of runoff. As described in the Stormwater Control Plan, the proposed project would incorporate LID techniques to allow for stormwater infiltration and treatment in 34 bioretention areas before being discharged to the storm drain system. The proposed project would use 100 percent LID, meaning 100 percent of project runoff would be contained and treated on-site before being discharged. This would be accomplished by optimizing site layout and by and by using drainage swales, curb openings, and bubble ups to convey the runoff to the treatment areas in paseos, landscape pockets between walkways/buildings and the center open space area on the project site.

Furthermore, compliance with the CCCWP and the Ordinance Code would ensure that project operation would not create runoff that exceeds the capacity of existing or planned stormwater drainage systems or provide sources of stormwater or polluted runoff. Thus, operation of the project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems (see Impact UTIL-1) or provide substantial additional sources of polluted runoff. Therefore, the operational impact related to additional sources of polluted runoff would be less than significant.

iv) Construction-related Impacts to Flood Flows

Impacts related to impedance of flood flows would only occur during the operational phase of the project. As such, no construction impedance of flood flow impacts would occur.

Operation-related Impacts to Flood Flows

As described in the Environmental Setting, the project site is designated Zone X—area of minimal flood hazard. As described in further detail under Impact HYD-4, the project site is not susceptible to inundation from flood hazards, tsunamis, or seiches. As a result, the proposed project is not anticipated to have any effect in terms of impeding or redirecting flood flows. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM HYD-3 Prepare Final Drainage Plan Prior to Grading

- In accordance with Division 914 of the County Ordinance Code, the project shall collect and convey all stormwater entering and/or originating on this property, without diversion and within an adequate storm drainage facility, to a natural watercourse having definable bed and banks, or to an existing adequate public storm drainage system that conveys the stormwater to a natural watercourse. Any proposed diversions of the watershed shall be subject to hearing body approval. Prior to issuance of a grading permit, the applicant shall obtain a Flood Control Permit from the applicant and Permit Center, submit improvement plans for proposed drainage improvements, and a drainage report with hydrology and hydraulic calculations to the Engineering Services Division of the Public Works Department for review and approval that demonstrates the adequacy of the in-tract drainage system and the downstream drainage system. The applicant shall verify the adequacy at any downstream drainage facility accepting stormwater from this project prior to discharging runoff. If the downstream system(s) is not adequate to handle the Existing Plus Project condition for the required design storm, improvements shall be constructed to make the system adequate. The applicant shall obtain access rights to make any necessary improvements to off-site facilities.
- In accordance with Division 1014 of the County Ordinance Code, the applicant shall comply with all rules, regulations, and procedures of the National Pollutant Discharge Elimination System (NPDES) for municipal, construction, and industrial activities as promulgated by the California State Water Resources Control Board, or any of its Regional Water Quality Control Boards (San Francisco Bay—Region 2); and
- Submit a Final Stormwater Control Plan and a Stormwater Control Operation and Maintenance Plan (O&M Plan) to the Public Works Department, which shall be reviewed for compliance with the County's NPDES Permit and shall be deemed consistent with the County's Stormwater Management and Discharge Control Ordinance (Division 1014) prior to issuance of a building permit. Improvement Plans shall be reviewed to verify consistency with the Final Stormwater Control Plan and compliance with the Contra Costa Stormwater C.3 Guidebook of the County's NPDES Permit and the County's Stormwater Management and Discharge Control Ordinance (Division 1014) and be designed to discourage prolonged standing/ponding of water on-site.

Level of Significance After Mitigation

Less than significant impact.

Risk of Pollutant Release Due to Inundation

Impact HYD-4: The proposed project would not be located in a flood hazard zone, tsunami, or seiche zone, or risk release of pollutants due to project inundation.

Construction

Impacts related to inundation are limited to operational impacts. As such, no construction impacts would occur.

Operation

As described previously, FEMA designates the project site Zone X—area of minimal flood hazard.[24] The closest designated 100-year flood hazard zone to the project site is Walnut Creek, located approximately 0.46 miles to the east.[25] Therefore, the project site is not located within a recognized flood hazard area.

The project site is not located near the ocean, and as such would not be susceptible to inundation from a tsunami. The project site is not located near a large, enclosed body of water and as such would not be susceptible to inundation from a seiche. As a result, the project site would not be a risk for inundation from flooding, tsunami, or seiche. Therefore, impacts related to risk of pollutant release due to inundation would be less than significant.

Level of Significance

Less than significant impact.

Water Quality Control or Sustainable Groundwater Management Plans Consistency

Impact HYD-5: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Construction

The proposed project would not conflict with the County Watershed Program and the County's NPDES program. Given that proposed construction would disturb more than 1 acre of land, the proposed project would be required to comply with the terms of the Construction General Permit, which require the preparation and implementation of a SWPPP that includes BMPs to ensure reduction of pollutants from construction activities potentially entering surface or groundwater. Therefore, construction impacts related to water quality control plan or groundwater management plan consistency would be less than significant.

Operation

The project site is located within the Ygnacio Valley Groundwater Basin. The project site has little potential for groundwater recharge due to shallow groundwater levels. In addition, the Contra Costa Water District would provide potable water to the project site and the project would not use groundwater as a water source. As a result, the project would not conflict with or obstruct a

[24] Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) Viewer FIRMette. 2020. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed June 4, 2021.

sustainable groundwater management plan. Therefore, operational impacts related to a water quality control plan or groundwater management plan consistency would be less than significant.

Level of Significance

Less than significant impact.

3.9.5 - Cumulative Impacts

Hydrology

Cumulative impacts related to hydrology and water quality typically occur within a defined watershed. All properties on the cumulative projects list in Table 3-1 are located within the Walnut Creek Watershed, and all respective surface water in the watershed eventually discharges into Suisun Bay. Some cumulative projects are located within Contra Costa County, including the project, and would be required to comply with the CCCWP and Contra Costa County General Plan policies, which prevent a project from increasing off-site surface water flow from existing conditions and ensure that projects adhere to best practices during construction to prevent pollutants from being carried off-site. Some cumulative projects are located in the Cities of Walnut Creek and Pleasant Hill. Cumulative development in the City of Walnut Creek would be required to demonstrate consistency with the City of Walnut Creek General Plan and applicable codes, ordinances, and policies related to preventing pollutants from being conveyed off-site. Cumulative development in the City of Pleasant Hill would be required to demonstrate consistency with the City of Pleasant Hill General Plan and applicable codes, ordinances, and policies related to preventing pollutants from being conveyed off-site. The combination of these policies and best practices would prevent significant cumulative impacts to hydrology. Thus, there would be a less than significant cumulative impact related to hydrology.

Water Quality

The geographic context for consideration of cumulative impacts related to surface water quality is the Walnut Creek Watershed. All cumulative projects, including the project, would involve short-term construction and long-term operational activities that would have the potential to degrade water quality in downstream water bodies, including Walnut Creek and Suisun Bay. All cumulative project construction would be required to obtain a Construction General Permit from the State Water Board, which would require preparation of a SWPPP that would control potential discharges of contaminants into Walnut Creek and Suisun Bay. Operations of these cumulative projects would be required to comply with the CCCWP, County Ordinance Code regarding stormwater, or the Cities of Walnut Creek and Pleasant Hill applicable codes, ordinances, and policies related to water quality. Development in the County would be required to implement similar measures in accordance with adopted regulations, while projects would be subject to the Construction General Permit if applicable. Development in the City of Walnut Creek would be required to implement similar measures in accordance with adopted regulations, while projects would be subject to the Construction General Permit if applicable. Development in the City of Pleasant Hill would be required to implement similar measures in accordance with adopted regulations, while projects would be subject to the Construction General Permit if applicable. Thus, there would be a less than significant cumulative impact related to surface water quality.

The geographic context for consideration of cumulative impacts related to groundwater quality and management is the Ygnacio Valley Groundwater Basin. All cumulative projects, including the project, would involve short-term construction and long-term operational activities that would have the potential to impact groundwater quality and management. All cumulative project construction would be required to obtain a Construction General Permit from the State Water Board, which would require preparation of a SWPPP that would control pollutants that could seep into groundwater. Operations of cumulative projects in Contra Costa County would be required to comply with the CCCWP and the County Ordinance Code regarding groundwater. Operations of cumulative projects in Walnut Creek would be required to comply with the CCCWP and the City of Walnut Creek Ordinance Code regarding groundwater. Operations of cumulative projects in Pleasant Hill would be required to comply with the CCCWP and the City of Pleasant Hill Ordinance Code regarding groundwater. Thus, there would be a less than significant cumulative impact related to groundwater quality.

Level of Cumulative Significance

Less than significant impact.

3.10 - Land Use and Planning

3.10.1 - Introduction

This section describes existing conditions related to land use and planning as well as the relevant regulatory framework. This section also evaluates the possible impacts related to land use and planning that could result from implementation of the proposed project. Information included in this section is based on review of applicable land use policies and regulations, including the Contra Costa General Plan (General Plan) and Contra Costa County Ordinance Code (Ordinance Code).

During the Notice of Preparation (NOP) comment period, the following comments were received related to the proposed project regarding land use and planning:

- Concern that the setback between the proposed project Buildings F, G, and H are too close to neighboring buildings. References larger setbacks between other neighborhood communities.
- Various concerns due to the proposed heights of proposed Buildings F, G, and H.
- Concern that the proposed project would increase density.
- Provided examples of setback between existing developments along Oak Road in the vicinity of the proposed project, which are larger than with those associated with the proposed project.
- Neighboring residents asking for neighboring residents are asking for larger setback due to various concerns.
- Offered less dense, community-oriented alternatives to the proposed project.
- Concern that the roof decks would exceed the allowed height for P-1 zoning and will be significantly taller than the surrounding community.
- Request to have a discussion with the County and the developer to come up with a plan that would consider the setbacks and building heights and sizes.
- Privacy concerns due to the small setback.
- Stated that the northern property line of the proposed project is the front yard of the adjacent development.

3.10.2 - Environmental Setting

Existing Land Use Activities

Surrounding Area

West

Jones Road bounds the project site on the west; to the west of Jones Road is I-680, with commercial and multi-family uses, and Bay Area Rapid Transit (BART) tracks.

North

Multi-family residential uses are located along Jones Road, Oak Road, and Treat Boulevard to the north. Office uses are located north of Jones Road and Treat Boulevard. The nearest BART station (Pleasant Hill/Contra Costa Centre Station) is located approximately 0.35-mile northeast of the project site.

East

Oak Road bounds the project site to the east, with multi-family residential uses across Oak Road.

South

There are multi-family residential uses to the south of the project site. The Contra Costa Canal and Trail is located approximately 470 feet south of the project site.

Project Site

The 5.94-acre project site consists of eight parcels; refer to Exhibit 2-5 in Section 2, Project Description. The project site is relatively flat (approximately 90 and 95 feet above mean sea level). The regional topographic gradient slopes gently to the northeast. The site is developed with structures associated with the former Palmer School for Boys and Girls, a private elementary school which operated at the project site from 1939 until its closure due to COVID-19 in June 2020.

The former school consists of 14 vacant buildings and associated structures, including classrooms, an auditorium, a front office, a paved courtyard, a grass field, tennis courts, basketball courts playgrounds, a swimming pool, parking lots and planters. Multiple storage sheds are present on the school site. The classrooms, located in the southern portion of the school site, are generally empty or used as storage rooms for classroom materials. Situated outside of the classrooms are rows of lockers, bathrooms, and a janitorial supply closet with a boiler. A landscaping area behind the classrooms along the southern boundary of the project site includes planter boxes, storm drain lines, and power boxes, and a partially uncovered pipe which appears to be related to storm drainage. In the southeast corner of the project site is a 2-story auditorium formerly used as a storage area containing a kitchen, stage, water heater, and empty storage rooms on the second floor.

Structures in the northern portion of the project site are associated with previous residential uses that were converted into storage areas for the school; these structures are currently occupied by the property owners' family members serving as caretaker and security for the property and existing improvements.

Land Use Designations and Zoning

Surrounding Area

The project site borders the City of Walnut Creek on the west and east sides; land uses to the north and south are located in unincorporated Contra Costa County. Table 3.10-1 summarizes the surrounding General Plan and Zoning by jurisdiction.

Table 3.10-1: Surrounding Land Use Designations and Zoning

Relationship to Project Site	Description	Jurisdiction	General Plan	Zoning
West	BART right-of-way	City of Walnut Creek	N/A	N/A
	Interstate 680	City of Walnut Creek	N/A	N/A
North	Multi-family residential	Unincorporated Contra Costa County	Multi-family Residential–High	M-29
East	Multi-family residential	City of Walnut Creek	Multi-family Medium High (22.1 to 30 dwelling units/acre)	MH-1.5
South	Multi-family residential	Unincorporated Contra Costa County	Multi-family Residential–High	M-17; P1

Notes:
N/A = Not available; the City of Walnut Creek General Plan and Zoning Ordinance do not provide land use designations for road or rail right-of-way
Source: Contra Costa County; 2021; City of Walnut Creek 2021.

Project Site

The General Plan designates the project site as Multiple-Family Residential–High (MH). The County's Zoning Map designates the project site as R-15, M-17, and M-29. Exhibits 2-3 and 2-6 depict the current General Plan designations and current zoning, respectively.

3.10.3 - Regulatory Framework

Federal

No federal plans, policies, regulations, or laws related to land use and planning are applicable to the proposed project.

State

No State plans, policies, regulations, or laws related to land use and planning are applicable to the proposed project.

Regional

Plan Bay Area

Plan Bay Area, published by the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), is a long-range integrated transportation and land use/housing strategy through 2040 for the Bay Area. Plan Bay Area functions as the sustainable communities' strategy mandated by Senate Bill (SB) 375. As a regional land use plan, Plan Bay Area aims to reduce per capita greenhouse gas (GHG) emissions through the promotion of more compact, mixed-use residential and commercial neighborhoods located near transit. Plan Bay Area is built on Priority Development Areas selected and approved by city and county governments with planning grants, technical assistance, and prioritization for regional and State transportation and affordable housing funds. Plan Bay Area is a limited and focused update that builds upon a growth pattern and

strategies developed in the original Plan Bay Area (adopted by MTC in 2013) but with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last 4 years.

Plan Bay Area 2050 is currently in process by the MTC and ABAG. Plan Bay Area 2050 focuses on four key issues: The economy, the environment, housing, and transportation. This new regional plan outlines strategies for growth and investment through the year 2050, while simultaneously striving to meet and exceed federal and state requirements. The MTC and ABAG are expected to adopt Plan Bay Area 2050 in fall 2021.[1]

Regional Housing Need Plan

In December 2013, ABAG projected regional housing needs in its Regional Housing Needs Plan for the San Francisco Bay Area: 2015–2023.[2] According to this Plan, unincorporated Contra Costa County's projected housing need from 2015 to 2023 is 1,367 residential units, consisting of:

- 374 units within the very-low-income level (0–50 percent of area median income);
- 218 units within the low-income level (51–80 percent of area median income);
- 243 units within the moderate-income level (81–120 percent of area median income); and
- 532 units within the above-moderate-income level (more than 120 percent of area median income).

The Draft Regional Housing Needs Allocation (RHNA) Methodology and Final RHNA Subregional Shares for the San Francisco Bay Area, 2023-2031, were approved by the ABAG Executive Board on January 21, 2021. The release of the Draft Allocations in which a local jurisdiction or the California Department of Housing and Community Development (HCD) can submit an appeal to any Bay Area jurisdiction's allocation is summer and fall 2021. Final Allocations are expected to be adopted in late 2021.[3] According to the RHNA Draft Methodology: San Francisco Bay Area, 2023-2031, unincorporated Contra Costa County's draft projected housing need from 2023-2031 is 7,645 residential units, consisting of:

- 2,082 units within the very-low-income level (0–50 percent of area median income);
- 1,199 units within the low-income level (51–80 percent of area median income);
- 1,217 units within the moderate-income level (81–120 percent of area median income); and
- 3,147 units within the above-moderate-income level (more than 120 percent of area median income).[4]

[1] Plan Bay Area 2050. 2021. Website: https://www.planbayarea.org/plan-bay-area-2050-1. Accessed May 14, 2021.
[2] Association of Bay Area Governments (ABAG). 2013. Regional Housing Need Plan-San Francisco Bay Area: 2015-2023. December. Website: https://abag.ca.gov/sites/default/files/2015-23_rhna_plan.pdf. Accessed May 15, 2021,
[3] Association of Bay Area Governments (ABAG). 2021. RHNA–Regional Housing Needs Allocation. Website: https://abag.ca.gov/our-work/housing/rhna-regional-housing-needs-allocation. Accessed May 15, 2021.
[4] Association of Bay Area Governments (ABAG). February 2021. Regional Housing Needs Allocation Draft Methodology: San Francisco Bay Area, 2023-2031, Table 5. Website: https://abag.ca.gov/sites/default/files/documents/2021-02/ABAG_Draft_RHNA_Methodology_Report_2023-2031.pdf. Accessed May 15, 2021.

Local

Contra Costa County General Plan

The General Plan serves as the fundamental land use and development policy document and identifies how the unincorporated areas will grow and conserve their resources. The General Plan contains the following elements: Land Use, Growth Management, Transportation and Circulation, Housing, Public Facilities and Services, Conservation, Open Space, Safety, and Noise.

Within each element, the County General Plan sets forth goals, policies, and implementation measures to guide future development and land use activities. Goals provide a description of general community values and set the direction for more specific policies and implementation programs related to public health, safety, or general welfare. Policies are based upon goals and provide a specific statement intended to guide the decision-making body. Implementation measures are specific actions, procedures, programs, or techniques that carry out policies.

General Plan Land Use Element

The General Plan Land Use Element includes land use goals, objectives, and policies, as well as a Land Use Element Map. The map illustrates land use designations throughout the County. The Land Use Element Map designates the site MH (Chapter 2, Project Description, Exhibit 2-3). Pursuant to the General Plan Land Use Element, the MH designation allows between 22.0 and 29.9 multiple-family units per net acre, and residential units can range up to 1,979 square feet. Primary land uses include attached single-family residences (such as duplexes or duets), multiple-family residences such as condominiums, town houses, apartments, mobile home parks as well as accessory buildings and structures ancillary to the primary uses. Secondary land uses that do not conflict with primary uses may also be allowed. These include churches, accessory dwelling units, home occupations, and group care and/or childcare facilities.[5]

The following General Plan goals and policies that are applicable to the proposed project:

Land Use Element

Goal 3-A To coordinate land use with circulation, development of other infrastructure facilities, and protection of agriculture and open space, and to allow growth and the maintenance of the County's quality of life. In such an environment, all residential, commercial, industrial, recreational, and agricultural activities may take place in safety, harmony, and to mutual advantage.

Goal 3-C To encourage aesthetically and functionally compatible development which reinforces the physical character and desired images of the County.

Goal 3-E To recognize and support existing land use densities in most communities, while encouraging higher densities in appropriate areas, such as near major transportation hubs and job centers.

[5] Contra Costa County General Plan, Chapter 3: Land Use Element. 2005 (reprint 2010), page 3-21. Website: https://www.contracosta.ca.gov/DocumentCenter/View/30913/Ch3-Land-Use-Element?bidId=. Accessed May 17, 2021.

Goal 3-F To permit urban development only in locations of the County within identified outer boundaries of urban development where public service delivery systems that meet applicable performance standards are provided or committed.

Goal 3-J To encourage a development pattern that promotes the individuality and unique character of each community in the County.

Policies

Policy 3-5 New development within unincorporated areas of the County may be approved, providing growth management standards and criteria are met or can be assured of being met prior to the issuance of building permits in accordance with the Growth Management Program.

Policy 3-6 Development of all urban uses shall be coordinated with provision of essential Community services or facilities including but not limited to roads, law enforcement and fire protection services, schools, parks, sanitary facilities, water, and flood control.

Policy 3-7 The location, timing and extent of growth shall be guided through capital improvements programming and financing (i.e., a capital improvement program, assessment districts, impact fees, and developer contributions) to prevent infrastructure, facility, and service deficiencies.

Policy 3-8 Infilling of already developed areas shall be encouraged. Proposals that would prematurely extend development into areas lacking requisite services, facilities and infrastructure shall be opposed. In accommodating new development, preference shall generally be given to vacant or under-used sites within urbanized areas, which have necessary utilities installed with available remaining capacity, before undeveloped suburban lands are utilized.

Policy 3-18 Flexibility in the design of projects shall be encouraged in order to enhance scenic qualities and provide for a varied development pattern.

Policy 3-22 Housing opportunities for all income levels shall be created. Fair affordable housing opportunities should exist for all economic segments of the County.

Policy 3-23 A diversity of living options shall be permitted while ensuring community compatibility and quality residential development.

Policy 3-24 Housing opportunities shall be improved through encouragement of distinct styles, desirable amenities, attractive design, and enhancement of neighborhood identity.

Policy 3-25 Innovation in site planning and design of housing developments shall be encouraged in order to upgrade quality and efficiency of residential living arrangements and to protect the surrounding environment.

Policy 3-28 New residential development shall be accommodated only in areas where it will avoid creating severe unmitigated adverse impacts upon the environment and upon the existing community.

Growth Management Element

Goal 4-A To provide for the levels of growth and development depicted in the Land Use Element, while preserving and extending the quality of life through the provision of public facilities and ensuring traffic levels of services necessary to protect the public health, safety, and welfare.

Policies

Policy 4-5 For the purpose of applying the Traffic Level of Service standards consistent with Measure C-1988 only, unincorporated areas subject to the growth management standards of this Element shall be characterized as Central Business District, Urban, Suburban, Semi-rural and Rural as depicted in Figure 4-2.

General Plan Transportation and Circulation Element

Goal 5-C To balance transportation and circulation needs with the desired character of the community.

Goal 5-D To maintain and improve air quality above air quality standards.

Goal 5-E To permit development only in locations of the County where appropriate traffic level of service standards are ensured.

Goal 5-G To provide access to new development while minimizing conflict between circulation facilities and land uses.

Goal 5-I To encourage use of transit.

Goal 5-L To reduce greenhouse gas emissions from transportation sources through provision of transit, bicycle, and pedestrian facilities.

Policies

Policy 5-3 Transportation facilities serving new urban development shall be linked to and compatible with existing and planned roads, bicycle facilities, pedestrian facilities and pathways of adjoining areas, and such facilities shall use presently available public and semi-public rights of way where feasible.

Policy 5-4 Development shall be allowed only when transportation performance criteria are met and necessary facilities and/or programs are in place or committed to be developed within a specified period of time.

Policy 5-12 The use of local and collector roadways for neighborhood circulation shall be encouraged.

Policy 5-13 The use of pedestrian and bicycle facilities shall be encouraged. Proper facilities shall be designed to accommodate bikes, pedestrians, and transit.

Policy 5-15 Adequate lighting shall be provided for pedestrian, bicyclist, and vehicular, safety, consistent with neighborhood desires.

Policy 5-16 Curbs and sidewalks shall be provided in appropriate areas.

Policy 5-17 Emergency response vehicles shall be accommodated in development project design.

Policy 5-20 New development (including redevelopment and rehabilitation projects) shall contribute funds and/or institute programs to reduce parking demand and/or provide adequate parking.

Policy 5-21 New development shall contribute funds and/or institute programs to provide adequate bicycle and pedestrian facilities where feasible.

Policy 5-24 Use of alternative forms of transportation, such as transit, bike, and pedestrian modes, shall be encouraged in order to provide basic accessibility to those without access to a personal automobile and to help minimize automobile congestion and air pollution.

Policy 5-32 Local road dimensions shall complement the scale and appearance of adjoining properties.

General Plan Housing Element

Goal 6-1 Maintain and improve the quality of the existing housing stock and residential neighborhoods in Contra Costa County.

Goal 6-3 Increase the supply of housing with a priority on the development of affordable housing, including housing affordable to extremely low-income households.

Goal 6-6 Provide adequate sites through appropriate land use and zoning designations to accommodate the County's share of regional housing needs.

Policies

Policy 6-3.3 Increase the supply of affordable housing and encourage the development of mixed-income housing through the Inclusionary Housing Ordinance.

General Plan Public Facilities Element

Goal 7-F To assure potable water availability in quantities sufficient to serve existing and future residents.

Goal 7-J To ensure that new development pays the costs related to the need for increased water system capacity.

Goal 7-N To assure that new development pays the costs related to the need for increased sewer system capacity.

Goal 7-T To ensure that new development pays its fair share of the costs related to increased runoff created by the development.

Goal 7-Y To ensure a high standard of fire protection, emergency, and medical response services for all citizens and properties throughout Contra Costa County.

Goal 7-AE To provide for the safe, efficient, and cost-effective removal of waste from residences, and businesses.

Goal 7-AR To assure that primary and secondary school facilities are adequate or committed to be adequate, prior to approvals of major applications for residential growth.

Policies

Policy 7-1 New development shall be required to pay its fair share of the cost of all existing public facilities it utilizes, based upon the demand for these facilities which can be attributed to new development.

Policy 7-2 New development, not existing residents, should be required to pay all costs of upgrading existing public facilities or constructing new facilities which are exclusively needed to serve new development.

Policy 7-21 At the project approval stage, the County shall require new development to demonstrate that adequate water quantity and quality can be provided. The County shall determine whether (1) capacity exists within the water system if a development project is built within a set period of time, or (2) capacity will be provided by a funded program or other mechanism. This finding will be based on information furnished or made available to the County from consultations with the appropriate water agency, the applicant, or other sources.

Policy 7-44 New development should be required to finance its legal share of the full costs of drainage improvements necessary to accommodate projected peak flows due to the project. Reimbursement from subsequent developments which benefit from the added capacity may be provided.

Policy 7-64 New development shall pay its fair share of costs for new fire protection facilities and services.

Policy 7-66 Sprinkler systems may be required in new residential structures, where necessary to protect health, safety, and welfare.

General Plan Safety Element

Goal 10-A To protect human life and reduce the potential for serious injuries from earthquakes; and to reduce the risks of property losses from seismic disturbances which could have severe economic and social consequences for the County as a whole.

Goal 10-B To reduce to a practical minimum injuries and health risks resulting from the effects of earthquake ground shaking on structures, facilities, and utilities.

Policies

Policy 10-10 Policies regarding liquefaction shall apply to other ground failures which might result from ground shaking, but which are not subject to such well-defined field and laboratory analysis.

General Plan Noise Element

Goal 11-A To improve the overall environment in the County by reducing annoying and physically harmful levels of noise for existing and future residents and for all land uses.

Policies

Policy 11-2 The standard for outdoor noise levels in residential areas is a L_{dn} of 60 dB. However, a L_{dn} of 60 dB or less may not be achievable in all residential areas due to economic or aesthetic constraints. One example is small balconies associated with multi-family housing. In this case, second and third story balconies may be difficult to control to the goal. A common outdoor use area that meets the goal can be provided as an alternative.

Policy 11-4 Title 24, Part 2, of the California Code of Regulations requires that new multiple family housing projects, hotels, and motels exposed to a L_{dn} of 60 dB or greater have a detailed acoustical analysis describing how the project will provide an interior Day-Night Level (DNL) of 45 dB or less. The County also shall require new single-family housing projects to provide for an interior DNL of 45 dB or less.

Policy 11-5 In developing residential areas exposed to a L_{dn} in excess of 65 dB due to single events such as train operation, indoor noise levels due to these single events shall not exceed a maximum A-weighted noise level of 50 dB in bedrooms and 55 dB in other habitable rooms. Single event indoor residential noise levels from airport related causes will be 45 dB CNEL.

Contra Costa County Ordinance Code

The Ordinance Code (Title 8) regulates land use and structures in order to implement the goals and policies presented in the General Plan. The Ordinance Code provides the basis for how to promote health, safety, and welfare to the public, and preserve and enhance the aesthetics quality of life.

The site is located within the R-15, M-17, and M-29 Zoning District (Chapter 2, Project Description, Exhibit 2-6, and Table 2-2) on the County's Zoning Map. The project applicant is requesting a zone change to P-1 across the entire project site. Accordingly, the R-15, M-17, and M-29 designations are described more succinctly below, and a discussion of the P-1 designation is also included.

Single-Family Residential District (R-15)

Pursuant to the Ordinance Code Chapter 84-12.402, the following uses are permitted in the R-15 Zoning District:

1. A detached single-family dwelling on each lot and the accessory structures and uses normally auxiliary to it.
2. Crop and tree farming.
3. Publicly owned parks and playgrounds.
4. A residential care facility for the elderly, operated by a person with all required state and local agency approvals or licenses, where no more than six persons reside or receive care, not including the licensee or members of the licensee's family or persons employed as facility staff.
5. A family day care home where care, protection, and supervision of twelve or fewer children in the provider's own home are provided for periods of less than twenty-four hours per day, while the parents or guardians are away.
6. Bird enclosures in compliance with the provisions of Chapter 82-50.
7. Accessory dwelling units and junior accessory dwelling units in compliance with the provisions of Chapter 82-24.
8. Urban farm animal raising and keeping in compliance with the provisions of Chapter 82-50.

Table 3.10-2 identifies the development standards for land uses, structures, and site development within the R-15 Zoning District.

Table 3.10-2: R-15 Zoning District Development Standards

Development Feature	Requirement
Minimum Lot Area	15,000 square feet
Minimum Lot Width	100 feet
Minimum Lot Depth	100 feet
Maximum Building Height	35 feet
Minimum Yard–Side	10 feet
Minimum Yard–Setback	20 feet
Minimum Yard–Rear	15 feet
Parking	2 parking spaces/dwelling unit
Source: Contra Costa County Ordinance Code R-15 Development Standards.	

Multiple-Family Residential District (M-29)

Pursuant to the Ordinance Code Chapter 84-26.402, the following uses are permitted in the M-29 Zoning District:

1. A detached single-family dwelling on each lot and the accessory structures normally auxiliary to it.
2. Duplex.
3. Multiple family buildings, but not including motels or hotels.
4. Crop and tree farming, not including retail nurseries or the raising or keeping of any animals other than ordinary household pets.
5. A foster family home or a small family home, as those terms are defined in Health and Safety Code Section 1502(a), that has obtained all required state and local agency approvals and licenses.
6. A small family childcare home or a large family childcare home, as those terms are defined in California Code of Regulations, Title 22, Section 102352(f)(1), that has obtained all required state and local agency approvals and licenses.
7. A residential care facility for the elderly, operated by a person with all required state and local agency approvals and licenses, where not more than six persons reside, or members of the licensee's family or persons employed as facility staff.
8. Accessory dwelling units in compliance with the provisions of Chapter 82-24.
9. Supportive housing, operated by a person with all required state and local agency approvals and licenses, where not more than six persons reside.
10. Transitional housing, operated by a person with all required state and local agency approvals and licenses, where not more than six persons reside.

Table 3.10-3 identifies the development standards for land uses, structures, and site development within the M-29 Zoning District.

Table 3.10-3: M-29 Zoning District Development Standards

Development Feature	Requirement
Minimum Lot Area	6,000–10,000 square feet
Minimum Lot Width	None required
Minimum Lot Depth	None required
Maximum Building Height	30 feet
Minimum Yard–Side	20 feet
Minimum Yard–Setback	20 feet
Minimum Yard–Rear	20 feet
Maximum Lot Coverage	35 percent
Maximum Density	29 units/acre

Development Feature	Requirement
Parking	1 parking space/studio unit 1.5 parking spaces/1-bedroom unit 2 parking spaces/2-bedroom 0.25 guest parking space/unit
Minimum Landscaped Area	25 percent
Notes: * Minimum Lot Area is based on type of building or structure proposed as defined in Section 84,26,602 of the Contra Costa County Ordinance Code. Source: Contra Costa County Ordinance Code M-29 Development Standards.	

Multiple-Family Residential District (M-17)

Pursuant to the Ordinance Code Chapter 84-28.402 and 84-28.402, all uses permitted for the M-29 Zoning District are permitted in the M-17 Zoning District with the following exceptions:

1. Coverage. No building or structure permitted in the M-17 district shall cover more than twenty-five percent of the lot area.
2. Unit Density. The maximum number of apartment units allowed in this district is seventeen per acre which maximum may be reduced as part of development plan review and approval. For each apartment unit a minimum of twenty-five hundred square feet of land in area shall be provided.

Planned Unit District (P-1)

As stated in Chapter 84-66.204, the intent of the P-1 district is to allow "diversification in the relationship of various uses, buildings, structures, lot sizes and open space while insuring (*sic*) substantial compliance with the General Plan and the intent of the County Code in requiring adequate standards necessary to satisfy the requirements of the public health, safety and general welfare. These standards shall be observed without unduly inhibiting the advantages of large-scale or special area planning."[6]

The following uses are allowed in the P-1 district:[7]

a) Any land use permitted by an approved final development plan that are in harmony with each other, serve to fulfill the function of the planned unit development, and are consistent with the General Plan.

b) A detached single-family dwelling on each legally established lot and the accessory structures and uses normally auxiliary to it.

c) Single room occupancy facilities that meet the requirements of Chapter 82-48.

[6] Contra Costa County. 2018. Contra Costa County Ordinance Code, Chapter 84-66.204-Intent and Purpose. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV84LAUSDI_CH84-66PLUNDI. Accessed June 21, 2021.

[7] Contra Costa County. 2018. Contra Costa County Ordinance Code, Chapter 84-66.402-Uses. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV84LAUSDI_CH84-66PLUNDI_ART84-66.2GE_84-66.204INPU. Accessed June 23. 2021.

d) In a P-1 district for which residential uses are approved, the following uses are allowed:

1) Accessory dwelling units complying with the provisions of Chapter 82-24.
2) Supportive housing, operated by a person with all required State and local agency approvals and licenses, where not more than six person reside.
3) Transitional housing, operated by a person with all required state and local agency approval and licenses, where not more than six persons reside.

e) Commercial cannabis activities that meet the requirements of Chapter 88-28.

Article 84-66 establishes the minimum areas for uses within the P-1 zoning district. Article 84-66.8 establishes the residential density requirements for P-1. Table 3.10-4 summarizes these requirements.

Table 3.10-4: P-1 District Development Standards

Development Feature	Requirement
Area (Minimums)	
Residential	5 acres for residential uses except that a mobile home subdivision shall have a minimum of 10 acres
Nonresidential	10 acres for nonresidential uses
Mixed	15 acres for mixed residential and nonresidential uses
Office	No minimum for office uses which do not require heavy vehicular delivery or have easy automobile site access including some ancillary retail, service, and residential uses when consistent with the General Plan.
Density	
Residential	In computing the net development area to set residential densities, use the General Plan as a guide and exclude areas set aside for churches, schools, streets, commercial use, or other nonresidential use, but include areas set aside for common open space, outdoor recreation or parks.
Source: Contra Costa County Ordinance Code Articles 84-66.6 and 84-66.8 (2018).	

Bicycle Parking

Section 82-16.412 of the Ordinance Code sets forth the amounts of long-term and short-term bicycle parking that a project must provide. The Ordinance Code requires a multi-family dwelling with a private garage to provide space for 5 percent of the number of bedrooms for short-term parking, or two spaces (whichever is greater). Long-term bicycle parking is not required. .[8] Therefore, the proposed project would be required to provide 23 short-term bicycle parking spaces.

[8] Contra Costa County Ordinance Code. 2018. Chapter 82-16.412—Bicycle Parking. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV82GERE_CH82-16OREPA_82-16.412BIPA. Accessed May 19, 2021.

3.10.4 - Impacts and Mitigation Measures

Significance Criteria

According to California Environmental Quality Act (CEQA) Guidelines Appendix G, to determine whether impacts related to land use and planning are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

a) Physically divide an established community?
b) Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Approach to Analysis

Analysis in this section focuses on whether project implementation would physically divide an established community and whether the proposed project would conflict with land use plans, policies, or regulations adopted to avoid or mitigate an environmental effect. Conflicts and inconsistencies with a policy, in and of themselves, do not constitute significant environmental impacts, unless such conflicts or inconsistencies result in direct physical environmental impacts. Physical project impacts are discussed throughout Chapter 3, Environmental Impact Analysis, of this Draft Environmental Impact Report (Draft EIR). The potential for land use impacts was assessed through review of applicable land use policy documents.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of land use and planning impacts resulting from implementation of the proposed project:

- Development resulting in physically dividing the surrounding community.
- Development conflicting with the General Plan or Ordinance Code.

Impact Evaluation

Divide an Established Community

Impact LAND-1: The proposed project would not physically divide an established community.

Construction

Impacts related to physical division of an established community are limited to operational impacts. No respective construction impacts would occur.

Operation

The physical division of an already established community typically refers to construction of a linear feature, such as an interstate, railroad tracks, or the removal of a means of access that would impact mobility within an established community and an outlying area. The proposed project would include the construction of 125 townhouse condominium units located in 19 three-story buildings, and associated amenities and landscaped open space, as well as 272 on-site parking spaces with available spaces along the street frontage. The proposed project would also involve the demolition

of all existing improvements currently on-site and associate with the former school. The development of the proposed townhouse condominium buildings would not impair access to any established community, impede travel or otherwise constitute division of an established community. Rather, the proposed project would establish connectivity and pedestrian access between Jones Road and Oak Road by providing private street and walkable landscaped open space. Impacts would be less than significant.

Level of Significance

Less than significant impact.

Conflict with Applicable Land Use Plans, Policies, or Regulations

Impact LAND-2:	**The proposed project would not cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.**

Development of the proposed project would result in a significant impact if it would conflict with applicable land use plans and policies of the General Plan or the Ordinance Code that were adopted for the purpose of avoiding or mitigating an environmental effect. A policy inconsistency is considered a significant adverse impact only if the inconsistency would result in a significant adverse physical impact based on the established significance criterion. Consistency of the proposed project with applicable land use plans and policies is evaluated below. Consistency with the County's adopted land use compatibility standards specifically with respect to noise are evaluated in Section 3.11, Noise; consistency with the County's adopted Ordinance Code with respect to protected trees are evaluated in Section 3.3, Biological Resources.

Construction

Impacts related to consistency with applicable land use plans and policies are limited to operational impacts. No respective construction impacts would occur.

Operation

Contra Costa County General Plan Consistency

The General Plan designates the project site as MH. The MH designation allows for densities between 22.0 and 29.9 multiple-family units per net acre. Primary land uses include attached single-family residences, multiple-family residences including condominiums, town houses, and apartments, as well as accessory buildings and structures ancillary to the primary uses.

The proposed project would develop 125 townhouse condominiums, resulting in a total of 237,816 square feet of net new habitable construction on 5.94 acres or a net density of 26.3 dwelling unit per acre. Therefore, the density and use would be consistent with the General Plan land use designation and the proposed project would not require a General Plan Amendment.

The proposed project would be consistent with the General Plan goals and policies relative to providing residences in unincorporated area of the County. Table 3.10-5 summarizes the proposed project's consistency with the applicable policies of the General Plan adopted for various land use planning reasons, including the purpose of avoiding or mitigating an environmental impact.

Table 3.10-5: Contra Costa County General Plan Consistency Analysis

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
Chapter 3—Land Use Element	Goal 3-C	To encourage aesthetically and functionally compatible development which reinforces the physical character and desired images of the County.	**Consistent:** The proposed project would be a multi-family residential development consistent with the suburban, residential character of the surrounding area.
	Goal 3-E	To recognize and support existing land use densities in most communities, while encouraging higher densities in appropriate areas, such as near major transportation hubs and job centers.	**Consistent:** The proposed project would develop 125 multi-family residential units within 0.35 mile of the Pleasant Hill/Contra Costa Centre BART Station.
	Goal 3-F	To permit urban development only in locations of the County within identified outer boundaries of urban development where public service delivery systems that meet applicable performance standards are provided or committed.	**Consistent:** The proposed project would be an infill development. The project site is well within identified boundaries of public service systems and would be able to receive public services at acceptable performance standards.
	Goal 3-J	To encourage a development pattern that promotes the individuality and unique character of each community in the County.	**Consistent:** The proposed project would be a multi-family residential development consistent with the suburban, residential character of the surrounding area.
	Policy 3-5	New development within unincorporated areas of the County may be approved, providing growth management standards and criteria are met or can be assured of being met prior to the issuance of building permits in accordance with the Growth Management Program.	**Consistent:** The proposed project would be an infill development in a well-developed area in unincorporated Contra Costa County. The proposed project shall meet standards and criteria set by the Growth Management Program.
	Policy 3-6	Development of all urban uses shall be coordinated with provision of essential Community services or facilities including, but not limited to, roads, law enforcement and fire protection services, schools, parks, sanitary facilities, water and flood control.	**Consistent:** The proposed project shall ensure the provision of essential community services and facilities to the future residents. Refer to Section 3.13, Public Services and Recreation, Section 3.14, Transportation, and Section 3.15, Utilities and Service Systems.
	Policy 3-7	The location, timing and extent of growth shall be guided through capital improvements programming and financing (i.e., a capital improvement program, assessment districts, impact fees, and developer contributions) to prevent infrastructure, facility, and service deficiencies.	**Consistent:** The project applicant shall pay development impact fees to prevent infrastructure, facility, and service deficiencies. Refer to Section 3.13, Public Services and Recreation.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
	Policy 3-8	Infilling of already developed areas shall be encouraged. Proposals that would prematurely extend development into areas lacking requisite services, facilities and infrastructure shall be opposed. In accommodating new development, preference shall generally be given to vacant or under-used sites within urbanized areas, which have necessary utilities installed with available remaining capacity, before undeveloped suburban lands are utilized.	**Consistent:** The proposed project would be an infill development and replace an obsolete private school with new multi-family housing. The site is surrounded by residential land uses and is located 0.35 mile from the Pleasant Hill/Contra Costa Centre BART station.
	Policy 3-18	Flexibility in the design of projects shall be encouraged in order to enhance scenic qualities and provide for a varied development pattern.	**Consistent:** The proposed project would develop 19 three-story townhome condominium buildings with a minimum of 25 percent of the project site as common and private landscaped open space areas. Currently, the project site contains a former school consisting of 14 vacant buildings and associated structures. Overall, the proposed project would enhance scenic qualities of the project site by removing older, outdated buildings and replacing them with modern, well-designed residential structures. Refer to Section 3.1, Aesthetics, Light, and Glare.
	Policy 3-22	Housing opportunities for all income levels shall be created. Fair affordable housing opportunities should exist for all economic segments of the County.	**Consistent:** The proposed project would consist of 125 multi-family residential units, which would include new market rate and affordable for-sale townhouse condominium homes.
	Policy 3-23	A diversity of living options shall be permitted while ensuring community compatibility and quality residential development.	**Consistent:** The proposed project would consist of 125 multi-family residential units, which would include new market rate and affordable for-sale townhouse condominium homes. Five floor plans are proposed, ranging in size from 1,362 to 2,250 square feet, and 3 to 4 bedrooms. The buildings would be similar in terms of height and density with the surrounding residential area.
	Policy 3-24	Housing opportunities shall be improved through encouragement of distinct styles, desirable amenities, attractive design and enhancement of neighborhood identity.	**Consistent:** The proposed project would consist of 19 buildings, each including between 3 to 9 individual residential units. The buildings would be constructed in a uniform architectural style with varied exterior elements, such as

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
			windows, balconies, and entryways. The buildings would be constructed of materials that are currently utilized in the surrounding development. The project site would include 25 percent common and private landscaped open space areas. As such, the proposed project would be consistent with the suburban residential character of the surrounding area.
	Policy 3-25	Innovation in site planning and design of housing developments shall be encouraged in order to upgrade quality and efficiency of residential living arrangements and to protect the surrounding environment.	**Consistent:** The proposed project would construct 19 buildings, each including between 3 to 9 individual residential units. The project site would include 25 percent common and private landscaped open space areas.
	Policy 3-28	New residential development shall be accommodated only in areas where it will avoid creating severe unmitigated adverse impacts upon the environment and upon the existing community.	**Consistent:** The proposed project would be an infill development, surrounded by residential land uses. The proposed project would be consistent with the existing uses in the community.
Chapter 4—Growth Management Element	Goal 4-A	To provide for the levels of growth and development depicted in the Land Use Element, while preserving and extending the quality of life through the provision of public facilities and ensuring traffic levels of services necessary to protect the public health, safety, and welfare.	**Consistent:** The proposed project has been developed as a private school since 1939 and is currently served with urban infrastructure and services. The proposed project would remove the existing school uses and develop 125 dwelling units on the project site and continue to be served with urban infrastructure and services. As such, it would be consistent with the goal of ensuring adequate service delivery to protect the public health, safety, and welfare.
	Policy 4-5	For the purpose of applying the Traffic Level of Service standards consistent with Measure C-1988 only, unincorporated areas subject to the growth management standards of this Element shall be characterized as Central Business District, Urban, Suburban, Semi-rural and Rural as depicted in Figure 4-2.	**Consistent:** The Traffic Impact Study evaluated the potential Vehicle Miles Traveled (VMT) impacts of the proposed project, consistent with state guidance, and also included an analysis of potential traffic level of service (LOS) impacts. Refer to Section3.14, Transportation.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
Chapter 5—Transportation and Circulation Element	Goal 5-C	To balance transportation and circulation needs with the desired character of the community.	**Consistent:** The Traffic Impact Study evaluated the transportation and circulation of the community and determined that the proposed project would not negatively impact the desired character of the community. Refer to Section 3.14, Transportation of this EIR.
	Goal 5-D	To maintain and improve air quality above air quality standards.	**Consistent:** The proposed project consists of infill residential development on a site within walking distance of the Contra Costa Centre/Pleasant Hill BART station, the Contra Costa Canal Trail, and the Iron Horse Trail. As such, it would be accessible to public transit, bicycles, and pedestrians and consistent with clean air objectives.
	Goal 5-E	To permit development only in locations of the County where appropriate traffic LOS standards are ensured.	**Consistent:** The Traffic Impact Study evaluated the transportation and circulation impacts associated with the proposed project. Refer to Section 3.14, Transportation of this EIR.
	Goal 5-G	To provide access to new development while minimizing conflict between circulation facilities and land uses.	**Consistent:** The Traffic Impact Study evaluated the transportation and circulation impacts associated with the proposed project. Refer to Section 3.14, Transportation of this EIR.
	Goal 5-I	To encourage use of transit.	**Consistent:** The proposed project would be easily accessible to the Pleasant Hill/Contra Costa Centre BART station, located 0.35 mile from the project site. This would encourage the use of transit.
	Goal 5-L	To reduce GHG emissions from transportation sources through provision of transit, bicycle, and pedestrian facilities.	**Consistent:** The proposed project would be located 0.35 mile from the Pleasant Hill/Contra Costa Centre BART station. The Contra Costa Canal Trail, located approximately 450-600 feet south of the project site, includes a bicycle/pedestrian trail. The Iron Horse Regional Trail, located 1,500 feet east of the project site, provides a multiuse bicycle/pedestrian pathway. The proposed project would provide bicycle parking and a bike repair space.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
	Policy 5-3	Transportation facilities serving new urban development shall be linked to and compatible with existing and planned roads, bicycle facilities, pedestrian facilities and pathways of adjoining areas, and such facilities shall use presently available public and semi-public rights of way where feasible.	**Consistent:** The proposed project would be located 0.35 mile from the Pleasant Hill/Contra Costa Centre BART station. The Iron Horse Regional Trail, located 1,500 feet east of the project site, provides a multiuse bicycle/pedestrian pathway. The Contra Costa Canal Trail, located approximately 450-600 feet south of the project site, includes a bicycle/pedestrian trail. The proposed project would provide bicycle parking and a bike repair space. Refer to Section 3.14, Transportation.
	Policy 5-4	Development shall be allowed only when transportation performance criteria are met and necessary facilities and/or programs are in place or committed to be developed within a specified period of time.	**Consistent:** The Traffic Impact Study evaluated the transportation and circulation impacts associated with the proposed project. Refer to Sections 3.13, Public Services and Recreation, and 3.14, Transportation.
	Policy 5-12	The use of local and collector roadways for neighborhood circulation shall be encouraged.	**Consistent:** Primary vehicle access to the project site would be from two driveways: One on Jones Road, a north–south collector; and one on Oak Road, a north–south arterial.
	Policy 5-13	The use of pedestrian and bicycle facilities shall be encouraged. Proper facilities shall be designed to accommodate bikes, pedestrians, and transit.	**Consistent:** The proposed project would be located 0.35 mile from the Pleasant Hill/Contra Costa Centre BART station. The Iron Horse Regional Trail, located 1,500 feet east of the project site, provides a multiuse bicycle/pedestrian pathway. The Contra Costa Canal Trail, located approximately 450-600 feet south of the project site, includes a bicycle/pedestrian trail. The proposed project would provide bicycle parking and a bike repair space. Refer to Section 3.14: Transportation.
	Policy 5-15	Adequate lighting shall be provided for pedestrian, bicyclist, and vehicular, safety, consistent with neighborhood desires.	**Consistent:** The proposed project would include exterior lighting for the buildings, and pole mounted lighting throughout the parking areas, interior streets, and walkways. Refer to Section 3.1, Aesthetics.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
	Policy 5-16	Curbs and sidewalks shall be provided in appropriate areas.	**Consistent:** The proposed project would include the construct curbs and sidewalks as part of the interior roadway circulation improvements. The sidewalks would be Americans with Disabilities Act (ADA) accessible.
	Policy 5-17	Emergency response vehicles shall be accommodated in development project design.	**Consistent:** The proposed project would provide sufficient access to accommodate emergency vehicles. See Section 3.12, Public Services and Recreation.
	Policy 5-20	New development (including redevelopment and rehabilitation projects) shall contribute funds and/or institute programs to reduce parking demand and/or provide adequate parking.	**Consistent:** The proposed project would provide 272 on-site parking spaces with 28 available spaces along street frontage. The required parking and roadway improvements are discussed in more detail in Section 3.14, Transportation.
	Policy 5-21	New development shall contribute funds and/or institute programs to provide adequate bicycle and pedestrian facilities where feasible.	**Consistent:** The Contra Costa Canal Trail, located approximately 650 feet south of the project site, includes a bicycle/pedestrian trail. The proposed project would provide bicycle parking and a bike repair space. The proposed project would provide walkable landscaped open space and sidewalks to facilitate pedestrian connection between the buildings and between Jones and Oak Roads. The sidewalks would be ADA accessible.
	Policy 5-24	Use of alternative forms of transportation, such as transit, bike and pedestrian modes, shall be encouraged in order to provide basic accessibility to those without access to a personal automobile and to help minimize automobile congestion and air pollution.	**Consistent:** The proposed project would be located 0.35 mile from the Pleasant Hill/Contra Costa Centre BART station. The Contra Costa Canal Trail, located approximately 450-650 feet south of the project site, includes a bicycle/pedestrian trail. The proposed project would provide bicycle parking and a bike repair space. Refer to Section 3.14, Transportation.
	Policy 5-32	Local road dimensions shall complement the scale and appearance of adjoining properties.	**Consistent:** The required roadway improvements associated with the proposed project are discussed in more detail in Section 3.14, Transportation.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
Chapter 6—Housing Element	Goal 6-1	Maintain and improve the quality of the existing housing stock and residential neighborhoods in Contra Costa County.	**Consistent:** The proposed project would include the construction of 125 townhouse condominium units located in 19 three-story buildings. The proposed project would also provide common and private landscaped open space areas on 25 percent of the project site. The proposed project would be consistent with the suburban, residential character of the surrounding area.
	Goal 6-3	Increase the supply of housing with a priority on the development of affordable housing, including housing affordable to extremely low-income households.	**Consistent:** The proposed project would consist of 125 multi-family residential units (including affordable units).
	Policy 6-3.3	Increase the supply of affordable housing and encourage the development of mixed-income housing through the Inclusionary Housing Ordinance.	**Consistent:** The proposed project would consist of 125 multi-family residential units (including affordable units).
	Goal 6-6	Provide adequate sites through appropriate land use and zoning designations to accommodate the County's share of regional housing needs.	**Consistent:** The proposed project would rezone the entire site to P-1. The P-1 zoning would allow flexibility with respect to use, building types, lot size, and open space while ensuring the proposed project complies with the General Plan and requirements as set forth in the Ordinance Code.
Chapter 7—Public Facilities Element	Goal 7-F	To assure potable water availability in quantities sufficient to serve existing and future residents.	**Consistent:** The Contra Costa Water District would supply the project site with potable water supply. The proposed project would construct 6-inch water lines that would be placed between buildings which would then connect with a set of 10-inch water lines along the central building that would connect with the existing 12-inch water line along Oak Road and the existing 8-inch water line along Jones Road.
	Goal 7-J	To ensure that new development pays the costs related to the need for increased water system capacity.	**Consistent:** The proposed project would develop 125 residential units, and the project applicant would pay costs related to the need for increased water demand.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
	Goal 7-N	To assure that new development pays the costs related to the need for increased sewer system capacity.	**Consistent:** The proposed project would construct 8-inch sewer lines that would connect with the existing 6-inch sewer line within Oak Road and the existing 18-inch sewer line within Jones Road. The project applicant would pay costs related to the need for increased sewer capacity.
	Goal 7-T	To ensure that new development pays its fair share of the costs related to increased runoff created by the development.	**Consistent:** The proposed project would increase impermeable surfaces on the project site thus increasing stormwater runoff. The proposed project would include the construction of a network of 12-inch storm drains that would connect to the existing 72-inch storm drain within Jones Road and existing 30-inch storm drain within Oak Road. The proposed storm drain system would also include the installation of two underground storage vaults (to capture, store, and release groundwater flow) and several bio-retention areas (for stormwater treatment). The applicant would pay its fair share of the costs related to increased runoff created by the development.
	Goal 7-Y	To ensure a high standard of fire protection, emergency, and medical response services for all citizens and properties throughout Contra Costa County.	**Consistent:** The project site is within in an urbanized area currently served by the Contra Costa County Fire Protection District. The proposed project would be served with adequate fire protection, emergency, and medical response services.
	Goal 7-AE	To provide for the safe, efficient, and cost-effective removal of waste from residences, and businesses.	**Consistent:** The project site is currently served with solid waste and recycling services provided by RecycleSmart, and the proposed project would continue to be served with such services.
	Goal 7-AR	To assure that primary and secondary school facilities are adequate or committed to be adequate, prior to approvals of major applications for residential growth.	**Consistent:** The proposed project would pay development impact fees toward schools.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
	Policy 7-1	New development shall be required to pay its fair share of the cost of all existing public facilities it utilizes, based upon the demand for these facilities, which can be attributed to new development.	**Consistent:** The proposed project consists of 125 multi-family residential units which would increase demand for public facilities. The applicant would pay its fair share of the cost of all existing public facilities the proposed project would utilize.
	Policy 7-2	New development, not existing residents, should be required to pay all costs of upgrading existing public facilities or constructing new facilities which are exclusively needed to serve new development.	**Consistent:** The proposed project consists of 125 multi-family residential units and therefore would increase demand for public facilities. The applicant would pay its fair share of the cost of all existing public facilities that would serve the proposed project.
	Policy 7-21	At the project approval stage, the County shall require new development to demonstrate that adequate water quantity and quality can be provided. The County shall determine whether (1) capacity exists within the water system if a development project is built within a set period of time, or (2) capacity will be provided by a funded program or other mechanism. This finding will be based on information furnished or made available to the County from consultations with the appropriate water agency, the applicant, or other sources.	**Consistent:** This Draft EIR's water supply analysis evaluates potential project impact to potable water supply and systems. This analysis is consistent with the County's goal to assure potable water availability. Refer to Section 3.15, Utilities and Service Systems, for further discussion.
	Policy 7-44	New development should be required to finance its legal share of the full costs of drainage improvements necessary to accommodate projected peak flows due to the project. Reimbursement from subsequent developments, which benefit from the added capacity may be provided.	**Consistent:** The proposed project would drain most of the site through a network of 12-inch storm drains that would connect to the existing 30-inch storm drain within Oak Road and 72-inch storm drain within Jones Road. The proposed storm drain system would also include the installation of two underground storage vaults (to capture, store, and release groundwater flow) and several bio-retention areas (for stormwater treatment). The applicant would pay its fair share of the costs related to drainage.
	Policy 7-64	New development shall pay its fair share of costs for new fire protection facilities and services.	**Consistent:** The project applicant shall pay its fair share of costs for new fire protection facilities and services.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
	Policy 7-66	Sprinkler systems may be required in new residential structures, where necessary to protect health, safety, and welfare.	**Consistent:** The proposed project would comply with the California Building Standards Code, which is adopted by the Ordinance Code.
Chapter 10—Safety Element	Goal 10-A	To protect human life and reduce the potential for serious injuries from earthquakes; and to reduce the risks of property losses from seismic disturbances which could have severe economic and social consequences for the County as a whole.	**Consistent:** The proposed project shall incorporate recommendations of the final Geotechnical Exploration prepared for the proposed project to reduce risk related to known soil and geologic hazards and to improve the overall stability of the site.
	Goal 10-B	To reduce to a practical minimum injuries and health risks resulting from the effects of earthquake ground shaking on structures, facilities and utilities.	**Consistent:** The project site is not located within a designated Alquist-Priolo Earthquake Fault Zone. The proposed project would develop 125 multi-family residential units in 19 buildings, which would be constructed to the most recent California Building Code standards. The proposed project shall incorporate recommendations of the final Geotechnical Exploration prepared for the proposed project.
	Policy 10-10	Policies regarding liquefaction shall apply to other ground failures, which might result from ground shaking but are not subject to such well-defined field and laboratory analysis.	**Consistent:** The proposed project shall incorporate recommendations of the final Geotechnical Exploration prepared for the proposed project to reduce risk related to known soil and geologic hazards and to improve the overall stability of the site.
Chapter 11—Noise Element	Goal 11-A	To improve the overall environment in the County by reducing annoying and physically harmful levels of noise for existing and future residents and for all land uses.	**Consistent:** This Draft EIR's noise analysis evaluates potential construction and operational noise impacts to the surrounding areas and identifies mitigation measures. This analysis is consistent the County's goal of maintaining acceptable noise levels. Refer to Section 3.11, Noise, further discussion.
	Policy 11-2	The standard for outdoor noise levels in residential areas is a Day/Night Noise Average Level (L_{dn}) of 60 decibel (dB). However, a L_{dn} of 60 dB or less may not be achievable in all residential areas due to economic or aesthetic constraints. One example is small balconies associated with multi-family housing. In this case, second and third story	**Consistent:** This EIR's noise analysis evaluates potential construction and operational noise impacts to the surrounding areas and identifies mitigation measures. This analysis is consistent the County's goal of maintaining acceptable noise levels. Refer to Section 3.11, Noise, for further discussion.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
		balconies may be difficult to control to the goal. A common outdoor use area that meets the goal can be provided as an alternative.	
	Policy 11-4	Title 24, Part 2, of the California Code of Regulations requires that new multiple-family housing projects, hotels, and motels exposed to a L_{dn} of 60 dB or greater have a detailed acoustical analysis describing how the project will provide an interior L_{dn} of 45 dB or less. The County also shall require new single-family housing projects to provide for an interior L_{dn} of 45 dB or less.	**Consistent:** Refer to Section 3.11, Noise, for further discussion.
	Policy 11-5	In developing residential areas exposed to a L_{dn} in excess of 65 dB due to single events such as train operation, indoor noise levels due to these single events shall not exceed a maximum A-weighted noise level of 50 dB in bedrooms and 55 dB in other habitable rooms. Single event indoor residential noise levels from airport related causes will be 45 dB CNEL.	**Consistent:** Refer to Section 3.11, Noise, for further discussion.

Contra Costa County Zoning Code Consistency

The project site is currently zoned R-15, M-17, and M-29. The project applicant has proposed rezoning the entire site to P-1. As stated in Chapter 84-66.204, the intent of the P-1 district is to allow "diversification in the relationship of various uses, buildings, structures, lot sizes and open space while insuring (*sic*) substantial compliance with the General Plan and the intent of the County Code in requiring adequate standards necessary to satisfy the requirements of the public health, safety and general welfare. These standards shall be observed without unduly inhibiting the advantages of large-scale or special area planning."[9]

The P-1 zoning would allow flexibility with respect to use, building types, lot size, and open space while ensuring the proposed project complies with the General Plan and requirements as set forth in the Ordinance Code. It also allows necessary public health and safety standards to be observed without inhibiting large-scale development.

[9] Contra Costa County. 2018. Contra Costa County Ordinance Code, Chapter 84-66.204-Intent and Purpose. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV84LAUSDI_CH84-66PLUNDI. Accessed June 21, 2021.

The proposed rezone is intended to achieve project consistency with the Contra Costa County Zoning Ordinance. In the absence of the rezone, the proposed project could not advance. When the proposed project itself entails an amendment to the zoning ordinance, inconsistency with the existing designation is an element of the project itself, which then necessitates a legislative policy decision by the lead agency and does not signify a potential environmental effect. Impacts would be less than significant.

Parking

Based on the County parking standards, the proposed project is required to provide 250 residential parking spaces and 32 guest parking spaces, totaling 282 parking spaces. The proposed project would provide 300 parking spaces (272 on-site and 28 spaces available along street frontage).

Bicycle Parking

There are no designated bicycle lanes proposed as part of the proposed project, and no bicycle circulation would be available on-site. However, the proposed project would be consistent with Ordinance Code Section 82-16.412, which sets forth the amounts of bicycle parking that a project must provide. According to the Ordinance Code, long-term bicycle parking is not required for multi-family dwelling with private garage. The short-term bicycle parking requirement for multi-family dwelling with private garage is spaces for 5 percent of the number of bedrooms or two spaces (whichever is greater).[10] Therefore, the proposed project would be required to and would provide 23 short-term bicycle parking spaces.

Overall, the proposed project would not conflict with applicable land use plans, policies, or regulations of the General Plan or the Ordinance Code that were adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, impacts would be less than significant.

Level of Significance

Less than significant impact.

Cumulative Impacts

The geographic scope of the cumulative land use analysis is the unincorporated area of Contra Costa County with a focus on the area surrounding the project site. Land use decisions for both the proposed project and for some of the other cumulative projects listed in Table 3-1 are made at the County level. Some of the projects listed in Table 3-1 are located in the cities of Walnut Creek and Pleasant Hill, and land use decisions for those projects are made at the city level.

Development within the unincorporated County is governed by the General Plan and the Ordinance Code, which ensure logical and orderly development and require discretionary review to ensure that projects do not result in environmental impacts due to inconsistency with the General Plan and other land use planning regulations. This would minimize any cumulative impact related to division of an established community.

[10] Contra Costa County Ordinance Code. 2018. Chapter 82-16.412—Bicycle Parking. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV82GERE_CH82-16OREPA_82-16.412BIPA. Accessed June 16, 2021.

Development within the unincorporated County would be required to demonstrate consistency with the General Plan and applicable codes, ordinances, and policies. Development in the City of Walnut Creek would be required to demonstrate consistency with the City of Walnut Creek General Plan and applicable codes, ordinances, and policies. Development in the City of Pleasant Hill would be required to demonstrate consistency with the City of Pleasant Hill General Plan and applicable codes, ordinances, and policies. This would ensure that these cumulative projects comply with applicable planning regulations. Given the above information, there would be a less than significant cumulative impact related to land use and planning.

Level of Cumulative Significance

Less than significant impact.

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3.11 - Noise

3.11.1 - Introduction

This section describes the existing noise setting and potential effects from project implementation on the site and its surrounding area. This noise impact analysis is based on the noise analyses prepared by Salter Inc., dated January 29, 2021, and May 7, 2021. These reports are contained in Appendix H of this document.

During the Notice of Preparation (NOP) comment period, the following comments were received related to the proposed project regarding Noise:

- Concerns regarding increased noise due to the proposed project.
- Demolition, construction, and occupation would result in unacceptable noise pollution (residents were able to hear daily noise from the former Palmer School).
- Noise would have negative impact on those working from home and home-bound resident.
- Noise would reduce property values of adjacent properties.
- The proposed project would exacerbate current noise issues at the Treat Boulevard intersection.
- Inquiry about compensation for home-bound residents who would be impacted by construction noise.
- The proposed project would result in noise, impacting adjacent residents' well-being.
- The roof decks could lead to noise concerns.
- The 15-foot setback is a concern for neighboring residents due to noise concerns.
- Concerns about noise and its impact on families and infants at adjacent properties.

3.11.2 - Environmental Setting

Characteristics of Noise

Noise is generally defined as unwanted or objectionable sound. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment. Noise effects can be caused by pitch or loudness. *Pitch* is the number of complete vibrations or cycles per second of a wave that result in the range of tone from high to low; higher-pitched sounds are louder to humans than lower-pitched sounds. *Loudness* is the intensity or amplitude of sound.

Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel (dB) is a logarithmic unit, which expresses the ratio of the sound pressure level being measured to a standard reference level. The 0 point on the dB scale is based on the lowest sound level that the healthy,

unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Only audible changes in existing ambient or background noise levels are considered potentially significant.

The human ear is not equally sensitive to all frequencies within the audible sound spectrum, so sound pressure level measurements can be weighted to better represent frequency-based sensitivity of average healthy human hearing. One such specific "filtering" of sound is called "A-weighting." A-weighted decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies that are audible to the human ear. Because decibels are logarithmic units, they cannot be added or subtracted by ordinary arithmetic means. For example, if one noise source produces a noise level of 70 dB, the addition of another noise source with the same noise level would not produce 140 dB; rather, they would combine to produce a noise level of 73 dB.

Noise Descriptors

There are many ways to rate noise for various intervals, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and community noise equivalent level (CNEL) or the day-night average level (DNL) based on dBA. CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). DNL is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and DNL are within one dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

Noise Propagation

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source, as well as ground absorption, atmospheric conditions (wind, temperature gradients, and humidity) and refraction, and shielding by natural and manmade features. Sound from point sources, such as an air conditioning condenser, a piece of construction equipment, or an idling truck, radiates uniformly outward as it travels away from the source in a spherical pattern.

The attenuation or sound drop-off rate is dependent on the conditions of the land between the noise source and receiver. To account for this ground-effect attenuation (absorption), two types of site conditions are commonly used in noise models: soft-site and hard-site conditions. Soft-site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. For point sources, a drop-off rate of 7.5 dBA per each doubling of the distance (dBA/DD) is typically observed over soft ground with landscaping, as compared with a 6 dBA/DD drop-off rate over hard ground such as asphalt, concrete, stone, and very hard packed earth. For line sources, such as traffic noise on a roadway, a 4.5 dBA/DD is typically observed for soft-site conditions compared to the 3 dBA/DD drop-off rate for hard-site conditions. Table 3.11-1 briefly defines these measurement descriptors and other sound terminology used in this section.

Table 3.11-1: Sound Terminology

Term	Definition
Sound	A vibratory disturbance created by a vibrating object which, when transmitted by pressure waves through a medium such as air, can be detected by a receiving mechanism such as the human ear or a microphone.
Noise	Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
Ambient Noise	The composite of noise from all sources near and far in a given environment.
Decibel (dB)	A unitless measure of sound on a logarithmic scale, which represents the squared ratio of sound pressure amplitude to a reference sound pressure. The reference pressure is 20 micropascals, representing the threshold of human hearing (0 dB).
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level that approximates the frequency response of the human ear.
Equivalent Noise Level (L_{eq})	The average sound energy occurring over a specified time period. In effect, L_{eq} is the steady-state sound level that in a stated period would contain the same acoustical energy as the time-varying sound that actually occurs during the same period.
Maximum and Minimum Noise Levels (L_{max} and L_{min})	The maximum or minimum instantaneous sound level measured during a measurement period.
Day-Night Level (DNL or L_{dn})	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring between 10 p.m. and 7 a.m. (nighttime).
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring between 7 p.m. and 10 p.m. and 10 dB added to the A-weighted sound levels occurring between 10 p.m. and 7 a.m.
Source: Data compiled by FCS 2021.	

Traffic Noise

The level of traffic noise depends on the three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater number of trucks. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires. Because of the logarithmic nature of noise levels, a doubling of the traffic volume (assuming that the speed and truck mix do not change) results in a noise level increase of 3 dBA. Based on the Federal Highway Administration (FHWA) community noise assessment criteria, this change is "barely perceptible"; for reference, a doubling of perceived noise levels would require an increase of approximately 10 dBA. The truck mix on a given roadway also has an effect on community noise levels. As the number of heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise levels increase.

Stationary Noise

A stationary noise producer is any entity in a fixed location that emits noise. Examples of stationary noise sources include machinery, engines, energy production, and other mechanical or powered equipment and activities such as loading and unloading or public assembly that may occur at commercial, industrial, manufacturing, or institutional facilities. Furthermore, while noise generated by the use of motor vehicles over public roads is preempted from local regulation, although the use of these vehicles is considered a stationary noise source when operated on private property such as at a construction site, a truck terminal, or warehousing facility. The emitted noise from the producer can be mitigated to acceptable levels either at the source or on the adjacent property through the use of proper planning, setbacks, block walls, acoustic-rated windows, dense landscaping, or by changing the location of the noise producer.

The effects of stationary noise depend on factors such as characteristics of the equipment and operations, distance and pathway between the generator and receptor, and weather. Stationary noise sources may be regulated at the point of manufacture (e.g., equipment or engines), with limitations on the hours of operation, or with provision of intervening structures, barriers, or topography.

Construction activities are a common source of stationary noise. Construction-period noise levels are higher than background ambient noise levels but eventually cease once construction is complete. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on each construction site and, therefore, would change the noise levels as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 3.11-2 shows typical noise levels of construction equipment as measured at a distance of 50 feet from the operating equipment.

Table 3.11-2: Typical Construction Equipment Maximum Noise Levels, L_{max}

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet)
Impact Pile Driver	Yes	95
Auger Drill Rig	No	85
Vibratory Pile Driver	No	95
Jackhammers	Yes	85
Pneumatic Tools	No	85
Pumps	No	77
Scrapers	No	85
Cranes	No	85
Portable Generators	No	82
Rollers	No	85
Bulldozers	No	85
Tractors	No	84
Front-End Loaders	No	80
Backhoe	No	80
Excavators	No	85
Graders	No	85
Air Compressors	No	80
Dump Truck	No	84
Concrete Mixer Truck	No	85
Pickup Truck	No	55

Notes:
dBA = A-weighted decibel
Source: Federal Highway Administration (FHWA). 2006. Highway Construction Noise Handbook. August.

Noise from Multiple Sources

Because sound pressure levels in decibels are based on a logarithmic scale, they cannot be added or subtracted in the usual arithmetical way. Therefore, sound pressure levels in decibels are logarithmically added on an energy summation basis. In other words, adding a new noise source to an existing noise source, both producing noise at the same level, will not double the noise level. Instead, if the difference between two noise sources is 10 dBA or more, the louder noise source will dominate, and the resultant noise level will be equal to the noise level of the louder source. In general, if the difference between two noise sources is 0–1 dBA, the resultant noise level will be 3 dBA higher than the louder noise source, or both sources if they are equal. If the difference between two noise sources is 2–3 dBA, the resultant noise level will be 2 dBA above the louder noise source. If the difference between two noise sources is 4–10 dBA, the resultant noise level will be 1 dBA higher than the louder noise source.

Characteristics of Vibration

Groundborne vibration consists of rapidly fluctuating motion through a solid medium, specifically the ground, which has an average motion of zero and in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The effects of groundborne vibration typically only causes a nuisance to people, but in extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Although groundborne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Groundborne noise is an effect of groundborne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room, and may also consist of the rattling of windows or dishes on shelves.

Several different methods are used to quantify vibration amplitude such as the maximum instantaneous peak in the vibrations velocity, which is known as the peak particle velocity (PPV) or the root mean square (rms) amplitude of the vibration velocity. Because of the typically small amplitudes of vibrations, vibration velocity is often expressed in decibels—denoted as LV—and is based on the reference quantity of 1 micro-inch per second. To distinguish vibration levels from noise levels, the unit is written as "VdB."

Although groundborne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. When assessing annoyance from groundborne vibration, vibration is typically expressed as rms velocity in units of decibels of 1 micro-inch per second, with the unit written in VdB. Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. Human perception to vibration starts at levels as low as 67 VdB. Annoyance due to vibration in residential settings starts at approximately 70 VdB.

Off-site sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible groundborne noise or vibration. Construction activities, such as blasting, pile driving and operating heavy earthmoving equipment, are common sources of groundborne vibration. Construction vibration impacts on building structures are generally assessed in terms of PPV. Typical vibration source levels from construction equipment are shown in Table 3.11-3.[1]

Table 3.11-3: Vibration Levels of Construction Equipment

Construction Equipment	PPV at 25 Feet (inches/second)	rms Velocity in Decibels (VdB) at 25 Feet
Water Trucks	0.001	57
Scraper	0.002	58
Bulldozer—Small	0.003	58
Jackhammer	0.035	79
Concrete Mixer	0.046	81

[1] Federal Highway Administration (FHWA). 2006. Highway Construction Noise Handbook. August.

Construction Equipment	PPV at 25 Feet (inches/second)	rms Velocity in Decibels (VdB) at 25 Feet
Concrete Pump	0.046	81
Paver	0.046	81
Pickup Truck	0.046	81
Auger Drill Rig	0.051	82
Backhoe	0.051	82
Crane (Mobile)	0.051	82
Excavator	0.051	82
Grader	0.051	82
Loader	0.051	82
Loaded Trucks	0.076	86
Bulldozer—Large	0.089	87
Caisson drilling	0.089	87
Vibratory Roller (small)	0.101	88
Compactor	0.138	90
Clam shovel drop	0.202	94
Vibratory Roller (large)	0.210	94
Pile Driver (impact-typical)	0.644	104
Pile Driver (impact-upper range)	1.518	112

Notes:
PPV = peak particle velocity
rms = root mean square
Source: Compilation of scientific and academic literature, generated by the Federal Transit Administration (FTA) and Federal Highway Administration (FHWA).

The propagation of groundborne vibration is not as simple to model as airborne noise. This is because noise in the air travels through a relatively uniform medium, while groundborne vibrations travel through the earth, which may contain significant geological differences. Factors that influence groundborne vibration include:

- **Vibration source:** Type of activity or equipment, such as impact or mobile, and depth of vibration source;
- **Vibration path:** Soil type, rock layers, soil layering, depth to water table, and frost depth; and
- **Vibration receiver:** Foundation type, building construction, and acoustical absorption.

Among these factors that influence groundborne vibration, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock. Vibration propagation is more efficient in stiff clay soils than in loose sandy

soils, and shallow rock seems to concentrate the vibration energy close to the surface, and can result in groundborne vibration problems at large distance from the source. Factors such as layering of the soil and depth to the water table can have significant effects on the propagation of groundborne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation.

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil type, but it has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests. The vibration level (calculated below as "PPV") at a distance from a point source can generally be calculated using the vibration reference equation:

$$PPV = PPV_{ref} * (25/D)^n \text{ (in/sec)}$$

Where:

PPV_{ref} = reference measurement at 25 feet from vibration source
D = distance from equipment to the receptor
n = vibration attenuation rate through ground

According to Chapter 12 of the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment manual, an "n" value of 1.5 is recommended to calculate vibration propagation through typical soil conditions.[2]

Existing Noise Levels

Ambient Noise

The proposed project site is located within unincorporated Contra Costa County, California, adjacent to the City of Walnut Creek city limits. Surrounding the project site are apartments uses to the north, single-family residences east across Oak Road, apartment buildings to the south, Jones Road, Bay Area Rapid Transit (BART), and Interstate 680 (I-680) to the west. The dominant noise source in the project vicinity is noise from traffic on local roadways and trains, primarily from traffic Oak Road, Jones Road, BART, and I-680.

[2] Federal Transit Administration (FTA). 2006. Transit Noise and Vibration Impact Assessment. May.

Existing environmental noise levels were measured through continuous monitoring over a span of 5 days at three locations, and two short-term monitors were used to determine how noise levels vary with location and elevation.

The long-term modeling results show that environmental noise levels range up to approximately 68 dBA CNEL at 40 feet west of the Oak Road centerline and 12 feet above grade, 60 dBA CNEL at 210 feet west of the Oak Road centerline and 12 feet above grade, and 65 dBA CNEL at 35 feet east of the Jones Road centerline. The short-term modeling results show that environmental noise levels range 66 dBA CNEL 50 feet west of Oak Road and 5 feet above grade, and 66/67 dBA CNEL at 35 feet east of the Jones Road centerline and 5 feet/16 feet above grade. In addition, instantaneous noise levels from BART passbys were approximately 80 L_{max30} 80 dB[4].

Noise-Sensitive Land Uses

Noise-sensitive land uses generally consist of those uses where exposure to noise would result in adverse effects, as well as uses for which quiet is an essential element of their intended purpose. Residential dwellings are of primary concern, because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other typical noise-sensitive land uses include hospitals, convalescent facilities, hotels, religious institutions, libraries, and other uses where low noise levels are essential.

3.11.3 - Regulatory Framework

Federal

Noise Control Act

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

- Promulgating noise emission standards for interstate commerce.
- Assisting State and local abatement efforts.
- Promoting noise education and research.

The Federal Office of Noise Abatement and Control (ONAC) was initially tasked with implementing the Noise Control Act. However, the ONAC has since been eliminated, leaving the development of federal noise policies and programs to other federal agencies and interagency committees.

Among the agencies now regulating noise are the Occupational Safety and Health Administration (OSHA), which limits noise exposure of workers to 90 dB L_{eq} or less for 8 continuous hours or 105 dB L_{eq} or less for 1 continuous hour; the United States Department of Transportation (USDOT), which assumed a significant role in noise control through its various operating agencies; and the Federal Aviation Administration (FAA), which regulates noise of aircraft and airports. Surface transportation system noise is regulated by a host of agencies, including the FTA. Transit noise is regulated by the federal Urban Mass Transit Administration, while freeways that are part of the interstate highway system are regulated by the FHWA. Finally, the federal government actively advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that “noise sensitive” uses are either prohibited from being sited adjacent to a highway, or alternatively, that developments are planned and constructed in such a manner that minimize potential noise impacts.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by transportation sources, local jurisdictions are limited to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

Federal Transit Administration Standards and Guidelines

FTA has established industry accepted standards for vibration impact criteria and impact assessment. These guidelines are published in its Transit Noise and Vibration Impact Assessment Manual.[3] The FTA guidelines include thresholds for construction vibration impacts for various structural categories as shown in Table 3.11-4.

Table 3.11-4: Federal Transit Administration Construction Vibration Impact Criteria

Building Category	PPV (in/sec)	Approximate VdB
I. Reinforced-Concrete, Steel or Timber (no plaster)	0.5	102
II. Engineered Concrete and Masonry (no plaster)	0.3	98
III. Non-engineered Timber and Masonry Buildings	0.2	94
IV. Buildings Extremely Susceptible to Vibration Damage	0.12	90

Notes:
PPV = peak particle velocity
VdB = vibration in decibels
Source: FTA 2018. Transit Noise and Vibration Impact Assessment Manual.

State

California General Plan Guidelines

Established in 1973, the California Department of Health Services Office of Noise Control was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model is the "Land Use Compatibility for Community Noise Environments Matrix," which allows the local jurisdiction to delineate compatibility of sensitive uses with various incremental levels of noise.[4]

Government Code Section 65302 mandates that the legislative body of each county and city in California adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise/land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable. The proposed project is also subject to review under the California Environmental Quality Act (CEQA). Appendix G of the CEQA Guidelines provides impact thresholds for potential noise and vibration impacts.

[3] Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. September. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed July 7, 2021.

[4] California Department of Health Services Office of Noise Control. "Land Use Compatibility for Community Noise Environments Matrix." 1976.

California Building Standards Code

The State of California has established noise insulation standards for new hotels, motels, apartment houses, and dwellings (other than single-family detached housing). These requirements are provided in the 2016 California Building Standards Code (CBC) (California Code of Regulations [CCR] Title 24).[5] As provided in the CBC, the noise insulation standards set forth an interior standard of 45 dBA CNEL as measured from within the structure's interior. When such structures are located within a 65-dBA CNEL (or greater) exterior noise contour associated with a traffic noise along a roadway, an acoustical analysis is required to ensure that interior levels do not exceed the 45 dBA CNEL threshold.

Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

Local

Contra Costa County General Plan

Noise Element

Policy 11-1 of the Noise Element of the 2005-2020 Contra Costa County General Plan (General Plan)[6] provides Noise and Land Use Compatibility Guidelines for new multi-family residential projects. According to these guidelines, 60 dBA or less is considered "normally acceptable," 55 to 70 dBA is considered "conditionally acceptable," 70 to 75 dBA is considered "normally unacceptable," and 75 dBA and above is considered "unacceptable." The other applicable sections of the Noise Element of the General Plan are listed below.

Policy 11-2 The standard for outdoor noise levels in residential areas is an DNL of 60 dB. However, an DNL of 60 dB or less may not be achievable in all residential areas due to economic or aesthetic constraints. One example is small balconies associated with multi-family housing. In this case, second and third story balconies may be difficult to control to the goal. A common outdoor use area that meets the goal can be provided as an alternative.

Policy 11-3 If the primary noise source is train passbys, then the standard for outdoor noise levels in residential areas is an DNL of 70 dB. A higher DNL is allowable since the DNL is controlled by a relatively few number of train passbys that are disruptive outdoors only for short periods. Even though the DNL may be high, during the majority of the time the noise level will be acceptable.

Policy 11-4 Title 24, Part 2, of the California Code of Regulations requires that new multiple family housing projects, hotels, and motels exposed to a DNL of 60 dB or greater have a detailed acoustical analysis describing how the project will provide an interior DNL of 45 dB or less. The County also shall require new single-family housing projects to provide for an interior DNL of 45 dB or less.

[5] California Building Standards Commission. 2017. California Building Standards Code (CCR Title 24). January 1.
[6] Contra Costa County. 2005. Contra Costa County General Plan, Noise Element. January 18.

Policy 11-5 In developing residential areas exposed to an DNL in excess of 65 dB due to single events such as train operation, indoor noise levels due to these single events shall not exceed a maximum A-weighted noise level of 50 dB in bedrooms and 55 dB in other habitable rooms. Single event indoor residential noise levels from airport related causes will be 45 dB CNEL.

Policy 11-8 Construction activities shall be concentrated during the hours of the day that are not noise-sensitive for adjacent land uses and should be commissioned to occur during normal work hours of the day to provide relative quiet during the more sensitive evening and early morning periods.

City of Walnut Creek General Plan

Safety and Noise Element

The Safety and Noise Element of the Walnut Creek General Plan[7] establishes land use compatibility standards for noise. The land use compatibility standards for noise provide the basis for making decisions on location of land uses in relation to noise sources and for determining noise mitigation requirements. According to the City of Walnut Creek's Land Use/Noise Compatibility standards, exterior noise levels up to 65 dBA DNL are considered *normally acceptable* for new multi-family residential land use developments, *conditionally acceptable* from 65 dBA to 75 dBA DNL, and *unacceptable* above 75 dBA DNL.

The City of Walnut Creek has adopted the following General Plan Safety and Noise Element goals, policies, and actions to reduce potential noise hazards.

Goal 8 Provide compatible noise environments for new development, redevelopment, and condominium conversions.

Policies

Policy 8.1 Apply the noise and land use compatibility table and standards to all residential, commercial, and mixed-use proposals, including condominium conversions.

Policy 8.2 Address the issue of residences affected by intermittent urban noise from sources such as heating, ventilating, and air conditioning equipment and by outdoor maintenance activities, such as parking lot sweeping and early morning garbage collection.

Action 8.2.2 For new multi-family residential projects and for the residential component of mixed-use development, use a standard of 65 DNL in outdoor areas, excluding balconies.

Action 8.2.3 Strive for a maximum interior noise levels at 45 DNL in all new residential units.

[7] City of Walnut Creek. 2006. Walnut Creek General Plan, Safety and Noise Element. April 4.

Action 8.2.4 For new downtown mixed-use development or for new residential development affected by noise from BART or helicopters, ensure that maximum noise levels do not exceed 50 DNL in bedrooms and 55 DNL in other rooms.

Contra Costa County Municipal Code–Noise Ordinance

It should be noted that the Contra Costa County Ordinance Code does not contain any noise ordinance codes or performance standards that are applicable to the project.

City of Walnut Creek Municipal Code–Noise Ordinance

The City of Walnut Creek Noise Ordinance is codified in Chapter 6, Article 2 of the City's Municipal Code. Section 4-6.203f prohibits construction activities other than between the hours of 7:00 a.m. and 6:00 p.m. on non-holiday weekdays, or those precise hours of operation enumerated in individual building and grading permits.

3.11.4 - Methodology

The noise environment at the project site is influenced by vehicle traffic on Oak Road, Jones Road, and Interstate I-680, as well as from BART trains on the adjacent tracks. To help quantify environmental noise levels, a monitor continuously measured noise levels at the site between December 7 and 11, 2020. Two short-term measurements were conducted to help determine how noise levels vary with location and elevation. In addition to determining average environmental noise levels, typical maximum instantaneous noise levels from BART passbys were measured at the monitoring location closest to the BART. Assuming a traffic volume increase of 3 percent per year, 1 dB was added to account for future traffic volume increases.

3.11.5 - Impacts and Mitigation Measures

Significance Criteria

According to Appendix G, Environmental Checklist, of the CEQA Guidelines, to determine whether impacts related to noise and vibration are significant environmental effects, the following questions are analyzed and evaluated.

It should be noted that the significance criteria question (a), below, is from the Land Use and Planning section of the CEQA Guidelines Appendix G checklist questions. However, this question addresses impacts related to conflicts with land use plans, which would include project-related conflicts to the noise land use compatibility standards of the Noise Element of the General Plan. Therefore, these impacts are addressed here.

a) Cause a significant environmental impact due to a conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?[8]

[8] This significance criteria question is from the Land Use and Planning section of the CEQA Guidelines Appendix G checklist questions. However, since the question addresses impacts related to conflicts with land use plans, which would include project-related conflicts related to noise land use compatibility standards of the General Plan Noise Element, it is also included here.

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

c) Generate excessive groundborne vibration or groundborne noise levels?

d) 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?

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of noise and vibration resulting from implementation of the proposed project.

- A significant impact would occur if the proposed project would conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. For new industrial land use developments, ambient noise levels up to 75 dBA DNL are considered "normally acceptable."
- A significant impact would occur if the proposed project would generate a substantial temporary or permanent increase in ambient noise levels in the project vicinity in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
  - For temporary construction noise, a significant impact would occur if construction activities would result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of sensitive receptors or if project-related construction grading activities would generate noise during hours other than those established as permissible in Article 716-8.1004 in the County's Code of Ordinances.
  - For project-related traffic noise, a significant impact would occur if the proposed project would cause the DNL to increase by 5 dBA or more even if the DNL would remain below normally acceptable levels for a receiving land use (as defined in the land use compatibility standards); or by 3 dBA or more, thereby causing the DNL in the project vicinity to exceed normally acceptable levels and result in noise levels that would be considered conditionally acceptable for a receiving land use; or by 1.5 dBA or more where the DNL currently exceeds conditionally acceptable levels. A doubling of traffic volume generally results in a 3 dBA increase in noise.
  - For project-related stationary noise sources, Contra Costa County established a maximum exterior noise performance threshold for receiving residential land uses of 65 dBA DNL. Contra Costa County also established a maximum interior noise threshold of 45 dBA DNL; however, if ambient noise levels exceed 65 dBA DNL due to train noise, the maximum interior noise threshold would be 50 dBA DNL in bedrooms and 55 dBA DNL in other habitable rooms. For purposes of this analysis, an increase of more than 3 dBA above the applicable noise performance thresholds would be considered a significant impact.

- A significant impact would occur if the proposed project would generate groundborne vibration or groundborne noise levels in excess of applicable standards. Contra Costa County has not adopted criteria for construction or operational groundborne vibration impacts. Therefore, for purposes of this analysis, the FTA's construction vibration impact criteria are utilized. The FTA threshold of 0.2 in/sec PPV is the potential damage criteria threshold for buildings of non-engineered timber and masonry construction. For operational impacts, a significant impact will occur if project ongoing activities would produce groundborne vibrations that are perceptible without instruments by a reasonable person at the property lines of the site.
- 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 2 miles of a public airport or public use airport, a significant impact would occur if the proposed project would expose people residing or working in the project area to excessive noise levels.

Impact Evaluation

Noise Levels That Would Conflict with Any Land Use Plan, Policy, or Regulation

Impact NOI-1:	**The proposed project could cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.**

A significant impact would occur if the project would result in a conflict with Contra Costa County or the City of Walnut Creek applicable adopted land use compatibility standards. The applicable standards are as follows:

- 60 dBA DNL for the proposed multi-family residential land use development; or
- conditionally acceptable land use compatibility threshold of 70 dBA DNL for the proposed multi-family residential land use development.

Contra Costa County and the City of Walnut Creek also establish a maximum interior noise threshold of 45 dBA DNL; however, for new downtown mixed-use development or for new residential development affected by noise from BART or helicopters, the project must ensure that maximum indoor noise levels do not exceed 50 DNL in bedrooms and 55 DNL in other rooms and an alternate outdoor noise goal do not exceed 70 dBA DNL.

Estimated future noise levels at future façades range from 60 dBA DNL at interior shielded portions of the site to approximately 74 dBA DNL at elevated locations nearest the BART tracks and I-680. This falls into the County's normally acceptable to normally unacceptable land use compatibility categories for multi-family residences. Therefore, exterior building assemblies will need to be sound rated to reduce transportation noise to acceptable levels.

According to the noise study prepared by Salter Inc., window and exterior door assemblies of units located within 175-feet of the centerline of Jones Road will need to have Sound Transmission Class (STC) ratings of STC 39 to reduce project traffic noise levels to meet the interior noise level standards; while units located within 100 feet of the centerline of Oak Road will need to have ratings

of STC 34 to reduce project traffic noise levels to meet the interior noise level standards. For reference, typical construction grade dual-pane windows achieve sound insulation ratings of approximately STC 28.

Ventilation systems must not compromise sound insulation of the exterior wall assemblies. Where windows will need to be closed to meet the interior noise criterion, an alternate means of providing outside air to habitable spaces should be provided. The ventilation systems will need to maintain the exterior-to-interior noise reduction of the overall façade.

The analysis also analyzed potential impacts to proposed outdoor active use areas. The analysis determined that proposed outdoor active use areas, which are interior to the site, will not be exposed to traffic noise levels in excess of established standards.

Therefore, due to existing traffic noise levels in the project vicinity, implementation of the project could expose the proposed residential land uses to noise levels that would conflict with the County's established noise land use compatibility standards adopted for the purpose of avoiding or mitigating an environmental effect. However, with implementation of Mitigation Measure (MM) NOI-1, this impact would be reduced to less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM NOI-1 Implement Traffic Noise-reduction Measures

To reduce potential traffic noise impacts, the following multi-part mitigation measure shall be implemented for the proposed project:

- The project applicant shall ensure inclusion of ventilation systems that would permit windows to remain closed for prolonged periods. The systems must not compromise sound insulation of the exterior wall assemblies.
- Prior to issuance of building permits, the project applicant shall provide design plans which show that window and exterior door assemblies of units located within 175-feet of the centerline of Jones Road will have ratings of Sound Transmission Class (STC) 39 to reduce project traffic noise levels to meet the interior noise level standards. Alternatively, the project applicant shall provide a design-level noise study that demonstrates the specific window and door assembly sound ratings to achieve the required interior noise threshold for each of these impacted residential units.
- Prior to issuance of building permits, the project applicant shall provide design plans which show that window and exterior door assemblies of units located within 100-feet of the centerline of Oak Road will have ratings of STC 34 to reduce project traffic noise levels to meet the interior noise level standards. Alternatively, the project applicant shall provide a design-level noise study that demonstrates the specific window and door assembly sound ratings to achieve the required interior noise threshold for each of these impacted residential units.

Level of Significance After Mitigation

Less than significant impact.

Substantial Noise Increase in Excess of Standards

Impact NOI-2:	**The proposed project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.**

Construction

For purposes of this analysis, for temporary construction noise, a significant impact would occur if construction activities would result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of sensitive receptors or if project-related construction grading activities would generate noise during hours other than those established as permissible in Article 716-8.1004 in the County's Code of Ordinances. Noise impacts from construction activities associated with the project would be a function of the noise generated by construction traffic, construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. A discussion of the potential impacts associated with each of these types of activities is provided below.

Construction Traffic Noise

One type of noise impact that could occur during project construction would result from the increase in traffic flow on local streets, associated with the transport of workers, equipment, and materials to and from the project site. The transport of workers and construction equipment and materials to the project site would incrementally increase noise levels on access roads leading to the site. Because project construction workers and construction equipment would use existing routes, noise from passing trucks would be similar to existing vehicle-generated noise on these local roadways. In addition, these trips would not result in a doubling of daily traffic volumes on any of the local roadways in the project vicinity and would thus not result in a perceptible change in existing traffic noise levels. For this reason, intermittent noise from construction trips would be minor when averaged over a longer time period and would not be expected to result in a perceptible increase in hourly- or average daily traffic noise levels in the project vicinity. Therefore, construction-related noise impacts associated with the transportation of workers and equipment to the project site would be less than significant.

Construction Equipment Noise

Construction is performed in discrete steps, each of which entails its own mix of equipment, and consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on-site. Thus, the noise levels vary as construction progresses. Despite the variety in the types and sizes of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction noise ranges to be categorized by work phase. Table 3.11-2 lists the maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 feet between the equipment and a noise receptor.

The site preparation phase, which includes excavation and grading activities, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery and compacting equipment, such as bulldozers, draglines, backhoes, front loaders, roller compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings. Operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Construction of the proposed project is expected to require the use of scrapers, bulldozers, water trucks, haul trucks, and pickup trucks. The foundation would involve spread footings, so impact equipment such as pile drivers is not expected to be used during construction of the project. Based on the information provide in Table 3.11-2, the maximum noise level generated by each scraper is assumed to be 85 dBA L_{max} at 50 feet from this equipment. Each bulldozer would generate 85 dBA L_{max} at 50 feet. The maximum noise level generated by graders is approximately 85 dBA L_{max} at 50 feet. Each doubling of sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, a reasonable worst-case combined noise level during this phase of construction would be 90 dBA L_{max} at a distance of 50 feet from the acoustic center of a construction area. This would result in a reasonable worst-case hourly average of 86 dBA L_{eq}. The acoustic center reference is used, because construction equipment must operate at some distance from one another on a project site, and the combined noise level as measured at a point equidistant from the sources would (acoustic center) be the worst-case maximum noise level. The effect on sensitive receptors is evaluated below.

The nearest off-site noise-sensitive receptor to the project site is the multi-family residence located southeast of the project building, which would be located approximately 70 feet from the acoustic center of construction activity where multiple pieces of heavy machinery would operate. Again, the acoustic center refers to a point equidistant from multiple pieces of equipment operating simultaneously which would produce the worst-case maximum noise level. At this distance, construction noise levels at the exterior façade of this nearest residential home would be expected to range up to approximately 87 dBA L_{max}, with a worst-case hourly average of approximately 83 dBA L_{eq}, intermittently, when multiple pieces of heavy construction equipment operate simultaneously at the nearest construction footprint. These noise levels would be intermittent and would be reduce as equipment moves over the project site further from adjacent sensitive receptors. Therefore, restricting construction activities to non-weekend, non-holiday daytime hours of 7:00 a.m. to 6:00 p.m. would ensure that construction noise would not result in a substantial exceedance of the construction noise standards established by General Plan Policy 11-8 and the Walnut Creek Municipal Code.

MM NOI-2 requires adherence to the County's permissible construction hours and also requires implementation of best management noise reduction techniques and practices that would ensure that construction noise levels would not result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors. Therefore, with implementation of MM NOI-2, temporary construction noise impacts would be reduced to less than significant.

Operation

The proposed project would result in an increase in traffic on local roadway segments in the project vicinity. In addition, implementation of the project would introduce new stationary noise sources to the ambient noise environment in the project vicinity, including new mechanical ventilation equipment. The potential for a substantial increase in ambient noise levels resulting from these noise sources is analyzed below.

Traffic Noise

For project-related traffic noise, a significant impact would occur if the proposed project would cause the DNL to increase by 5 dBA or more even if the DNL would remain below normally acceptable levels for a receiving land use (as defined in the land use compatibility standards); or by 3 dBA or more, thereby causing the DNL in the project vicinity to exceed normally acceptable levels and result in noise levels that would be considered conditionally acceptable for a receiving land use; or by 1.5 dBA or more where the DNL currently exceeds conditionally acceptable levels. A doubling of traffic volume generally results in a 3 dBA increase in noise.

The noise study prepared by Salter, Inc. identifies that vehicles will enter and exit the site via driveways on Jones Road and Oak Road. A traffic study was prepared for the project, titled Transportation Analysis for the Summerhill Homes Townhome Condo Site Residential Redevelopment at 2740 Jones Road in Walnut Creek, California, by Hexagon Transportation Consultants, Inc., and dated May 10, 2021. The traffic analysis includes existing and project-generated AM and PM peak-hour traffic volumes at four study intersections in the project vicinity. The intersections are Oak Road and Jones Road, Oak Road and Treat Boulevard, Jones Road and the project driveway, and Oak Road and the project driveway. The intersection volume data indicates that peak-hour traffic volumes will increase by 3 percent or less, which corresponds with less than a 1 dB increase in the traffic noise levels DNL. Therefore, project-related traffic noise level would result in less than significant increases in traffic noise levels along modeled roadway segments in the project vicinity. This would be a less than significant impact, and no mitigation would be required.

Stationary Noise

For project-related stationary noise sources, Contra Costa County established a maximum exterior noise performance threshold for receiving residential land uses of 65 dBA DNL. Contra Costa County also established a maximum interior noise threshold of 45 dBA DNL; however, if ambient noise levels exceed 65 dBA DNL due to train noise, the maximum interior noise threshold would be 50 dBA DNL in bedrooms and 55 dBA DNL in other habitable rooms. For purposes of this analysis, an increase of more than 3 dBA above the applicable noise performance thresholds would be considered a significant impact.

Implementation of the project would introduce new stationary noise sources to the ambient noise environment in the project vicinity, including new mechanical ventilation equipment. The project would include installation of new rooftop mechanical ventilation equipment. Proposed parking areas would be enclosed in parking structures, and associated noise would not propagate to nearby sensitive receptors; thus, the following analysis is limited to stationary noise associated with proposed mechanical equipment.

Noise levels from typical mechanical ventilation equipment range up to approximately 60 dBA L_{eq} as measured at a distance of 25 feet. The building's proposed mechanical ventilation units could be located as close as 30 feet from the nearest noise-sensitive receptor, which is the multi-family residential home located south of the proposed building. At this distance, noise levels generated by this equipment would attenuate to below 58.5 dBA L_{eq} at this closest residential receptor. These noise levels would not exceed Contra Costa County's or the City of Walnut Creek's maximum exterior noise threshold for receiving residential land uses of 65 dBA DNL. They would therefore also not exceed the maximum interior noise threshold of 45 dBA DNL as measured inside the nearest residential receptor. Therefore, operational noise levels generated by the proposed mechanical ventilation equipment would not result in a substantial permanent increase in ambient noise levels in excess of any of the noise performance thresholds, and would represent a less than significant impact.

Level of Significance Before Mitigation

Potentially significant impact (construction noise only).

Mitigation Measures

MM NOI-2 Implement Noise-reduction Measures During Construction

To reduce potential construction noise impacts, the following multi-part mitigation measure shall be implemented for the proposed project:

- The construction contractor shall ensure that all equipment driven by internal combustion engines shall be equipped with mufflers, which are in good condition and appropriate for the equipment.
- The construction contractor shall ensure that unnecessary idling of internal combustion engines (i.e., idling in excess of 5 minutes) is prohibited.
- The construction contractor shall utilize "quiet" models of air compressors and other stationary noise sources where technology exists.
- At all times during project grading and construction, the construction contractor shall ensure that stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from adjacent residences.
- The construction contractor shall ensure that the construction staging areas shall be located to create the greatest feasible distance between the staging area and noise-sensitive receptors nearest the project site.
- The construction contractor shall control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
- The construction contractor shall designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem.

- The construction contractor shall ensure that noise-generating construction activities (including construction-related traffic, excluding interior work within the building once the building envelope is complete) at the project site and in areas adjacent to the project site are limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise approved by the Department of Conservation and Development, Community Development Division (CDD), with no construction allowed on weekends, federal, and State holidays.

Level of Significance After Mitigation

Less than significant impact.

Groundborne Vibration/Noise Levels

Impact NOI-3: The proposed project would not result in generation of excessive groundborne vibration or groundborne noise levels.

A significant impact would occur if the proposed project would generate groundborne vibration or groundborne noise levels in excess of applicable standards. Contra Costa County has not adopted criteria for construction or operational groundborne vibration impacts. Therefore, for purposes of this analysis, the FTA's construction vibration impact criteria are utilized. The FTA threshold of 0.2 in/sec PPV is the potential damage criteria threshold for buildings of non-engineered timber and masonry construction. For operational impacts, a significant impact will occur if project ongoing activities would produce groundborne vibrations that are perceptible without instruments by a reasonable person at the property lines of the site.

Construction

Groundborne noise is generated when vibrating building components radiate sound, or noise generated by groundborne vibration. In general, if groundborne vibration levels are do not exceed levels considered to be perceptible, then groundborne noise levels would not be perceptible in most interior environments. Therefore, this analysis focuses on determining exceedances of groundborne vibration levels.

Construction activity can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of construction equipment causes vibrations that spread through the ground and diminish in strength with distance. Buildings in the vicinity of a construction site respond to these vibrations with varying results ranging from no perceptible effects at the low levels, to slight damage at the highest levels.

Impact equipment, such as pile drivers, are not expected to be used during construction of the project. Therefore, of the variety of equipment used during construction of this component of the project, the small vibratory rollers that would be used in the site preparation phase of construction would produce the greatest groundborne vibration levels. As shown in Table 3.11-3, small vibratory rollers produce groundborne vibration levels ranging up to 0.101 in/sec PPV at 25 feet from the operating equipment.

The nearest off-site receptor to where the heaviest construction equipment would operate are the multi-family residential homes, approximately 20 feet south of the nearest construction footprint for

the project. As measured at the nearest receptor, operation of a small vibratory roller could result in groundborne vibration levels up to 0.141 in/sec PPV. This is below the FTA's damage threshold criteria of 0.2 in/sec PPV for non-engineer timber and masonry buildings. Therefore, construction-related groundborne vibration impacts to off-site receptors would be less than significant.

Operation

Contra Costa County and the City of Walnut Creek have not adopted criteria for operational groundborne vibration impacts. Therefore, for purposes of this analysis, a significant impact would occur if project ongoing activities would produce groundborne vibrations that are perceptible without instruments by a reasonable person at the property lines of a site. Implementation of the project would not include any permanent sources of vibration that would expose persons in the project vicinity to groundborne vibration levels that could be perceptible without instruments at any existing sensitive land use in the vicinity of the project site. Therefore, operational groundborne vibration impacts would be less than significant.

Level of Significance

Less than significant impact.

Excessive Noise Levels from Airport Activity

Impact NOI-4:	**The proposed project would not expose people residing or working in the project area to excessive noise levels 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.**

A significant impact would occur if the proposed project would expose people residing or working in the project area to excessive noise levels for a project located in the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport.

The project site is not located within the vicinity of a private airstrip. The nearest public airport to the project site is the Buchanan Field Airport, located approximately 4.5 miles north of the project site. According to the airport's noise contour map, the project site is located outside of the 65 dBA CNEL airport noise contours. While aircraft noise is occasionally audible on the project site from aircraft flyovers, aircraft noise associated with nearby airport activity would not expose people to residing or working near the project site to excessive noise levels. Therefore, implementation of the project would not expose persons residing or working in the project vicinity to noise levels from airport activity that would be in excess of normally acceptable standards for the proposed land use development and no impact would occur.

Level of Significance

No impact.

3.11.6 - Cumulative Impacts

Noise Land Use Compatibility Consistency

Combined cumulative year traffic and BART activity noise levels at the project site would result in noise levels that Contra Costa County considers to be conditionally acceptable for new multi-family residential land uses (with projected noise levels of up to 74 dBA DNL at the highest impacted façade). This impact is potentially significant. However, as discussed under Impact NOI-1, MM NOI-1 shall be implemented, which requires the project to include a code compliant mechanical ventilation system that would permit windows to remain closed for prolonged periods, as well as upgraded window and door assemblies to ensure compliance with the interior noise standard of 45 dBA DNL. This measure would ensure that potentially impacted interior residential units would meet the interior noise level requirement of 45 dBA DNL. Therefore, implementation of MM NOI-1 would ensure that the project would not result in a cumulatively considerable contribution to consistency with noise land use compatibility standards. Therefore, with implementation of MM NOI-1, the project would result in a less than significant cumulative impact related to land use compatibility consistency.

Construction Noise Temporary Substantial Increase

The geographic scope of the cumulative noise analysis is the project vicinity, including surrounding sensitive receptors. Noise impacts tend to be localized; therefore, the area near the project area (approximately 0.25 mile) would be the area most affected by proposed plan activities. However, none of the cumulative projects shown in Table 3-1 are located within 0.25 mile of the project site. Therefore, the project would result in a less than significant cumulative impact related to construction noise.

Operational Traffic Noise Permanent Substantial Increase

The significance threshold for a cumulative traffic noise impact would be traffic noise levels that would cause the DNL to increase by 1.5 dBA or more where the DNL currently exceeds conditionally acceptable levels.

As shown in the traffic analysis prepared for the project, the intersection volume data indicates that project-related peak-hour traffic volumes will increase roadway traffic volumes by 3 percent or less, which corresponds with less than a 1 dB increase in the traffic noise levels DNL. Therefore, project-related traffic noise level would result in less than significant increases in traffic noise levels along modeled roadway segments in the project vicinity. This would be a less than significant impact, and no mitigation would be required.

Given the above information, the project, in conjunction with other existing, planned, and probable future projects, would result in a less than significant cumulative impact related to noise.

Operational Stationary Noise Permanent Substantial Increase

Implementation of the project would introduce new stationary noise sources to the ambient noise environment in the project vicinity, including new mechanical ventilation equipment. However, noise levels generated by this equipment would attenuate to below 58.5 dBA L_{eq} at the closest residential

receptor. These noise levels would not exceed documented existing background ambient noise levels. Therefore, implementation of the project would not result in a cumulatively considerable contribution to existing ambient noise conditions in the project vicinity. This impact would be less than significant.

Construction and Operational Vibration

The only cumulatively considerable contribution to vibration conditions in the project vicinity would result from introduction of new permanent sources of groundborne vibration in the project site vicinity. The only major sources of groundborne vibration in the project vicinity is railroad activity along the rail line west of the project site. Implementation of the project would not introduce any new permanent sources of groundborne vibration to the project vicinity and would not increase railroad activity. Therefore, implementation of the project would not result in a cumulatively considerable contribution to vibration conditions in the project vicinity. This impact would be less than significant.

Level of Cumulative Significance Before Mitigation

Potentially significant impact (traffic noise land use compatibility only).

Mitigation Measures

Implement MM NOI-1.

Level of Cumulative Significance After Mitigation

Less than significant impact.

3.12 - Population and Housing

3.12.1 - Introduction

This section describes existing population and housing in the region, County, and project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to population and housing that could result from implementation of the project. Information included in this section is based on databases and reports maintained by the California Department of Finance (CDF), Association of Bay Area Governments (ABAG), and Contra Costa County (County). During the Notice of Preparation (NOP) comment period, the following comments were received related to the proposed project regarding Population and Housing:

- Concern regarding increased density due to the proposed project (offered less dense, community-oriented alternatives to the proposed project).
- Walnut Creek needs housing, but it should be affordable housing.

3.12.2 - Existing Conditions

Population and Housing

San Francisco Bay Area

The ABAG conducts long-term forecasts of population, households, and employment for the nine county[1] San Francisco Bay Area (Bay Area) to project growth in the region. The Bay Area has experienced population growth over the past several decades, and that growth is expected to continue. The ABAG 2018 projection estimated that approximately 7,920,230 residents would reside in the Bay Area in 2020. The ABAG projects that the Bay Area's population will grow by approximately 1,732,720 new residents between 2020 and 2040 and reach approximately 9,652,950 residents by 2040.[2]

Contra Costa County

Population and housing characteristics for the County are summarized in Table 3.12-1.[3] This includes for the entire County and the unincorporated areas. Unincorporated areas account for 15 percent of the County's population and have slightly smaller household sizes than the Countywide average.

Table 3.12-1: Contra Costa County Population and Housing Characteristics (2021)

Category	Population	Dwelling Units	Persons Per Household
Contra Costa County (Cities, Towns, and Unincorporated Areas)	1,153,854	420,751	2.87
Unincorporated Contra Costa County	174,423	64,831	2.85
Source: California Department of Finance (CDF) 2021.			

[1] The Bay Area is defined as the nine counties that make up the region: Sonoma, Marin, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco.
[2] Association of Bay Area Governments (ABAG). 2018. Plan Bay Area Projections 2040. Website: http://mtcmedia.s3.amazonaws.com/files/Projections_2040-ABAG-MTC-web.pdf. Accessed May 3, 2021.
[3] State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State–January 1, 2011-2021. Sacramento, California, May 2021.

Table 3.12-2 summarizes the County's historic population growth between 1990 and 2020.[4] The County surpassed 1 million in population in 2005. The total County population grew by 43 percent during the 30-year time period with the bulk of the growth occurring in incorporated cities and towns. Unincorporated areas grew at a slower rate (14 percent) in large part due to land use policies that promote city-centered growth.

Table 3.12-2: Contra Costa County Historic Population Growth (1990-2020)

Year	County (Cities, Towns, and Unincorporated Areas)	Unincorporated Areas
1990	803,732	152,841
1995	869,176	168,546
2000	948,816	151,557
2005	1,001,216	154,270
2010	1,049,025	159,785
2015	1,113,221	170,142
2020	1,149,853	173,815
1990-2020 Change	**346,121 (43%)**	**20,974 (14%)**

Source: California Department of Finance (CDF) 2021.

Growth Projections

The Contra Costa County General Plan (General Plan) forecast population and dwelling units for the unincorporated County in 2020, which are summarized in Table 3.12-3. The projections were based on ABAG numbers. When compared to the actual 2021 population and dwelling unit values shown in Table 3.12-1, the General Plan's projections were higher by 5,561 persons and 3,929 dwelling units or 3 and 6 percent higher, respectively.

Table 3.12-3: Contra Costa County General Plan Unincorporated Growth Projections (2020)

Category	Unincorporated Contra Costa County	
	Population	Dwelling Units
Forecast (2020)	179,984	68,760
Actual (2021)	174,423	64,831
Difference	**5,561 (3%)**	**3,929 (6%)**

Notes:
2021 population and dwelling units from Table 3.12-1
Source: Contra Costa County 2020.

[4] State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011-2021. Sacramento, California, May 2021.

Project Site

No residences are present on the project site.

Affordable Housing

Contra Costa County

In July 2013, the ABAG projected regional housing needs in its Regional Housing Needs Plans for the San Francisco Bay Area: 2015-2023. According to the ABAG forecasts, unincorporated Contra Costa County's projected housing need from 2015 to 2023 is 1,367 residential units, consisting of:

- 374 units within the very-low-income level (0–50 percent of area median income);
- 218 units within the low-income level (51–80 percent of area median income);
- 243 units within the moderate-income level (81–120 percent of area median income); and
- 532 units within the above-moderate-income level (more than 120 percent of area median income).[5]

Project Site

There are no residences, including affordable housing units, on the project site.

Employment

San Francisco Bay Area

The Bay Area region has experienced a strong recovery since the 2007–2009 Great Recession, with job growth proceeding at a pace greater than that experienced by the State of California or the United States as a whole. By mid-2013, the Bay Area had regained all of the jobs lost during the Great Recession; however, if 2000 is used as the baseline year, the average rate of growth is much less and closer to zero since the peak of the dot-com boom era.[6] The Draft Environmental Impact Report (Draft EIR) (currently under public review until July 20, 2021) for the forthcoming ABAG Plan Bay Area 2050 indicates that employment in the Bay Area is expected to grow from 4,005,500 in 2015 to 5,408,000 in 2050.[7]

Contra Costa County

The California Employment Development Department (EDD) estimated that in May of 2021, the County had 499,500 employed persons and 33,500 unemployed persons for an unemployment rate of 6.3 percent within the County.[8] According to the U.S. Bureau of Labor Statistics, in April of 2021, the State of California has an unemployment rate of 8.3 percent.[9]

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5 Association of Bay Area Governments (ABAG). Final Regional Housing Need Allocation, 2015-2023.

6 Association of Bay Area Governments (ABAG). 2015. Executive Summary—State of the Region 2015: Economy, Population and Housing.

7 Association of Bay Area Governments (ABAG). 2021. Plan Bay Area 2050 Draft Program Environmental Impact Report State Clearinghouse #2020090519, Table 2-1. June. Website: https://www.planbayarea.org/sites/default/files/documents/2021-06/PBA_2050_DEIR.pdf. Accessed June 28, 2021.

8 California Employment Development Department (EDD). 2021. Contra Costa County Profile. Website: https://www.labormarketinfo.edd.ca.gov/cgi/databrowsing/localAreaProfileQSResults.asp?selectedarea=Contra+Costa+County&selectedindex=7&menuChoice=localAreaPro&state=true&geogArea=0604000013&countyName=. Accessed June 28, 2021.

9 United States Bureau of Labor Statistics. 2021. Economy at a Glance. Website: https://www.bls.gov/eag/eag.ca.htm. Accessed June 21, 2021.

Project Site

The former Palmer School for Boys and Girls, a private K-8 school, operated at the project site from 1939 until its closure due to COVID-19 in June 2020. The school is currently closed and does not offer employment. There are no land uses, such as commercial or office space, on the project site that offer employment.

3.12.3 - Regulatory Setting

Federal

No federal plans, policies, regulations, or laws related to population and housing are applicable to the project.

State Regulations

California Housing Element Law

The State Housing Element Law (Government Code Chapter 1143, Article 10.6, §§ 65580 and 65589) requires each city and county to adopt a general plan for future growth. This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. The amount of housing that must be accounted for in a local housing element is determined through a process called the Regional Housing Needs Allocation (RHNA). In the RHNA process, the State gives each region a number representing the amount of housing needed, based on existing need, and expected population growth.

At the State level, the California Department of Housing and Community Development (HCD) estimates the relative share of the State's anticipated population growth that would occur in each county in the State, based on CDF population projections and historic growth trends. Where there is a regional council of governments, as in the San Francisco Bay Area (in this case, the ABAG), the HCD provides the regional housing need to the council. The council then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares provides cities and counties the opportunity to comment on the proposed allocations. The HCD oversees the process to ensure that the council of governments distributes its share of the State's projected housing need.

Each city and county must update its general plan housing element on a regular basis pursuant to the requirements of Government Code Section 65580, *et seq*. Among other things, the housing element must incorporate policies and identify potential sites that would accommodate a city's share of the regional housing need. Before adopting an update to its housing element, a city or county must submit the draft to the HCD for review. The HCD will advise the local jurisdiction whether its housing element complies with the provisions of California Housing Element Law. The regional councils of governments are required to assign regional housing shares to the cities and counties within their region on a similar schedule. At the beginning of each cycle, the HCD provides population projections to the regional councils of governments, who then allocate shares to their cities and counties. The shares of the regional need are allocated before the end of the cycle so that the cities and counties can amend their housing elements by the deadline.

Regional

Plan Bay Area and ABAG Regional Housing Needs Assessment

The Plan Bay Area, published by the Metropolitan Transportation Commission (MTC) and the ABAG, is a long-range integrated transportation and land use/housing strategy through 2040 for the Bay Area. The Plan Bay Area functions as the sustainable communities' strategy mandated by Senate Bill 375. Updating the 2040 document, Plan Bay Area 2050 has been updated as a long-range plan charting the course for the future of the nine county Bay Area. This updated plan is expected to be adopted by MTC and ABAG in Fall 2021.[10]

In July 2013, the ABAG projected regional housing needs in its RHNA for the San Francisco Bay Area: 2014–2022. Updated RHNA projections are expected in the second half of 2021. Acting in coordination with the HCD, the ABAG determines the Bay Area's regional housing need based on regional trends, projected job growth, and existing needs. Unincorporated Contra Costa County's fair share of the regional housing need allocation for an 8-year period (2015 to 2023) was calculated as 1,367 units, or about 171 units per year. Updated RHNA projections are expected in the second half of 2021. The RHNA determination includes production targets addressing the housing needs of a range of household income categories. A total of about 592 units, or 43 percent of the RHNA target, must be affordable to households making up to 80 percent of the area's median income.[11] The United States Department of Housing and Urban Development (HUD) determines the annual area median income for the Oakland-Fremont Metropolitan Statistical Area, which includes Contra Costa County. In 2021, the area's median family income was $125,600. For families of low income (including 80 percent of the population), the median family income for a single-person household was $76,750 and for a 4-person family it was $109,600.[12]

Local

Contra Costa County General Plan

Land Use Element

Applicable policies found in the General Plan Land Use Element include the following:

Policies

Policy 3-5 New development within unincorporated areas of the County may be approved, providing growth management standards and criteria are met or can be assured of being met prior to the issuance of building permits in accordance with the growth management program.

Policy 3-6 Development of all urban uses shall be coordinated with provision of essential community services or facilities including, but not limited to, roads, law enforcement and fire protection services, schools, parks, sanitary facilities, water and flood control.

[10] Association of Bay Area Governments (ABAG). 2021. Draft Plan Bay Area 2050. Website: https://www.planbayarea.org/draftplan2050. Accessed June 28, 2021.

[11] Association of Bay Area Governments (ABAG). 2013. Regional Housing Need Plan, San Francisco Bay Area 2015–2023. About the Regional Housing Needs Allocation.

[12] United States Department of Housing and Urban Development (HUD). FY 2021 Income Limits Summary. Website: https://www.huduser.gov/portal/datasets/il/il2021/2021summary.odn. Accessed June 28, 2021.

Policy 3-7 The location, timing and extent of growth shall be guided through capital improvements programming and financing (i.e., a capital improvement program, assessment districts, impact fees, and developer contributions) to prevent infrastructure, facility, and service deficiencies.

Policy 3-8 Infilling of already developed areas shall be encouraged. Proposals that would prematurely extend development into areas lacking requisite services, facilities and infrastructure shall be opposed. In accommodating new development, preference shall generally be given to vacant or under-used sites within urbanized areas, which have necessary utilities installed with available remaining capacity, before undeveloped suburban lands are utilized.

Policy 3-24 Housing opportunities shall be improved through encouragement of distinct styles, desirable amenities, attractive design, and enhancement of neighborhood identity.

Policy 3-25 Innovation in site planning and design of housing developments shall be encouraged in order to upgrade quality and efficiency of residential living arrangements and to protect the surrounding environment.

Policy 3-28 New residential development shall be accommodated only in areas where it will avoid creating severe unmitigated adverse impacts upon the environment and upon the existing community.

Housing Element

Applicable policies found in the General Plan Housing Element include the following:

Goal 6-1 Maintain and improve the quality of the existing housing stock and residential neighborhoods in Contra Costa County.

Goal 6-3 Increase the supply of housing with a priority on the development of affordable housing, including housing affordable to extremely low-income households.

Goal 6-6 Provide adequate sites through appropriate land use and zoning designations to accommodate the County's share of regional housing needs.

Policies

Policy 6-3.1 Support the development of additional affordable housing by nonprofit and for-profit developers through financial assistance and/or regulatory incentives such as density bonus or flexible development standards through planned unit development.

Policy 6-3.3 Increase the supply of affordable housing and encourage the development of mixed-income housing through the Inclusionary Housing Ordinance.

Policy 6-6.1 Maintain an up-to-date site inventory that details the amount, type, and size of vacant and underutilized parcels, and assist developers in identifying land suitable for residential development.

Contra Costa County Ordinance Code

Inclusionary Housing Ordinance

Chapter 822-4, Inclusionary Housing Ordinance, of the Ordinance Code facilitates the development and availability of housing affordable to a broad range of households with varying income levels within the County. A residential development consisting of five to 125 for-sale units must develop and sell at least 15 percent of the for-sale units as inclusionary units. However, as an alternative to providing some or all of the inclusionary units required, an in-lieu fee may be paid pursuant to Ordinance Code Section 822-4.404. The fee paid is established by the County's Department of Conservation and Development fee schedule as adopted by the Board of Supervisors.

3.12.4 - Impacts and Mitigation Measures

Significance Criteria

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist, to determine whether impacts to population and housing are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Approach to Analysis

Impacts related to population, housing, and employment were determined by analyzing existing and projected population, housing, and employment estimates provided by the CDF, ABAG, and the General Plan. The proposed project's impacts were evaluated by determining their consistency with these projections, estimates, and the General Plan.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of population and housing impacts resulting from implementation of the project.

- Inducement of permanent or daytime population or employment growth in the Contra Costa County General Plan planning area that would exceed Contra Costa County or ABAG population projections for Contra Costa County.
- Displacement of existing housing or permanent population.

Impact Evaluation

Population Growth

Impact POP-1: **The proposed project would not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).**

Construction

Impacts related to inducement of population growth are limited to operational impacts. No respective construction impacts would occur.

Operation

Direct Population Growth

The proposed project would develop 125 new dwelling units on the project site. Table 3.12-4 summarizes project-related population growth. As shown in the table, the proposed project would add an estimated 357 persons to the County's population. This would represent an increase of 0.2 percent relative to the unincorporated population of 174,423. This amount of population growth would be within the General Plan's 2020 population and dwelling projections for the unincorporated area and, therefore, would not be considered substantial. Furthermore, it would also be within ABAG's 2020-2040 regional population growth projections. Impacts would be less than significant.

Table 3.12-4: Project-Related Population Growth

Dwelling Units	Persons Per Household	Population Growth	Population Growth as a Percent of Unincorporated Contra Costa County's 2021 Population
125	2.85	357	0.2%

Notes:
Contra Costa County's 2021 population estimated to be 174,423; refer to Table 3.12-1
Source: California Department of Finance (CDF) 2021; FirstCarbon Solutions (FCS) 2021.

Indirect Population Growth

The proposed project is exclusively residential; it would not create new permanent employment opportunities. Thus, no indirect population growth from new employment would occur.

The project site has been developed since the 1930s and is located within an urbanized area of the unincorporated County. It is served with urban infrastructure and utilities including potable water, sewer, storm drainage, electricity, and natural gas. As such, the proposed project would not remove a barrier of growth through the extension of infrastructure or utilities to an unserved area. Impacts would be less than significant.

Level of Significance

Less than significant impact.

Population/Housing Displacement

Impact POP-2:	**The proposed project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.**

Construction

Impacts related to displacement of people or housing necessitating replacement housing are limited to operational impacts. No respective construction impacts would occur.

Operation

The site contains two existing residential units that are occupied by the property owners' family members serving as caretaker and security for the property and existing improvements. Removal of these existing uses would not result in the displacement of substantial numbers of persons or housing. No impact would occur.

Level of Significance

No impact.

3.12.5 - Cumulative Impacts

Cumulative population and housing effects must be considered in relationship land use, plans, and policy considerations for development facilitated by the General Plan. The relevant cumulative geographic context is the unincorporated area of the County that includes projects identified in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects.

Population Growth

The geographic scope of the cumulative population and housing analysis is Contra Costa County. As of 2021, the County was estimated to have a population of 1,153,854, with unincorporated areas having a population of 174,423. Cumulative projects listed in Table 3-1 in conjunction with the project would add population. The proposed project would add 357 persons to the County's population, which would represent growth of less than 0.01 percent of the County's population and 0.02 of the unincorporated population. As such, there would not be substantial direct population growth associated with the proposed project in conjunction with the cumulative projects. Therefore, cumulative impacts related to population growth, both direct and indirect, would be considered less than significant.

Population/Housing Displacement

Cumulative projects listed in Table 3-1 in conjunction with the proposed project would add residential units to the County. None of the listed projects substantially displaces housing units or people within the County. In fact, implementation of the cumulative projects would result in a net increase of housing in the County. The County further requires development that may impact housing to include affordable housing units or pay a related impact fee (see Regulatory Setting). Therefore, cumulative impacts associated with population and housing displacement would be less than significant.

Level of Cumulative Significance

Less than significant impact.

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3.13 - Public Services and Recreation

3.13.1 - Introduction

This section describes the existing conditions related to public services, including parks and recreational facilities, in the proposed project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to public services and parks and recreational facilities that could result from implementation of the proposed project. Information in this section is based on information obtained from the Contra Costa County General Plan (General Plan), Contra Costa County Fire Protection District (CCCFPD), Contra Costa County Office of the Sheriff, Walnut Creek Elementary School District, Acalanes Union High School District (AUHSD), and East Bay Regional Park District (EBRPD). During the Notice of Preparation (NOP) comment period, the following comment was received related to the proposed project regarding Public Services and Recreation:

- The proposed project would crowd area walking trails and neighborhood parks that are already congested.

3.13.2 - Environmental Setting

Fire Protection and Emergency Medical Services

Northern California

California Department of Forestry and Fire Protection (CAL FIRE) is responsible for fire protection and stewardship of over 31 million acres of California's privately owned wildlands. CAL FIRE also provides varying levels of emergency services in 36 of the California's 58 counties via contracts with local governments. Because of the Department's size and major incident management experience, it is often asked to assist or take the lead in disasters.[1] In October 2017, a series of wildfires occurred in Northern California resulting in extensive property damage. In November 2018, the Camp Fire wildfire occurred in Northern California, resulting in the deadliest wildfire to occur in State history.[2] In September and October 2020, the Glass Fire burned over 67,484 acres and destroyed 1,555 structures, Napa, and Sonoma Counties.[3] In August 2020, the North Complex Fire and the LNU Lightning Complex burned approximately 318, 935 and 363, and 220 acres respectively in several counties in Northern California, and destroyed 2,352 and 1,491 structures respectively.[4]

Contra Costa County

The CCCFPD provides fire protection and emergency medical services in and around the 19 cities and unincorporated communities of Contra Costa County. The CCCFPD serves the County with 26 fire stations, and with few exceptions, County emergency ambulance transport services are provided by

[1] California Department of Forestry and Fire Protection (CAL FIRE). 2021. About Us. Website: https://www.fire.ca.gov/about-us/. Accessed May 18, 2021.
[2] California Department of Forestry and Fire Protection (CAL FIRE). 2021. Top 20 Deadliest California Wildfires. Website: https://www.fire.ca.gov/media/lbfd0m2f/top20_deadliest.pdf. April 28. Accessed May 17, 2021.
[3] California Department of Forestry and Fire Protection. 2020. Glass Fire. Website: https://www.fire.ca.gov/incidents/2020/9/27/glass-fire/. Accessed May 17, 2021.
[4] California Department of Forestry and Fire Protection (CAL FIRE). 2021. Top 20 Deadliest California Wildfires. Website: https://www.fire.ca.gov/media/lbfd0m2f/top20_deadliest.pdf. April 28. Accessed May 17, 2021.

CCCFPD through its unique sub-contractor Alliance model.[5] The CCCFPD consists of 19 engine companies, five truck companies, and maintains 24 fully staffed stations and two more stations staffed with paid on-call personnel. The Operations Division maintains 24 fully staffed stations, and two more stations staffed with paid on-call Reserve Firefighters. The 24 on-duty companies are trained and regularly cross-staff numerous specialty response units including 18 wildland fire apparatus, three rescue units, a trench rescue unit, a fire rescue boat, and a mobile breathing air support unit.[6]

According to the General Plan, wildfire hazards are a considerable problem in undeveloped areas and in areas of extensive un-irrigated vegetation. Areas of Central Contra Costa County that contain steep slopes and are covered with natural vegetation (e.g., Mount Diablo State Park, Briones Regional Park, and Tilden Regional Park) as well as areas in East County outside the urban limit line that are used as dry farming of grains for feed are extremely flammable during the late summer and fall.[7]

Project Site

There are no fire protection or emergency medical facilities on the project site. There are four fire stations located within approximately 2 miles of driving distance of the project site: Station No. 1, located at 1330 Civic Drive in Walnut Creek, is approximately 1.7 miles (driving distance) south of the project site; Station No. 2, located at 2012 Geary Road in Pleasant Hill, is approximately 1.4 miles (driving distance) west of project site, Station No. 5, located 205 Boyd Road in Pleasant Hill, is approximately 1.9 miles (driving distance) north of the project site; and Station No. 10, located at 2955 Treat Boulevard in Concord, is approximately 2.2 miles (driving distance) northeast of the project site.[8]

Police Protection

Contra Costa County

The Contra Costa County Office of the Sheriff provides law enforcement to unincorporated areas of the County and serves over one million County residents. The Office of the Sheriff employs over 1,100 staff members, including nearly 700 sworn personnel. Sworn staff provide unincorporated area policing, air support (helicopters), marine patrol, dispatch, investigations, coroners, County detention facilities, custody alternatives, court security, forensic services, a police academy, and an Office of Emergency Services in unincorporated parts of the County. The Office of the Sheriff also provides services to contract cities such as Danville, Lafayette, and Orinda.[9] The Office of the Sheriff maintains four bureaus: Administration Services, Custody Services, Field Operations, and Support Services.[10] A Commander manages each bureau.

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[5] Contra Costa County, California. 2021. Fire Protection Districts. Website: https://www.contracosta.ca.gov/1550/Fire-Protection-Districts. Accessed May 14, 2021.

[6] Contra Costa County Fire Protection District Operations Division (CCCFPD). 2014. Fire/Rescue. Website: https://www.cccfpd.org/emergency-operation. Accessed May 17, 2021.

[7] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan 2005-2020, Safety Element. January 18. Accessed May 17, 2021.

[8] Contra Costa County Fire Protection District (CCCFPD). 2014. Station Address. Website: https://www.cccfpd.org/station-address. Accessed May 19, 2021.

[9] Contra Costa County Office of the Sheriff. Office of the Sheriff Overview. Website: https://www.cocosheriff.org/about-us/office-of-the-sheriff-overview. Accessed May 18, 2021.

[10] Contra Costa County Office of the Sheriff. Bureaus. Website: https://www.cocosheriff.org/bureaus. Accessed May 18, 2021.

As of May 2021, the Office of the Sheriff employs nearly 700 sworn personnel who provide patrol services in unincorporated parts of the County. In 2020, the Office of the Sheriff has a ratio of 1.25 sworn staff personnel per 1,000 residents.[11] As shown in Table 3.13-1, calls are broken down into three category levels, based on level of urgency, and monthly average response times range from 11 minutes 44 seconds to 18 minutes 11 seconds.[12] These response times represent the time from when a call was received by the dispatch center to when the Deputy arrived at the location of the call.

Table 3.13-1: Overall Sheriff Response Times

Response Category	Monthly Average Response Times (minutes: seconds)
Priority 1 (emergency/in progress)	13:21
Priority 2 (urgent)	18:11
Priority 3 (non-serious/low priority)	11:44
Source: Contra Costa Sheriff. 2021. Correspondence from Carlye Slover, Sheriff's Specialist, Professional Standards Division. May 20.	

Project Site

No police or Sheriff stations exist on the project site. The closest police station to the site is the Walnut Creek Station, located at 1666 North Main Street in Walnut Creek, approximately 1.8 miles (driving distance) to the south. Mutual aid is coordinated between the Law Enforcement Region II (Alameda County Sheriff's Office), the California Office of Emergency Services, and the agencies within the County.[13,14] Additionally, the nearest Sheriff Department Station is the Valley Station at 150 Alamo Plaza Unit C, located approximately 6.7 miles (driving distance) to the southeast. The Valley Station consists of 27 sworn staff members including one Lieutenant (Station House Commander), five Sergeants, 16 Beat Deputies and five special district Deputies. The non-sworn staff includes one Community Services Officer and approximately 25 Sheriff's All Volunteer Extended Services (SAVES) Volunteers.[15]

Schools

Contra Costa County

Walnut Creek School District (WCSD) provides school services from transitional kindergarten (TK) through eighth grade to the majority of the City of Walnut Creek, as well as to unincorporated area adjacent to it. The WCSD is responsible for meeting the educational needs of approximately 3,600 students at six elementary schools and one intermediate school.[16]

[11] Slover, Carlye M. Sheriff's Specialist, Contra Costa County Sheriff Department. Personal communication: e-mail. May 20, 2021.
[12] Ibid.
[13] Contra Costa County Office of the Sheriff. Emergency Services Support Unit/Volunteers. Website: https://www.cocosheriff.org/bureaus/support-services/emergency-services-support-unit-volunteers Accessed June 21, 2021
[14] Slover, Carlye M. Sheriff's Specialist, Contra Costa County Sheriff Department. Personal communication: e-mail. May 20, 2021.
[15] Contra Costa County Office of the Sheriff. Valley Station. Website: https://www.cocosheriff.org/bureaus/field-operations/patrol-division/valley-station. Accessed June 21, 2021.
[16] Walnut Creek School District, About Us. Website: https://www.walnutcreeksd.org/domain/62. Accessed May 20, 2021.

The AUHSD serves the communities of Canyon, Moraga, Lafayette, Orinda, and Walnut Creek. The AUHSD serves students in grades 9-12 and has an extensive adult education program. It includes four comprehensive high schools, one alternative school, and one adult education center.[17]

Project Site

The former Palmer School for Boys and Girls, a private K-8 school, operated at the project site from 1939 until its closure due to COVID-19 in June 2020. However, no active school currently exists on the project site, and there are no existing residences within the project site requiring school service needs. The project site is located within the boundaries of the WCSD, which serves grades TK-8 and AUHSD which serves grades 9-12. The proposed project would be served by Buena Vista Elementary School (K-5), located approximately 0.9 mile to the southwest, by Walnut Creek Intermediate School, located approximately 1 mile to the southeast, and by Las Lomas High School, located approximately 2.24 miles to the south.

Libraries

Contra Costa County

There are several local libraries that serve Contra Costa County and are under the Contra Costa County Library system. Table 3.13-2 summarizes the library branches, the distance of each library branch from the project site, their hours of operation, and the services they offer.

Table 3.13-2: Contra Costa Library Information

Library Branch and Location	Distance from Project Site	Hours of Operation	Services and Facilities
Walnut Creek Library 1644 North Broadway Walnut Creek, CA 94596	1.53	Tuesday: 1:00 p.m.- 8:00 p.m. Wed and Thurs: 11:00 a.m.- 6:00 p.m. Friday and Sat: 10:00 a.m.- 5:00 p.m. Closed Monday and Sunday	• Assistive technology computer • Computer lab • Meeting room • Microfilm reader • Study room
Pleasant Hill Temporary Library 100 Gregory Lane, Pleasant Hill, CA 94523	1.59	Tuesday: 1:00 p.m.- 8:00 p.m. Wed and Thurs: 11:00 a.m.- 6:00 p.m. Friday and Sat: 10:00 a.m.- 5:00 p.m. Closed Monday and Sunday	• Assistive technology computer
Source: Contra Costa County Library. 2021. Website: https://ccclib.bibliocommons.com/locations/list/. Accessed June 21, 2021.			

Project Site

No library exists on the project site. The closest library to the project site is the Walnut Creek Library, located approximately 1.53 miles to the south.

[17] Acalanes Union High School District (AUHSD). District Information. 2016. Website: https://www.acalanes.k12.ca.us/districtinfo. Accessed May 20, 2021.

Existing Parks and Recreational Facilities

The California Department of Parks and Recreation (DPR) offers State parklands and trails throughout California. The DPR manages and preserves 1,650,779 acres within 280 parks and 4,700 miles of trails.[18] One State park, Mount Diablo State Park, is located within 10 miles of the project site.

State Parks

Mount Diablo State Park

Mount Diablo State Park is located approximately 5 miles east of the project site. The approximately 20,000-acre park contains open land for camping, hiking, picnicking, horseback riding, mountain biking, and other recreational opportunities.[19] Park gates are open year-round from 8:00 a.m. to sunset.[20]

Project Site

There are no State parks, recreational facilities, or designated open spaces on the project site.

Regional Parks

The EBRPD offers regional parklands and trails in Alameda and Contra Costa counties. The EBRPD manages and preserves nearly 125,000 acres in 73 parks, including 1,250 miles of trails and 55 miles of shoreline.[21] Two regional parks are located within 5 miles of the project site: Diablo Foothills Regional Park and Briones Regional Park.

Additionally, the project site is located near the Contra Costa Canal Trail, the Iron Horse Trail, and the Briones to Mount Diablo Trail. However, residents of Contra Costa County use regional parks and regional trails outside of their immediate vicinity, so future residents of the proposed project could increase use an any of the EBRPD parks.[22]

The EBRPD regional parks and regional trails serving the project site generally meet the current needs of existing County residents and are in generally good condition. The COVID-19 pandemic has greatly increased the use of both local and regional parks, serving the public as a valuable space for safe, outdoor recreation. EBRPD strives to provide high-quality and safe recreational opportunities to all residents and visitors to the County and the adjacent Alameda County.[23]

Diablo Foothills Regional Park

The Diablo Foothills Regional Park is located approximately 4.3 miles southeast of the project site, in the City of Walnut Creek. The 1,060-acre park contains open land for horseback riding, hiking, bicycling, and nature study. There are no developed facilities in the park. Park visitors have views of

[18] California Department of Parks and Recreation (DPR). 2017. California State Park System Statistical Report 2016/17 Fiscal Year. Website: http://www.parks.ca.gov/?page_id=23308. Accessed May 21, 2021.
[19] California Department of Parks and Recreation (DPR). 2018. Mount Diablo State Park Brochure. Website: https://www.parks.ca.gov/pages/517/files/MountDiabloFinalWebLayout2018.pdf. Accessed May 21, 2021.
[20] California Department of Parks and Recreation (DPR). 2021. Mount Diablo State Park. Website: https://www.parks.ca.gov/?page_id=517. Accessed May 21, 2021.
[21] East Bay Regional Park District (EBRPD). About Us. Website: https://www.ebparks.org/about/default.htm. Accessed May 21, 2021.
[22] Hebert, Drake. Planner, East Bay Regional Park District. Personal communication: e-mail. May 13, 2021.
[23] Hebert, Drake. Planner, East Bay Regional Park District. Personal communication: e-mail. May 13, 2021.

Mount Diablo and its surroundings. Although the park is open year-round, some parts may be closed from February to July to protect bird-nesting habitat within the park.[24]

Briones Regional Park

Briones Regional Park is located approximately 3 miles west of the project site, in the City of Martinez. The 6,225-acre park contains open land for hiking, running, horseback riding, picnicking, birdwatching, and kite flying. There are three group camping areas in the park, which are available by advance reservation. The Briones Archers archery range is also located in the park. Park visitors have views of Mount Diablo and the Diablo Valley to the east, the Sacramento River and Delta to the north, the East Bay hills and Mount Tamalpais to the west, and Las Trampas Regional Wilderness to the south. The park is open year-round from 8:00 a.m. with varying seasonal closing times.[25]

Project Site

There are no existing regional parks, recreational facilities, or designated open spaces on the project site.

Local Community Parks

The project site is located within unincorporated Contra Costa County and is surrounded to the east, west, and south by the City of Walnut Creek, and to the north by unincorporated Contra Costa County. The City of Walnut Creek and the County offer community parks and recreational facilities within their jurisdictions. These respective city park departments manage and preserve their respective community parks and recreational facilities.

Thirty-two community parks and recreational facilities are located within 3 miles of the project site. The closest community parks to the project site are Walden Park, located approximately 0.14 mile southeast of the project site, and Heather Farm Park, located approximately 0.63 mile east of the project site. Table 3.13-3 provides a brief description of the 32 community parks within a 3-mile radius of the project site, the recreational amenities that they feature, and the jurisdiction and park department where the park is located.

Table 3.13-3: Community Parks within 3 Miles of Project Site

Name	Acreage	Distance from Project Site	Jurisdiction and Park Department	Amenities
Acalanes Park	11.3	2.39	Lafayette	–
Alma Park	2	1.98	City of Walnut Creek Walnut Creek Recreation	• Picnic Area • Lawn and trees

[24] East Bay Regional Park District. Diablo Foothill Regional Park. Website: https://www.ebparks.org/parks/diablo_foothills/default.htm. Accessed May 21, 2021.

[25] East Bay Regional Park District. Briones Regional Park. Website: https://www.ebparks.org/parks/briones/default.htm. Accessed May 21, 2021.

Name	Acreage	Distance from Project Site	Jurisdiction and Park Department	Amenities
Arbolado Park	26.5	2.98	City of Walnut Creek Walnut Creek Recreation	• Playgrounds • Basketball Court • Picnic Area • Soccer Field • Tennis Court • Trail Connections • Restroom
Brookwood Park	6.3	2.05	City of Pleasant Hill Recreation and Park District	• Barbecue Area • Basketball Court • Picnic Tables • Playground
Cambridge Park	10	1.99	City of Concord Parks and Recreation Department	• Picnic Area • Soccer Field • Playground Areas
Civic Park	16.7	2.98	City of Walnut Creek Walnut Creek Recreation	• Multiple playgrounds • Community Center • Gazebo • Winter Ice-rink • Picnic Area • Restroom
Diablo Shadows Park	2.5	2.71	City of Walnut Creek Walnut Creek Recreation	• Picnic Area • Playground • Trail Connections
Dinosaur Hill Park	13	1.74	City of Pleasant Hill Recreation and Park District	• Hiking Trail
El Divisadero Park	3	1.58	City of Walnut Creek Walnut Creek Recreation	• Soccer Field
Fair Oaks Park	4.89	1.35	Pleasant Hill	–
Frank Salfingere Park	4.02	2.63	City of Pleasant Hill Recreation and Park District	• Associated with Pleasant Hill Community Center
Heather Farm Park	102	0.63	City of Walnut Creek Walnut Creek Recreation	• Picnic Area • Playgrounds • Five Baseball/Softball Fields, 1.5 Basketball Courts, two Soccer Fields, 10.5 Tennis Courts, and two Volleyball Courts • Restrooms • Dog Park

Name	Acreage	Distance from Project Site	Jurisdiction and Park Department	Amenities
				• Skate Park • Community Center • Equestrian Center • Swim Center, including three Swimming • Pools • Pond and Nature lake • Garden Center • Nature Area
Howe Homestead Park	0.5	1.69	City of Walnut Creek Walnut Creek Recreation	• Community Gardens • Hiking • Picnicking
Larkey Park	13	0.8	City of Walnut Creek Walnut Creek Recreation	• Playgrounds • Basketball Court • Horseshoe Pits • Picnic Area • Swim Center • Tennis Court • Trail Connections • Volleyball Court • Restroom
Las Juntas Park	7	2.43	City of Pleasant Hill Recreation and Park District	• Open Space • Hiking Trail
Leh Hester Park	4	1.21	City of Concord Parks and Recreation Department	• Picnic Areas • Lawn and trees
Meadow Homes Park	12	2.84	City of Concord Parks and Recreation Department	• Water Play Areas • Multiuse Sports Field • Picnic Area
Meher Park	4.31	2.64	Lafayette	–
Northgate Park	3.6	2.79	City of Walnut Creek Walnut Creek Recreation	• Lawn and Trees
Paso Nogal Park	63	2.97	City of Pleasant Hill Recreation and Park District	• Open Space • Hiking Trails • Picnic Area • Dog Park

Name	Acreage	Distance from Project Site	Jurisdiction and Park Department	Amenities
Pinewood Park	3.97	2.06	City of Pleasant Hill Recreation and Park District	• Lawn and Trees
Pleasant Hill Park	16.5	1.7	City of Pleasant Hill Recreation and Park District	• Baseball Fields • Basketball Court • Community Gardens • Picnic Area • Playground
Pleasant Oaks Park	11	0.96	City of Pleasant Hill Recreation and Park District	• Baseball Field and Soccer Field • Playground • Picnic Area • Restrooms
Rick Sears Park	2.43	2.43	City of Concord Parks and Recreation Department	• Basketball Court • Picnic Areas • Playground • Walking Track
Ridge Top Field	20.33	1.94	Walnut Creek	–
Rodgers-Smith Park	4.5	2.15	City of Pleasant Hill Recreation and Park District	• Barbecue Area • Basketball Court • Baseball Field • Lighted Bocce Courts • Sand Volleyball Court
San Miguel Park	4.5	1.3	City of Walnut Creek Walnut Creek Recreation	• Playground • Dog Park • Picnic Area • Trail Connections • Tennis Court
Shannon Hills Park	2.5	2.88	City of Pleasant Hill Recreation and Park District	• Playground • Lawn and Trees
Springhill Park	2.53	2.53	Lafayette	–
Springhill Upper Park	2.63	2.63	Lafayette	–
Walden Park	4.5	0.14	City of Walnut Creek Walnut Creek Recreation	• Playgrounds • Basketball Court • Picnic Area • Disc Golf Course • Handball Court • Trail Connections • Restroom

Name	Acreage	Distance from Project Site	Jurisdiction and Park Department	Amenities
Ygnacio Valley Park	9.5	2.11	City of Concord Parks and Recreation Department	• Baseball Fields • Jogging Path • Picnic Area • Barbecue • Playground • Lawn

The closest designated open spaces to the project site are Shell Ridge Open Space, located approximately 1.6 miles southeast of the project site, and Acalanes Open Space, located approximately 1.75 miles southwest of the project site, both of which are in the City of Walnut Creek.

Project Site

There are no existing local community parks, recreational facilities, or designated open spaces on the project site. Exhibit 3.13-1 displays the parks, open spaces, and regional parks in the vicinity of the project site.

The former Palmer School for Boys and Girls, a private elementary school, operated at the project site from 1939 until its closure due to COVID-19 in June 2020. The school grounds include several recreational facilities such as tennis courts, basketball courts, playgrounds, and a swimming pool, as well as additional open space and landscaping. These facilities were available only to students at the former school and are not open to the public. As part of the proposed project, all existing facilities would be demolished.

3.13.3 - Regulatory Framework

Federal

No federal plans, policies, regulations, or laws related to public services and recreation are applicable to the proposed project.

State

California Fire Code and California Building Code

The International Fire Code and the International Building Code, established by the International Code Council (ICC) and amended by the State of California, prescribe performance characteristics and materials to be used to achieve acceptable levels of fire protection.

California Health and Safety Code

California Health and Safety Code, Sections 13100–13135, establish the following policies related to fire protection:

- **Section 13100.1:** The functions of the office of the State Fire Marshall, including CAL FIRE, shall be to foster, promote, and develop strategies to protect life and property against fire and panic.

Section 13104.6: The Fire Marshall has the authority to require fire hazards to be removed in accordance with the law relating to removal or public nuisances on tax-deeded property.

California Senate Bill 50

Senate Bill (SB) 50 (funded by Proposition 1A, approved in 1998) limits the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development, and provides instead for a standardized developer fee. SB 50 generally provides for a 50/50 State and local school facilities funding match. SB 50 also provides for three levels of statutory impact fees. The application level depends on whether State funding is available, whether the school district is eligible for State funding, and whether the school district meets certain additional criteria involving bonding capacity, year-round school, and percentage of movable classrooms in use.

California Government Code, Section 65995(b) and Education Code, Section 17620

SB 50 amended Section 65995 of the California Government Code, which contains limitations on Section 17620 of the Education Code, the statute that authorizes school districts to assess development fees within school district boundaries. Section 65995(b)(3) of the Government Code requires the maximum square footage assessment for development to be increased every 2 years, according to inflation adjustments. On January 22, 2014, the State approved increasing the allowable amount of statutory school facilities fees (Level I School Fees) from $3.20 to $3.36 per square foot of assessable space for residential development of 500 square feet or more, and from $0.51 to $0.54 per square foot of chargeable covered and enclosed space for commercial/industrial development. School districts may levy higher fees if they apply to the State and meet certain conditions.

Quimby Act

The Quimby Act (California Government Code § 66477) was established by the California Legislature in 1965 to preserve open space and parkland in rapidly urbanizing areas of the State. The Quimby Act allows cities and counties to establish requirements for new development to dedicate land for parks, pay an in lieu fee, or provide a combination of the two.

The Quimby Act provides two standards for the dedication of land for use as parkland. If the existing area of parkland in a community is greater than 3 acres per 1,000 residents, then the community may require dedication based on a standard of up to 5 acres per 1,000 persons residing in the subdivision based on the current ratio of parkland per 1,000 residents. If the existing amount of parkland in a community is less than 3 acres per 1,000 residents, then the community may require dedication based on a standard of only 3 acres per 1,000 persons residing in the subdivision.

The Quimby Act requires a city or county to adopt standards for recreational facilities in its general plan to adopt a parkland dedication or fee ordinance. The General Plan includes criteria and standards for County parks, [26] and therefore can require the payment of development fees and/or dedication of land pursuant to Chapter 920-2 of the Contra Costa County Ordinance Code (Ordinance Code).[27]

[26] Contra Costa County. 2005. Contra Costa County General Plan, Open Space Element. Website: http://www.co.contra-costa.ca.us/DocumentCenter/View/30919/Ch9-Open-Space-Element?bidId=. Accessed June 21, 2021.

[27] Contra Costa County. 2019. Contra Costa County Code of Ordinances. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT9SU_DIV920PADE. Accessed June 21, 2021.

It should be noted that the Quimby Act applies only to the acquisition of new parkland; it does not apply to the physical development of new park facilities or associated operations and maintenance costs. Therefore, the Quimby Act effectively preserves open space needed to develop park and recreation facilities, but it does not ensure the development of the land or the provision of park and recreation services to residents. In addition, the Quimby Act applies only to residential subdivisions. Nonresidential projects could contribute to the demand for park and recreation facilities without providing land or funding for such facilities. Quimby Act fees are collected by the local agency (park district, city, or county) in which the new residential development is located.

Local

Contra Costa County General Plan

General Plan Public Facilities/Services Element

The General Plan Public Facilities/Services Element sets forth the following applicable goals and policies that are relevant to public facilities/services:

Goal 7-A To give a high priority to funding quality civic, public, and community facilities which serve a broad range of needs throughout the County.

Goal 7-B To permit development in unincorporated areas only when financing mechanisms are in place or committed which assure that adopted performance standards in the growth management program will be met.

Goal 7-C To utilize equitable financing methods which assure that adopted performance standards are achieved.

Goal 7-D To cooperate with other local jurisdictions to promote the most cost-effective methods of providing public facilities necessary for supporting the economic, social, and environmental well-being of the County and its residents.

Goal 7-E To resolve conflicts with other jurisdictions regarding the location of revenue generating land uses.

Policies

Policy 7-1 New development shall be required to pay its fair share of the cost of all existing public facilities it utilizes, based upon the demand for these facilities which can be attributed to new development.

Policy 7-2 New development, not existing residents, should be required to pay all costs of upgrading existing public facilities or constructing new facilities which are exclusively needed to serve new development.

Policy 7-4 The financial impacts of new development or public facilities should generally be determined during the project review process and may be based on the analysis contemplated under the Growth Management Element or otherwise. As part of the project approval, specific findings shall be adopted which relate to the demand for new public facilities and how the demand affects the service standards included in the growth management program.

Policy 7-6 When adopting, amending, and imposing impact fees and developer exactions, the County shall consider the effects of such fees and exactions upon project economics, the County's development goals and housing needs.

Policy 7-57 A Sheriff facility standard of 155 square feet of station per 1,000 population shall be maintained within the unincorporated area of the County.

Policy 7-58 Sheriff patrol beats shall be configured to assure minimum response times and efficient use of resources.

Policy 7-59 A maximum response time goal for Priority 1 or 2 calls of five minutes for 90 percent of all emergency responses in central business district, urban and suburban areas, shall be strived for by the Sheriff when making staffing and beat configuration decisions.

Policy 7-60 Levels of service above the County-wide standard requested by unincorporated communities shall be provided through the creation of a County Service Area or other special government unit.

Policy 7-62 The County shall strive to reach a maximum running time of 3 minutes and/or 1.5 miles from the first-due station, and a minimum of three firefighters to be maintained in central business district, urban and suburban areas.

Policy 7-63 The County shall strive to achieve a total response time (dispatch plus running and setup time) of five minutes in central business district, urban, and suburban areas for 90 percent of all emergency responses.

Policy 7-64 New development shall pay its fair share of costs for new fire protection facilities and services.

Policy 7-65 Needed upgrades to fire facilities and equipment shall be identified as part of project environmental review and area planning activities, in order to reduce fire risk and improve emergency response in the County.

Policy 7-66 Sprinkler systems may be required in new residential structures, where necessary to protect health, safety, and welfare.

Policy 7-70 The effectiveness of existing and proposed fire protection facilities shall be maximized by incorporating analysis of optimum fire and emergency service access into circulation system design.

Policy 7-71 A set of special fire protection and prevention requirements shall be developed for inclusion in development standards applied to hillside, open space, and rural area development.

Policy 7-73 Fire-fighting equipment access shall be provided to open space areas in accordance with the Fire Protection Code and to all future development in accordance with Fire Access Standards.

Policy 7-74 All new traffic signals shall be equipped with preemptive devices for emergency response services. Existing traffic signals significantly impacted by new development shall be retrofitted with preemptive devices.

Policy 7-75 Fire stations and facilities shall be considered consistent with all land use designations used in the General Plan and all zoning districts.

Policy 7-136 The environmental review process shall be utilized to monitor the ability of area schools to serve development.

Policy 7-137 To the extent possible, new residential development General Plan Amendments or Rezonings shall, in the absence of the Planning Agency's satisfaction that there are overriding considerations (e.g., provision of low or moderate cost housing), be required to adequately mitigate impacts on primary and secondary school facilities.

Policy 7-142 Adequate provision of schools and other public facilities and services shall be assisted by coordinating review of new development with school districts the cities and other service providers through the Growth Management Program (see Chapter IV), the environmental review process, and other means.

Open Space Element

Goals and policies as set forth in the Open Space Element that are applicable to the project include the following:

Goal 9-36 To develop a sufficient amount of conveniently located, properly designed park and recreational facilities to serve the needs of all residents.

Goal 9-H To promote active and passive recreational enjoyment of the County's physical amenities for the continued health, safety, and welfare of the citizens of the County.

Goal 9-J To achieve a level of park facilities of four acres per 1,000 population.

Policies

Policy 9-1 Permanent open space shall be provided within the County for a variety of open space uses.

Policy 9-7 Open space shall be utilized for public safety, resource conservation and appropriate recreation activities for all segments of the community.

Policy 9-8 Development project environmental review will consider the effect of the project on the County's open space resources, whenever the project proposes to convert substantial amounts of land from an open space designation to an urban development designation.

Policy 9-32 Major park lands shall be reserved to ensure that the present and future needs of the County's residents will be met and to preserve areas of natural beauty or historical interest for future generations. Apply the parks and recreation performance standards in the Growth Management Element.

Policy 9-33 A well-balanced distribution of local parks, based on character and intensity of present and planned residential development and future recreation needs, shall be preserved.

Policy 9-40 Recreational activity shall be distributed and managed according to an area's carrying capacity with special emphasis on controlling adverse environmental impacts, such as conflict between uses and trespass. At the same time, the regional importance of each area's recreation resources shall be recognized.

Contra Costa County Ordinance Code

Division 920—Park Dedications

As a condition of approval of a subdivision, developers are required to dedicate land, pay a fee in lieu thereof, or do a combination of both, for neighborhood and community park or recreational purposes. The total area required to be dedicated is based on a figure of 3 acres of park per 1,000 persons.

3.13.4 - Impacts and Mitigation Measures

Significance Criteria

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist, to determine whether impacts related to public services are significant environmental effects, the following question is analyzed and evaluated. Would the project:

> Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
>
> a) Fire protection
> b) Police protection
> c) Schools
> d) Other public facilities

Would the project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

Approach to Analysis

Impacts on fire and police services were determined by evaluating the proposed project's effect on existing fire and police station response times. Projected population provided by the General Plan was also reviewed. In addition, fire, and police (emergency) access at the project site was evaluated. Impacts on schools were determined by evaluating the proposed project's effect on existing school enrollment. Projected population and school enrollment data provided by the General Plan, WCSD, and Department of Education were also reviewed. Impacts related to parks and recreational facilities were determined by evaluating the proposed project's effect on existing park and recreational facility usage levels. Furthermore, impacts to police, fire, schools, library facilities, and local and regional parks were also based on estimates and information received in response to request letters sent to each of these service providers for their input related to possible project impacts.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of public service and recreation impacts resulting from implementation of the proposed project.

- Result in additional population or activities requiring fire protection services in a manner that necessitates the need for new or altered fire facilities, the construction of which would result in significant construction-related transportation, air quality, greenhouse gas (GHG) emissions, energy, or noise impacts. Determination of significance of construction-related traffic, air quality, GHG emissions, or noise impacts is based on the respective specific thresholds of significance listed in Section 3.14, Transportation; Section 3.2, Air Quality; Section 3.7, Greenhouse Gas Emissions; Section 3.5, Energy; and Section 3.11, Noise.
- Result in additional population or activities requiring police protection services in a manner that necessitates need for new or altered police facilities, the construction of which would result in significant construction-related transportation, air quality, GHG emissions, energy, or noise impacts. Determination of significance of construction-related traffic, air quality, GHG emissions, or noise impacts is based on the respective specific thresholds of significance listed in Section 3.14, Transportation; Section 3.2, Air Quality; Section 3.7, Greenhouse Gas Emissions; Section 3.5, Energy; and Section 3.11, Noise.
- Result in additional population or activities requiring school services in a manner that necessitates need for new or altered school facilities, the construction of which would result in significant construction-related transportation, air quality, GHG emissions, energy, or noise impacts. Determination of significance of construction-related traffic, air quality, GHG emissions, or noise impacts is based on the respective specific thresholds of significance listed in Section 3.14, Transportation; Section 3.2, Air Quality; Section 3.7, Greenhouse Gas Emissions; Section 3.5, Energy; and Section 3.11, Noise.
- Result in additional population or activities requiring library services in a manner that necessitates need for new or altered library facilities, the construction of which would result in significant construction-related transportation, air quality, GHG emissions, energy, or noise impacts. Determination of significance of construction-related traffic, air quality, GHG emissions, or noise impacts is based on the respective specific thresholds of significance listed in in Section 3.14, Transportation; Section 3.2, Air Quality; Section 3.7, Greenhouse Gas Emissions; Section 3.5, Energy; and Section 3.11, Noise.

- Result in additional population creating need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable recreational facilities per capita ratio (specifically 4 acres of park per 1,000 persons).

Impact Evaluation

Need for New or Altered Fire Protection Facilities

Impact PUB-1:	**The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection.**

Four fire stations are located within approximately 2 miles of driving distance of the project site: Station No. 1, located at 1330 Civic Drive in Walnut Creek, is approximately 1.7 miles (driving distance) south of the project site; Station No. 2, located at 2012 Geary Road in Pleasant Hill, is approximately 1.4 miles (driving distance) west of project site, Station No. 5, located 205 Boyd Road in Pleasant Hill, is approximately 1.9 miles (driving distance) north of the project site; and Station No. 10, located at 2955 Treat Boulevard in Concord, is approximately 2.2 miles (driving distance) northeast of the project site.[28]

Using an average travel speed of 35 miles per hour (mph), a fire engine would be able to reach construction areas at the project site from Station No. 2 (approximately 1.4 miles of driving distance) in 2 minutes and 24 seconds, which is under the 5-minute response standard set by the County General Plan.[29] As part of project construction, the proposed project would comply with the California Building Standards Code (CBC), which is adopted by the Ordinance Code. In compliance with the California Fire Code, Part 9 of the CBC, during construction the proposed project would follow standards for fire safety related to provision of fire apparatus access and acquisition of building permits. Specifically, CBC Section 105.7.17 requires plans be submitted and a permit is required to install, improve, modify, or remove public or private roadways, driveways, and bridges for which Fire District access is required by the Fire Code; this would ensure adequate driveway/entry turning radius, height clearance, and fire hydrant access for fire trucks and engines at the project site during construction. In addition, CBC Section 105.7.18 requires plans be submitted to the Fire Code Official for all land developments or for the construction, alteration, or renovation of a building within the jurisdiction where a building permit is required; this would ensure that construction and alteration would not obstruct CCCFPD from delivering adequate levels of fire protection services.[30] With an adequate fire engine response time to the project site and adherence to the aforementioned CBC Code sections, construction of the proposed project would not create

[28] Contra Costa County Fire Protection District (CCCFPD). 2014. Station Address. Website: https://www.cccfpd.org/station-address. Accessed May 19, 2021.
[29] Contra Costa County. 2005. Contra Costa County General Plan.
[30] Contra Costa County. 2018. Contra Costa County Ordinance Code. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT7BURE_DIV722FICO. Accessed December 5, 2018.

the need for new or altered fire protection facilities. Therefore, construction impacts related to need for new or altered fire protection facilities would be less than significant.

Operation

The operation of new townhouses on the project site would result in new residents at the project site and could in turn result in an increase in calls for fire protection and emergency medical services. As noted above, Fire Station No. 2, at 2012 Geary Road, is approximately 1.4 miles west of the project site, and could reach the site within 2 minutes and 24 seconds, which is below the 5-minute response standard set by the General Plan.[31]

As part of project operation, the proposed project would comply with the CBC, which is adopted by the Ordinance Code. Specifically, in compliance with the California Fire Code, Part 9 of the CBC, during operation the proposed project would follow standards for fire safety such as fire flow requirements for buildings, fire hydrant location and distribution criteria, automated sprinkler systems, and fire-resistant building materials. Primary vehicle access to the project site would be from a driveway on Oak Road and a driveway on Jones Road. Oak Road is a public local street under the jurisdiction of the City of Walnut Creek. It runs north–south along the project site east frontage. Jones Road is a public County local street that runs along the project site west frontage. Thus, during project operation, emergency vehicles would not have difficulty accessing the project site, as also further discussed under Impact TRANS-4, Emergency Access, in Section 3.14, Transportation. As such, it is not expected that the proposed project would adversely affect response times or increase the use of existing fire protection or emergency medical response facilities such that substantial physical deterioration, alteration, or expansion of these facilities would be required, thereby triggering environmental impacts. Furthermore, the project applicant would be required to pay applicable fees toward fire protection facilities and apparatus, so that the CCCFPD can maintain fire safety standards.

With an adequate fire engine response time to the project site, adherence to the aforementioned CBC Code sections, adequate project site access, and payment of impact fees to the CCCFPD, operation of proposed project would not create a need to construct new or expand existing fire protection or emergency medical services facilities. Therefore, operational impacts related to need for new or altered fire protection facilities would be less than significant.

Level of Significance

Less than significant impact.

Need for New or Altered Police Protection Facilities

Impact PUB-2:	**The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection.**

[31] Contra Costa County. 2005. Contra Costa County General Plan.

Construction

The Office of the Sheriff would provide law enforcement services to the project site during construction. The nearest Sheriff station to the project site is the Valley Station at 150 Alamo Plaza Unit C, located 6.7 miles (driving distance) southeast of the project site; however, response is not likely to originate from this station but rather from Sheriff Deputies or Walnut Creek police officers pursuant to mutual aid patrolling the local beat. If response calls originated from the Valley Station, response would be approximately 11 minutes and 29 seconds to the project site, assuming an average travel speed of 35 mph driving speed. During construction, the proposed project would also implement security measures such as provision of a project-boundary fence to prohibit access to persons other than construction personnel. With an adequate police response time to the project site and provision of adequate security measures, construction of, the proposed project would not create the need for new or altered police protection facilities. Therefore, construction impacts related to need for new or altered police protection facilities would be less than significant.

Operation

The operation of new townhouses on the project site would result in new residents at the project site and could in turn result in an increase in calls for police protection services. Primary access to the project site during operation would be from Oak Road and Jones Road.

The project site is located 6.7 miles from the Valley Station; however, responses to calls are not likely to originate from the station but rather from Sheriff Deputies or Walnut Creek police officers pursuant to mutual aid patrolling the local beat. Since there are many factors in evaluating response times, the Office of the Sheriff does not set a specific goal for emergency call response times. However, County General Plan Policy 7-59 indicates that when making staffing and beat configuration decisions, the Sheriff should strive for a maximum response time for Priority 1 or 2 calls of 5 minutes for 90 percent of all emergency responses in central business district, urban, and suburban areas. This General Plan Policy indicated response time is a goal, not a requirement.

The County General Plan Policy 7-57 indicates a Sheriff facility standard of 155 square feet of Sheriff station space per 1,000 persons of population. The square footage of the Valley Station is estimated to be approximately 5,372 square feet. The proposed project would increase the population of unincorporated Contra Costa County by approximately 357 persons. Accordingly, the proposed project would require 55 square feet of Sheriff station space. This increased demand for Sheriff station space represents approximately 1 percent of the Valley Station's existing square footage and, thus, represents a nominal increase in demand. Furthermore, the Office of the Sheriff did not indicate that the proposed project would result in the need for new or expanded Sheriff facilities in order to maintain acceptable service ratios, response times, or other performance objectives.

As such, the proposed project would not adversely affect service ratios or response times or increase the use of existing police protection facilities such that substantial physical deterioration, alteration, or expansion of these facilities would be required, thereby triggering environmental impacts. Furthermore, the project applicant would be required to pay applicable fees to the Office of the Sheriff to help provide for the costs associated with a police facilities building and equipment to serve additional demands for police services.

With adequate project site access and payment of impact fees to the Office of the Sheriff, operation of the proposed project would not create a need to construct new or expand existing police protection facilities. Therefore, operational impacts related to need for new or altered police protection facilities impacts would be less than significant.

Level of Significance

Less than significant impact.

Need for New or Altered School Facilities

Impact PUB-3:	**The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for schools.**

Construction

Impacts related to provision of and need for construction of new or expanded school facilities are limited to operational impacts. No respective construction impacts would occur.

Operation

WCSD provides school services from TK through eighth grade to the majority of the City of Walnut Creek, as well as to unincorporated area adjacent to it. The district is responsible for meeting the educational needs of approximately 3,600 students at five elementary schools and one intermediate school.[32]

The project site is located within the WCSD (grades K–8) and AUHSD (grades 9–12). Elementary school age residents of the project site would attend Buena Vista Elementary, located approximately 0.9 miles southwest of the project site. During the academic year 2020-2021, Buena Vista Elementary School had an enrollment of 442 students.[33] The school capacity is 495 students. Using WCSD's generation rate of 0.0838 elementary school students per multi-family units, the proposed project would generate 11 elementary school students, which Buena Vista Elementary School would be able to accommodate.[34]

Middle school age residents of the project site would attend Walnut Creek Intermediate School, located approximately 1 mile southeast of the project site. During the academic year 2020-2021, Walnut Creek Intermediate School had an enrollment of 1,001 students.[35] The school's capacity is 1,038 students. Using WCSD's generation rate of 0.0425 middle school students per multi-family unit, the proposed project would generate 6 additional students, which Walnut Creek Intermediate School would be able to accommodate.[36]

[32] Walnut Creek School District, About Us. Website: https://www.walnutcreeksd.org/domain/62. Accessed May 20, 2021.
[33] Harada, Lynette. Executive Assistant to the Superintendent, Walnut Creek School District. Personal communication: e-mail. June 28, 2021.
[34] Ibid.
[35] Ibid.
[36] Ibid.

High school age residents of the project site would attend Las Lomas High School, located approximately 2.24 miles south of the project site. During the academic year 2020-2021, Las Lomas High School had an enrollment of 1,580 students.[37] FirstCarbon Solutions (FCS) sent a letter to Dr. John Nickerson of the AUHSD on May 11, 2021, that included an inquiry about capacity of Las Lomas High School. To date, FCS has not received a response. Enrollment has held fairly steady at 1,530–1,580 for the past 5 years.[38] If Las Lomas High School does not have sufficient capacity to support the new students generated by the proposed project, the students would be accommodated within the five other schools within the AUHSD.

The project applicant would be required to pay development impact fees to the WCSD and AUHSD, which would assist to expand facilities to address increased demand. Pursuant to Government Code Section 65995, payment of adopted development fees is considered "full and complete mitigation" for impacts to school facilities, and local governments are prohibited from assessing additional fees or exactions for school impacts.[39]

With payment of impact fees to the WCSD and AUHSD, operation of the proposed project would not create a need to construct new or expand existing school facilities. Therefore, operational impacts related to need for new or altered school facilities impacts would be less than significant.

Level of Significance

Less than significant impact.

Need for New or Altered Library Facilities

Impact PUB-4:	**The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for library facilities.**

Construction

Impacts related to provision of and need for construction of new or expanded library facilities are limited to operational impacts. No construction impacts would occur.

Operation

The project site is located within the Contra Costa County Library system, which provides public library services to the unincorporated and incorporated areas of the County. Libraries near the project site include the Walnut Creek Library, located 1.53 miles from the project site, and Pleasant Hill Temporary Library, located 1.59 miles from the project site (the new Pleasant Hill Library is under construction on Oak Park Boulevard, approximately 1 mile from the project site; construction is

[37] California Department of Education. Enrollment Multi-Year Summary, Las Lomas High Report. Website: https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdYears.aspx?cds=07616300733725&agglevel=school&year=2020-21. Accessed June 28, 2021.

[38] Ibid.

[39] California Legislative Information. 2016. Chapter 4.9. Payment of Fees, Charges, Dedications, or Other Requirements Against a Development Project [65995-65998). Website: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=65995. Accessed June 21, 2021.

scheduled to be completed in 2022). The General Plan does not include a standard or goal for the provision of library services; however, for informational purposes, the County generally provides approximately 319 gross square feet of library space per 1,000 residents.[40]

The proposed project's approximately 357 residents is a nominal increase compared with the existing County population of approximately 1.1 million residents served by the Contra Costa County Library system. The proposed project's estimated increase in persons would represent an increase of less than 1 percent relative to the existing residents served by the Contra Costa County Library system. As such, the County's provision of library space per 1,000 residents would not be affected by implementation of the proposed project. Furthermore, the County Librarian anticipates that the proposed project would not have a noticeable effect on the ability of the County Library system to provide library services.[41]

With adequate relevant library system capacity, operation of proposed project would not create a need to construct new or expand existing library facilities. Therefore, operational impacts related to need for new or altered public library facilities would be less than significant.

Level of Significance

Less than significant impact.

Effects of Increased Use of Existing Parks

Impact REC-1:	**The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.**

Construction

Impacts related to increased use of existing parks and recreational facilities are limited to operational impacts. No construction impacts would occur.

Operation

The DPR, EBRPD, Contra Costa County, and cities in the proposed project vicinity maintain State, regional, and local community parks, trails, and recreational facilities for public use throughout Contra Costa County. County park standards are established in the County's General Plan. Specifically, Goal 9-K of the General Plan Open Space Element, seeks to achieve a level of park facilities equal to 4 acres per 1,000 population or 0.004-acre per person. With a County population of 1,153,854 persons (2021), and approximately 46,624 acres of parks (State, County, EBRPD, and local parks), the current ratio is approximately 40.4 acres per 1,000 population, far exceeding the County's goal.

The proposed 125 residential units would be expected to result in a permanent population of 357 persons, resulting in the need for 1.428 acres of parkland to assist in the County's parkland goal. The proposed project would provide a central open space area, paseo and walkways, a dog park, and private yards. However, these facilities would be private and not available to the surrounding

[40] Contra Costa County Library. 2006. New Strategic Plan. January 9.
[41] McKee, Alison. County Librarian, Contra Costa County Library. Personal communication: e-mail. June 30, 2021

community. Thus, the proposed project's recreational facilities would not contribute parkland toward the General Plan parkland standard of 0.004-acre per person.

The nearest recreational facility to the project site is the Contra Costa Canal Trail, which is located approximately 450-600 feet south of the project site. The nearest park to the project site is the Walden Park, located approximately 0.14-mile (739 feet) southeast of the project site. Besides the 32 local community parks located within 3 miles of the project site, Mount Diablo State Park is located approximately 5 miles southeast of the project site, Diablo Foothills Regional Park is located approximately 4.3 miles southeast of the project site, and Briones Regional Park is located approximately 3 miles west of the project site. These parks total nearly 7,000 acres in available existing parks. Given the wide range of proposed on-site and existing proximate parks and recreational facilities available to project-related residents, the recreational needs of the proposed project's anticipated 357 new residents would be dispersed across these nearly 7,000 total acres of parkland and, thus, not result in an increased use that would cause substantial physical deterioration of existing neighborhood and regional parks or other recreational facilities.

Additionally, the proposed project is subject to the County's Park Impact Fee. The Park Impact Fees would be collected to fund the acquisition and development of parks in Contra Costa County to serve unincorporated County residents, in lieu of providing the required acreage on the project site.[42]

Therefore, impacts related to potential increased use and physical deterioration of existing parks and recreational facilities would be less than significant.

Level of Significance

Less than significant impact.

Effects from Provision of Parks or Recreational Facilities

Impact REC-2:	**The proposed project could include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.**

Construction

The proposed project would include approximately 2.1 acres (92,120 square feet) of private recreational facilities on the project site. The proposed project's private recreational facilities would include a central open space area, paseo and walkways, a dog park, and private yards. The environmental impacts associated with implementation of these amenities is analyzed in the discussion of air quality, energy, GHG emissions, noise, and transportation-related impacts within this Draft Environmental Impact Report (Draft EIR), which are explained in more detail as follows:

- **Air Quality:** Less than significant impact with mitigation incorporated. Impact AIR-3 relates to sensitive receptors. Receptors include residences, schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, and medical facilities. Mitigation Measure (MM) AIR-2 and MM AIR-3 would reduce construction impacts to a less than significant level.

[42] Contra Costa County Department of Conservation and Development. 2021. Park Dedication and Park Impact Fees. March 4. Website: http://www.cccounty.us/DocumentCenter/View/42080/Park-Fees-Overview?bidId=. Accessed June 22, 2021.

- **Energy:** Less than significant impact.
- **GHG Emissions:** Less than significant impact.
- **Noise:** Less than significant impact with mitigation incorporated. Impact NOI-2 relates to construction noise and applicable standards and MM NOI-2 reduces impacts during construction to a less than significant level.
- **Transportation:** Less than significant impact.

Therefore, the proposed project's construction of parks and recreational facilities on the project site would result in a less than significant impact with mitigation incorporated.

Operation

Impacts related to increased use of existing parks and recreational facilities are limited to construction impacts. No operational impacts would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM AIR-2, MM AIR-3, and MM NOI-2.

Level of Significance After Mitigation

Less than significant with mitigation.

3.13.5 - Cumulative Impacts

The geographic scope of the cumulative public services and Recreation analysis is the service area of each of the providers serving the proposed project. Because of differences in the nature of the public service topical areas, they are discussed separately.

The development projects listed in Table 3-1 are mostly industrial and commercial in nature. Of the projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Projects 1, 2, 5, 6, and 9–23 are residential projects, most of which are located within the City of Pleasant Hill. As such, cumulative development could increase population within the proposed project vicinity by approximately 2,910 persons. The proposed project would add an estimated 357 persons to the County's population.

Fire Protection Facilities

The geographical scope of the cumulative public services analysis is the boundaries of the CCCFPD. Other cumulative projects listed in Table 3-1 in conjunction with the proposed project would result in primarily residential and commercial development. Cumulative development in the surrounding area would be expected to substantially increase permanent residents and daytime population, which includes employees and visitors/patrons. The cumulative increase in population could in turn result in an increased demand for fire protection facilities.

To help offset the increased demand, the cumulative projects would be required to pay all applicable fees to the CCCFPD. All developments would also adhere to the California Fire Code, Part 9 of the CBC in terms of meeting standards for fire safety such as fire flow requirements for buildings, fire hydrant location and distribution criteria, automated sprinkler systems, and fire-resistant building materials.

With adherence to CBC Code sections and payment of applicable fees, cumulative projects would not result in need for new or altered fire protection or emergency medical facilities. Thus, there would be a less than significant cumulative impact with regard to need for new or altered fire protection and emergency medical facilities.

Police Protection Facilities

The geographical scope of the cumulative public services analysis is the boundaries of the County Office of the Sheriff. Other cumulative projects listed in Table 3-1 in conjunction with the proposed project would result in primarily residential and commercial development. Cumulative development in the surrounding area would be expected to substantially increase permanent residents and daytime population, which includes employees and visitors/patrons. The cumulative projects listed in Table 3-1 total 1,020 residential units; accordingly, based on the California Department of Finance average household size of 2.85 persons, the estimated increase in persons would total approximately 2,910 persons and would represent an increase of 0.25 percent relative to current County population. The cumulative increase in population could in turn result in an increased demand for police protection facilities.

To help offset the increased demand for police protection facilities, the cumulative projects would be required to pay applicable fees to the Office of the Sheriff. All developments would also be reviewed for impacts on law enforcement services and would be required to address any potential impacts with mitigation. Because demand for law enforcement services is highly dependent on a number of factors that vary substantially by project (clientele, hours of operation, crime prevention measures, etc.), it is unlikely that there would be substantial overlap in demand that would result in a cumulatively significant impact such that new police protection facilities are necessary.

With payment of applicable fees, cumulative projects would not result in need for new or altered police protection facilities. Thus, there would be a less than significant cumulative impact with regard to need for new or altered police protection facilities.

School Facilities

The geographical scope of the cumulative public services analysis is the boundaries of the WCSD and AUHSD. Other cumulative projects listed in Table 3-1 in conjunction with the proposed project would result in residential development. Cumulative development would increase the population and demand for educational facilities. The cumulative projects listed in Table 3-1 total 1,020 residential units; accordingly, based on the Department of Finance average household size of 2.85 persons, the estimated increase in persons would total approximately 2,910 persons and would represent an increase of 0.25 percent relative to current County population. The cumulative increase in population could in turn result in an increased demand for school facilities.

Other cumulative projects do not include any educational facilities. All cumulative developments would be required to pay development impact fees impact fees toward the two applicable school districts. Under State law, this is the exclusive means of mitigating impacts to school facilities due to increased enrollment. As part of the project entitlement process, the cumulative project applicants would be responsible for paying their fair share of these school facility fees.

With payment of impact development fees, cumulative projects would not result in need for new or altered school facilities. Thus, there would be a less than significant cumulative impact with regard to need for new or altered school facilities.

Library Facilities

The geographic scope of the cumulative library facilities analysis is the County Library system.

Other cumulative projects listed in Table 3-1 in conjunction with the proposed project would result in residential development. Cumulative development would increase the population and demand for library facilities. The cumulative projects listed in Table 3-1 would total 1,020 residential units; accordingly. Based on the Department of Finance average household size of 2.85 persons, the cumulative projects listed in Table 3-1 would result in an increase of approximately 2,910 persons, and in addition to the project's estimated increase of 357 persons, would represent a total cumulative increase of approximately 3,267 persons. This would represent a cumulative population increase of 0.28 percent relative to the 2018 estimate. The cumulative increase in population could in turn result in an increased demand for library facilities.

The County generally provides approximately 319 gross square feet of library space per 1,000 residents. With development of the other cumulative project in conjunction with the proposed project, the County's provision of library space per 1,000 residents would need to be increased by approximately 1,042 square feet. The construction of the new Pleasant Hill Library (scheduled to be completed in 2022) would more than adequately address this need. Therefore, cumulative projects would not result in need for new or altered library facilities. Thus, there would be a less than significant cumulative impact with regard to need for new or altered library facilities.

Increased Park Use

The geographic scope of the cumulative parks and recreation analysis consists of the local community, regional, and State parks within the boundaries of Contra Costa County, the City of Pleasant Hill, and the City of Walnut Creek with a focus on the areas of unincorporated Contra Costa County near where the project site is located. These include parks and recreational facilities managed by the DPR, EBRPD, City of Walnut Creek, and Pleasant Hill Recreation and Park District.

The proposed project in conjunction with the cumulative projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, would result in many residential developments in the proposed project area. Cumulative development in the proposed project area would be expected to increase permanent residents by a approximately 2,910 persons, in addition to the proposed project's estimated increase of 357 for a total increase of approximately 3,267. This increase in permanent population would result in an increased cumulative demand for park facilities.

To help offset that demand, Cumulative Project 1 would be subject to the County Park Impact Fee. The Park Impact Fees would be collected to fund the acquisition and development of parks in Contra Costa County to serve unincorporated County residents, in lieu of providing the required acreage on the project site. Other projects listed in Table 3-1 that are within the City of Walnut Creek and City of Pleasant Hill would similarly be required to provide parkland or pay development fees. With payment of Park Impact Fees by the cumulative projects, there would be a less than significant cumulative impact related to potential increased use and physical deterioration of existing parks and recreational facilities.

The DPR, EBRPD, Contra Costa County, and cities in the proposed project vicinity maintain State, regional, and local community parks, trails, and recreational facilities for public use throughout Contra Costa County. County park standards are established in the County's General Plan. Specifically, Goal 9-K of the General Plan Open Space Element, seeks to achieve a level of park facilities equal to 4 acres per 1,000 population or 0.004-acre per person. With a County population of 1,153,854 persons (2021), and approximately 46,624 acres of parks (State, County, various cities, and EBRPD), the current ratio is approximately 40.4 acres per 1,000 population, far exceeding the County goal. The cumulative projects would add approximately 2,910 residents to the area. However the current high ratio of parks to population would not be significantly impacted by the added residents.

Level of Cumulative Significance

Less than significant impact.

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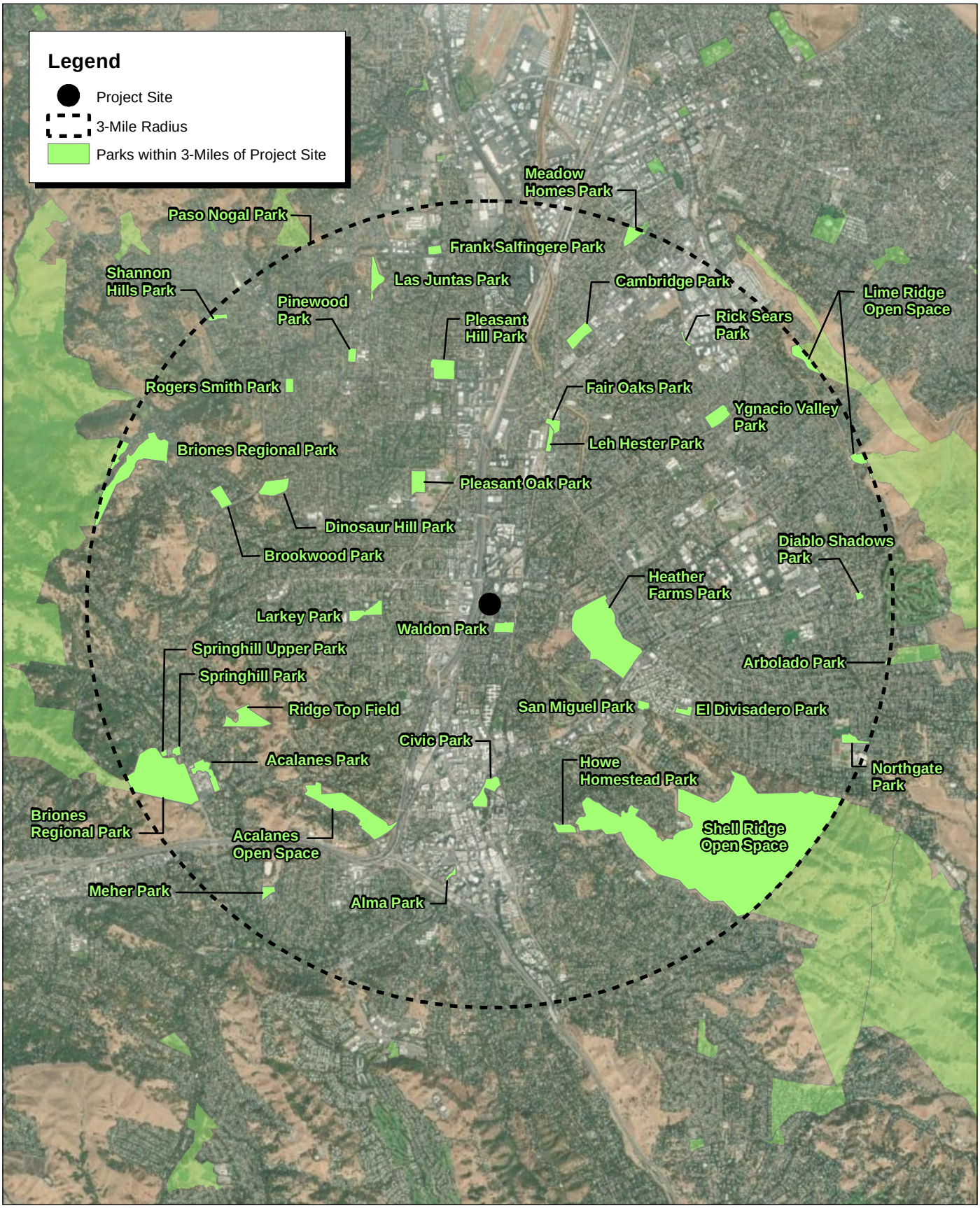

Source: ESRI Aerial Imagery.

FIRSTCARBON SOLUTIONS™

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Exhibit 3.13-1
Parks in Project Site Vicinity

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3.14 - Transportation

3.14.1 - Introduction

This section describes existing conditions related to transportation in the project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to transportation that could result from implementation of the project. Information in this section is based on the project-specific Transportation Analysis prepared by Hexagon Transportation Consultants Inc.[1] The complete report is included as Appendix I. During the Notice of Preparation (NOP) comment period, the following comments were received related to the proposed project regarding transportation:

- If the proposed project meets the screening criteria to be exempt from detailed Vehicle Miles Traveled (VMT) analysis, requests justification to support the exempt status in line with the City's VMT policy.
- If the proposed project does not meet exempt screening criteria, list the required components for the VMT analysis in the Environmental Impact Report (EIR).
- Offered mitigation strategies such as Transportation Demand Management (TDM) Program.
- Requested identification of project-generated travel demand and cost estimate transportation improvements necessitated by the proposed project as well as viable funding sources.
- Stated that the County is responsible for all project mitigation.
- Stated requirements associated with equitable access including Americans with Disabilities Act (ADA) Standards and bicycle and pedestrian access during construction.
- Stated that an Encroachment Permit may be required and lists the submittal requirements.
- Concerns regarding traffic congestion due to the proposed project.
- The proposed project would result in permanent negative impact on traffic patterns.
- The proposed project would exacerbate current congestion at the Treat Boulevard intersection.
- The proposed project would result in more vehicles than the project site previous use.

3.14.2 - Existing Conditions

Roadway Network

The following discusses the existing roadways that provide access to the project site and vicinity. The existing roadway network is shown on Exhibit 3.14-1.

[1] Hexagon Transportation Consultants, Inc. 2021. Transportation Analysis for the Summerhill Homes Townhome Condo Site Residential Redevelopment at 2740 Jones Road in Walnut Creek, California. May 10.

Interstate 680

The closest regional roadway is Interstate 680 (I-680). I-680 primarily runs north/south connecting Contra Costa County (County) to regional destinations such as San José to the south and Fairfield to the north. I-680 is located west of the project site and can be accessed via the Treat Boulevard interchange. In the project site vicinity, this freeway provides five mixed-flow and one high-occupancy vehicle lane in the southbound direction, and five mixed-flow lanes in the northbound direction, in addition to auxiliary lanes between interchanges. Approximately 260,000 vehicles per day travel on I-680 at the Treat Boulevard interchange. Access to/from northbound I-680 in the project site vicinity is provided from on-ramps on either Buskirk Avenue or Oak Road. Access to/from southbound I-680 is provided from N. Main Street at Sunnyvale Avenue. I-680 is a designated Route of Regional Significance.

Treat Boulevard

Treat Boulevard is an east–west arterial that extends east from North Main Street to Clayton Road, connecting Walnut Creek and Concord, and is located north of the project site. West of North Main Street, Treat Boulevard becomes Geary Road. Off-ramps from northbound I-680 connect to the intersection of Treat Boulevard and Buskirk Avenue. Westbound Treat Boulevard provides access to northbound I-680 via the Buskirk Avenue onramp. Eastbound Treat Boulevard provides access to southbound I-680 via an onramp just east of North Main Street. Within the project site vicinity, Treat Boulevard provides three travel lanes in the westbound direction and four travel lanes in the eastbound direction, with additional turn pockets at intersections. On-street parking is only allowed on westbound Treat Boulevard between Jones Road and Oak Road. The posted speed limit is 35 miles per hour. Sidewalks are provided on both sides of the roadway, except for the small eastbound portion between North Main Street and Buskirk Avenue. Treat Boulevard is a designated Route of Regional Significance.

Oak Road

Oak Road is a north–south roadway with two lanes in each direction and a center two-way left turn lane that forms the eastern boundary of the project site. The roadway serves as a parallel route to I-680 between Walnut Creek and Pleasant Hill. Sidewalks are provided on both sides of the roadway. The posted speed limit varies between 30 and 35 miles per hour. The Contra Costa Canal Trail, a Class I regional trail, intersects Oak Road at a signalized crossing approximately 450 feet south of the project site.

Jones Road

Jones Road is north–south collector with one lane in each direction that connects Parkside Drive and the Pleasant Hill/Contra Costa Centre Bay Area Rapid Transit (BART) station. Jones Road provides driveway access to the project site. The roadway serves as a parallel route to I-680 between Walnut Creek and Pleasant Hill. An existing sidewalk is provided on the east side of Jones Road. There are no designated bicycle facilities on Jones Road. The Contra Costa Canal Trail intersects Jones Road at an unsignalized crossing approximately 600 feet south of the project site.

Study Intersections and Data Collection

Hexagon conducted AM and PM peak period traffic counts on February 4, 2021, at the following study intersections:

1. Oak Road and Jones Road
2. Oak Road and Treat Boulevard
3. Jones Road and Project Driveway
4. Oak Road and Project Driveway

Note that the traffic volumes collected are adjusted to pre-COVID conditions. The intersection at Oak Road and Treat Boulevard had historic counts in year 2018. A factor was derived by comparing the historic counts to the newly collected (2021) counts. This factor was applied to all other intersections to derive pre-COVID volume estimates. Since the pre-COVID count was dated for year 2018, Hexagon derived an annual growth rate using counts at this intersection collected in 2014. This annual growth rate was then applied to all intersection volumes to bring the 2018 counts/derived volumes to 2021 conditions as if there was no COVID (see Table 3.14-1 for calculations of COVID factors, Table 3.14-2 for calculations of growth rates and Table 3.14-3 for a comparison). This represents a conservative analysis. Further factoring were conducted at the Oak Road and Jones Road intersection to ensure volume balancing on the north leg with the intersection at Oak Road and Treat Boulevard. The existing school driveway traffic volumes were estimated based on the trip rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017) for Private School (K-8). The Oak Road/Project Driveway traffic volumes were taken from the Oak Road/Jones Road intersection. Exhibit 3.14-2 shows the existing traffic volumes at the study intersections.

Table 3.14-1: COVID-19 Factors

Oak Road and Treat Boulevard Volumes			
AM COVID-19 Factor Applied to all other intersections		**PM COVID-19 Factor Applied to all other intersections**	
2018 Counts	5,561	2018 Counts	5,124
2021 Counts	3,473	2021 Counts	3,935
Difference	2,088	Difference	1,189
COVID-19 Factor (A)	60.12%	COVID-19 Factor (B)	30.22%
AM 2018 Estimates (C) = 2021 Counts* (1 + A)		PM 2018 Estimates (D) = 2021 Counts* (1 + B)	

Table 3.14-2: Growth Rates

Oak Road and Treat Boulevard Volumes			
AM Annual Growth Rate		**PM Annual Growth Rate**	
2018 Counts	5,561	2018 Counts	5,124
2014 Counts	5,014	2014 Counts	5,101
Difference	547	Difference	23
Growth Percent Difference	10.91%	Growth Percent Difference	0.45%
Annual Growth Rate (E)	2.73%	Annual Growth Rate (F)	0.11%
AM 2021 Estimates = C x E x 3 years		PM 2021 Estimates = D x F x 3 years	

Table 3.14-3: New Counts Versus Adjusted Counts

Oak Road and Treat Boulevard–Intersection Volume			
Peak-hour	**2018 Count[1]**	**2021Count[2]**	**Adjusted 2021 Count[4]**
AM	5,561	3,473	**6,016**
PM	5,124	3,935	**5,142**
Oak Road and Jones Road–Intersection Volume			
Peak-hour		**2021 Count[2]**	**Adjusted 2021 Count[3]**
AM		759	**2,270**
PM		1,246	**1,977**

Notes:
BOLD indicates volumes used in the analysis
[1] 2018 Counts were collected from the Del Hombre Apartments Project.
[2] 2021 Counts were collected on February 4, 2021, during COVID-19.
[3] The adjusted 2021 counts were derived by comparing 2018 and 2021 counts from Oak Road and Treat Boulevard. A growth rate was also applied to match the current year.
[4] A growth rate was applied to bring the 2018 counts to a 2021 condition assuming there was no COVID-19.

Bicycle Facilities

The California Department of Transportation (Caltrans) Highway Design Manual and National Association of City Transportation Officials Urban Bikeway Design Guide define four major types of bicycle facilities:

- **Class I: Multiuse Path—**These paths provide a completely separate right-of-way and are designated for the exclusive use of bicycles and pedestrians with vehicle crossflow minimized.
- **Class II: Bicycle Lane—**These bicycle lanes provide a restricted right-of-way and are designated for the use of bicycles for one-way travel with a striped lane on a street or highway. These bicycle lanes are generally a minimum of 5 feet wide, and vehicle/pedestrian crossflow is permitted.
- **Class III: Bicycle Route with Sharrows—**These bikeways provide right-of-way designated by signs or pavement markings for shared use with motor vehicles. These bikeways include sharrows or “shared-lane markings” to highlight the presence of bicyclists.
- **Class IV: Separated Bicycle Lanes—**These bicycle lanes consist of a physically separate lane for increased comfort and protection of bicyclists. These bicycle lanes can be physically separated by a barrier, such as planters or on-street parking, grade-separated from the roadway, or a painted buffer area. These can also be called cycle tracks, and can allow for one-way or two-way bicycle travel.

Existing Bicycle Facilities

Existing bicycle facilities include the Class I Iron Horse Regional Trail and Contra Costa Canal Trail and Class II bike lanes on Oak Road. The Iron Horse Trail extends in a north–south direction from Concord to Pleasanton, while the Contra Costa Canal Trail meanders in a general horseshoe shape, traversing from Martinez in the west through Pleasant Hill and Walnut Creek before turning north toward Concord. The Contra Costa Canal Trail is located approximately 450-600 feet south of the project site. The two trails intersect approximately 900 feet east of the project site. The Class II bike lanes on Oak Road extend from the Contra Costa Canal Trail to Walden Road. There are no existing bike facilities on Jones Road.

Pedestrian Facilities

Pedestrian facilities include sidewalks, pathways, crosswalks, and pedestrian signals. Sidewalks exist on both Jones Road and Oak Road along the project frontage.

Public Transit

The project site is located within 0.5 mile of a major transit stop, the Pleasant Hill/Contra Costa Centre BART station, which is located north of the project site. Bus transit services in the vicinity of the project site are provided by several transit providers, connecting at this station. County Connection operates weekday bus routes 7, 9, 11, 14, 15, and 18; weekend bus routes 311 and 316; and Early Bird Express routes 702 and 712. In addition, Solano Express operates their Blue and Yellow lines, Fairfield and Suisun Transit (FAST) operates their Blue line, Wheels Bus operates line 70X, and Alameda-Contra Costa Transit District (AC Transit) operates route 702.[2,3] The closest bus stop to the project site is located at Oak Road and Walden Park, approximately 970 feet south of the project site and another at Charter Oak Circle, a short distance away. There are sidewalks on Oak Road that provide connectivity to the bus stop.

3.14.3 - Regulatory Framework

Federal

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

State

California Department of Transportation Level of Service Goals

Caltrans builds, operates, and maintains the State highway system, including the interstate highway system. Caltrans's mission is to improve mobility Statewide. The department operates under strategic goals to provide a safe transportation system, optimize throughput, and ensure reliable travel times, improve the delivery of State highway projects, provide transportation choices, and improve and enhance the State's investments and resources. Caltrans controls the planning of the State highway system and accessibility to the system. Caltrans requires encroachment permits from agencies or new

[2] Bay Area Rapid Transit (BART). 2019. Transit Stops. August 27. Website: https://www.actransit.org/website/uploads/HSP_PH-stops.pdf. Accessed August 26, 2021.
[3] Fairfield and Suisun Transit (FAST). 2016. Routes. Website: https://fasttransit.org/schedules-maps/. Accessed August 26, 2021.

development before any construction work may be undertaken within the State's right-of-way. For projects that would impact traffic flow and levels of services on State highways, Caltrans would review measures to mitigate the traffic impacts. However, Caltrans has adopted the 2013 Contra Costa Transportation Authority (CCTA) Congestion Management Plan (CMP) standards, which are the criteria used to identify impacts in the project-specific Traffic Impact Analysis (TIA) and this Draft EIR.

Senate Bill 743

In November 2017, the Governor's Office of Planning and Research (OPR) released a technical advisory containing recommendations regarding the assessment of VMT, proposed thresholds of significance, and potential mitigation measures for lead agencies to use while implementing the required changes contained in Senate Bill (SB) 743, which was passed in 2013 (Steinberg). Also in November 2017, OPR released the proposed text for Section 15064.3, "Determining the Significance of Transportation Impacts," which summarized the criteria for analyzing transportation impacts for land use projects and transportation projects and directs lead agencies to "choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household or in any other measure." OPR recommends that for most instances a per service population threshold should be adopted and that a 15 percent reduction below that of existing development would be a reasonable threshold.

As noted in the OPR Guidelines, agencies are directed to choose metrics that are appropriate for their jurisdiction to evaluate the potential impacts of a project in terms of VMT. The current deadline for adopting policies to implement SB 743 is July 2020; the change to VMT was formally adopted as part of updates to the California Environmental Quality Act (CEQA) Guidelines in December 2018.

VMT has been identified as the most appropriate metric to evaluate a project's transportation impacts, as projects that result in lower-than-average VMT support goals of reducing greenhouse gas emissions, while projects that result in higher-than-average levels of vehicle travel contribute to an increasing rate of greenhouse gas emissions. The County's Transportation Analysis Guidelines (TAGs) were adopted by the County Board of Supervisors on June 23, 2020. The TAG establishes VMT thresholds in the unincorporated areas of the County.

Projects that are within 0.5-mile of an existing major transit stop, which is defined as a rail transit station, ferry terminal served by bus or rail transit, or at the intersection of two or more major bus routes with service frequencies of 15-minutes or less during the morning and afternoon peak commute periods, are presumed to be less than significant if the project has the following characteristics:

- Has a floor area ratio (FAR) greater than 0.75.
- Does not include more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking).
- Is consistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization).
- Does not replace affordable residential units with a smaller number of moderate or high-income residential units.

If a project meets the screening requirements, it is presumed to have a less than significant impact related to VMT.

Since there are no standards in effect on VMT analysis, a preliminary assessment of the VMT generated by the project was prepared for informational and disclosure purposes only. No determination on the significance of VMT impacts is made in this document since none is legally required.

Regional

Contra Costa Transportation Authority – Central County Action Plan

CCTA is the Congestion Management Agency for the County. CCTA implements the Central County Action Plan, which sets forth performance objectives for Routes of Regional Significance. Treat Boulevard (including one of the study intersections on this roadway) is a Route of Regional Significance.

Local

Contra Costa County Transportation Analysis Guidelines

The County has adopted VMT-based thresholds for the evaluation of CEQA impacts to the transportation system, which are documented in the Contra Costa County TAGs.[4] The TAGs identify VMT Screening Criteria, VMT Metrics, VMT Forecasting, VMT Thresholds, and VMT Mitigation.

Contra Costa County General Plan

Transportation and Circulation Element

The Transportation and Circulation Element includes fundamental concepts that shape the element and support a "well-planned and integrated multimodal transportation network."[5] The following are fundamental concepts recognized in developing the Transportation and Circulation Element:

- Improving the quality, safety, and reliability of transit, walking, and bicycle facilities in the County will both allow and encourage greater use of these alternatives.
- Streets should be designed and maintained according to the "Complete Streets" philosophy.

The General Plan sets forth the following goals and policies that are relevant to transportation:

Goal 5-A To provide a safe, efficient, and integrated multimodal transportation system.

Goal 5-C To balance transportation and circulation needs with the desired character of the community.

Goal 5-D To maintain and improve air quality above air quality standards.

Goal 5-E To permit development only in locations of the County where appropriate traffic level of service standards are ensured.

[4] Contra Costa County. 2020. Contra Costa County Transportation Analysis Guidelines. June 23.

[5] Contra Costa General Plan, Chapter 5: Transportation and Circulation Element. 2005 (reprint 2010), page 5-8. Website: http://www.co.contra-costa.ca.us/DocumentCenter/View/30915/Ch5-Transportation-and-Circulation-Element?bidId=. Accessed July 16, 2019.

Goal 5-I To encourage use of transit.

Goal 5-J To reduce single-occupant auto commuting and encourage walking and bicycling.

Goal 5-K To provide basic accessibility to all residents, which includes access to emergency services, public services and utilities, health care, food and clothing, education and employment, mail and package distribution, freight delivery, and a certain amount of social and recreational activities.

Goal 5-L To reduce greenhouse gas emissions from transportation sources through provision of transit, bicycle, and pedestrian facilities.

Policies

Policy 5-3 Transportation facilities serving new urban development shall be linked to and compatible with existing and planned roads, bicycle facilities, pedestrian facilities and pathways of adjoining areas, and such facilities shall use presently available public and semi-public right-of-way where feasible.

Policy 5-4 Development shall be allowed only when transportation performance criteria are met and necessary facilities and/or programs are in place or committed to be developed within a specified period of time.

Policy 5-12 The use of local and collector roadways for neighborhood circulation shall be encouraged.

Policy 5-13 The use of pedestrian and bicycle facilities shall be encouraged. Proper facilities shall be designed to accommodate bikes, pedestrians, and transit.

Policy 5-14 Physical conflicts between pedestrians, bicyclists, and vehicular traffic, bicycles, and pedestrians shall be minimized.

Policy 5-15 Adequate lighting shall be provided for pedestrian, bicyclist, and vehicular, safety, consistent with neighborhood desires.

Policy 5-16 Curbs and sidewalks shall be provided in appropriate areas.

Policy 5-17 Emergency response vehicles shall be accommodated in development project design.

Policy 5-18 The design and the scheduling of improvements to arterials and collectors shall give priority to intermodal safety over other factors including capacity.

Policy 5-20 New development (including redevelopment and rehabilitation projects) shall contribute funds and/or institute programs to reduce parking demand and/or provide adequate parking.

Policy 5-21 New development shall contribute funds and/or institute programs to provide adequate bicycle and pedestrian facilities where feasible.

Policy 5-22 New subdivisions should be designed to permit convenient pedestrian access to bus transit and efficient bus circulation patterns.

Policy 5-24 Use of alternative forms of transportation, such as transit, bike and pedestrian modes, shall be encouraged in order to provide basic accessibility to those without access to a personal automobile and to help minimize automobile congestion and air pollution.

Policy 5-32 Local road dimensions shall complement the scale and appearance of adjoining properties.

Contra Costa Countywide Bicycle and Pedestrian Plan

To support and encourage walking and bicycling in the County, the CCTA, on July 18, 2018, adopted the 2018 Contra Costa Countywide Bicycle and Pedestrian Plan (CBPP).[6] (The CCTA adopted its first CBPP in 2003 and updated it in 2009). The CBPP builds on and expands the goals, policies, and strategies of the CCTA's Comprehensive Transportation Plan (CTP). Both plans set goals for increasing walking and bicycling and identify actions the Authority and its partners should take to achieve them.

Complete Streets Policy of Contra Costa County

The Complete Streets Policy was adopted by Resolution No. 2016/374 by the Board of Supervisors of the County on July 12, 2016.

A. Complete Streets Principles

1. **Complete Streets Serving All Users.** Contra Costa County expresses its commitment to creating and maintaining Complete Streets that provide safe, comfortable, and convenient travel along and across rights-of-way (including streets, roads, highways, bridges, paths, and other portions of the transportation system) through a comprehensive, integrated transportation network that serves all categories of users, including pedestrians, bicyclists, persons with disabilities, motorists, movers of commercial goods, users and operators of public transportation, seniors, children, youth, students and families.
2. **Context Sensitivity.** In planning and implementing street projects, departments and agencies of Contra Costa County shall maintain sensitivity to local conditions in both residential and business districts as well as urban, suburban, and rural areas, and shall work with residents, merchants, school representatives, and other stakeholders to ensure that a strong sense of place ensues. Improvements that will be considered include sidewalks, shared use paths, separated bikeways/cycle tracks, bicycle lanes, bicycle routes, paved shoulders, street trees and landscaping, planting strips, accessible curb ramps, crosswalks, refuge

[6] Contra Costa Transportation Authority (CCTA). 2019. Countywide Bicycle and Pedestrian Plan. Website: http://keepcontracostamoving.net/. Accessed: February 28, 2019.

islands, pedestrian signals, signs, street furniture, bicycle parking facilities, public transportation stops and facilities, transit priority signalization, traffic calming circles, transit bulb outs, road diets and other features assisting in the provision of safe travel for all users and those features and concepts identified in the Contra Costa County Complete Streets General Plan Amendment of April 2008.

3. **Complete Streets Routinely Addressed by All Departments.** All departments and agencies of Contra Costa County shall work toward making Complete Streets practices a routine part of everyday operations, approach every relevant project, program, and practice as an opportunity to improve streets and the transportation network for all categories of users/modes, and work in coordination with other departments, agencies, and jurisdictions to maximize opportunities for Complete Streets, connectivity, and cooperation. Example activities include, but are not necessarily limited to the following: pavement resurfacing, restriping, accessing above and underground utilities, signalization operations or modifications, maintenance of landscaping/related features, and shall exclude minor (catch basin cleaning, sign replacement, pothole repair, etc.) maintenance and emergency repairs.
4. **All Projects and Phases.** Complete Streets infrastructure sufficient to enable reasonably safe travel along and across the right-of-way for each category of users shall be incorporated into all planning, funding, design, approval, and implementation processes for any construction, reconstruction, retrofit, maintenance, operations, alteration, or repair of streets (including streets, roads, highways, bridges, and other portions of the transportation system), except that specific infrastructure for a given category of users may be excluded if an exemption is approved via the process set forth in Section C.1 of this policy.

B. Implementation

1. **Plan Consultation and Consistency.** Maintenance, planning, and design of projects affecting the transportation system shall be consistent with the Contra Costa County General Plan, as well as other applicable bicycle, pedestrian, transit, multimodal, best practices, and other relevant documents. Where such consistency cannot be achieved without negative consequences, consistency shall not be required if the head of the relevant departments, or designees, provides written approval explaining the basis of such deviation.
2. **Street Network/Connectivity.** As feasible, and as opportunities arise, Contra Costa County shall incorporate Complete Streets infrastructure into existing streets to improve the safety and convenience of users, with the particular goal of creating a connected network of facilities accommodating each category of users, increasing connectivity across jurisdictional boundaries, and for accommodating existing and anticipated future areas of travel origination or destination. A well-connected network should include non-motorized connectivity to schools, parks, commercial areas, civic destinations, and regional non-motorized networks on both publicly owned roads/land and private developments (or redevelopment areas).
3. **Countywide Bicycle Advisory Committee (CBAC) Consultation.** The CBAC may review the design principles used by staff to accommodate motor vehicle,

bicycle, pedestrian, and transit modes of travel when reviewing projects. The CBAC will be engaged early in the planning and design stage to provide an opportunity for comments and recommendations regarding Complete Street features of major public transportation projects.

4. **Evaluation.** The County will establish a means to collect data and evaluate the implementation of complete streets policies. For example, tracking the number of miles of paths, bike lanes and sidewalks, numbers of street crossings, signage etc.

C. Exceptions

1. **Required Findings and Leadership Approval for Exemptions.** Plans or projects that seek exemptions from incorporating Complete Streets design principles must provide a written explanation of why accommodations for all modes were not included in the project. An exemption may be granted by the Director of Public Works or Director of Conservation and Development upon finding that inclusion of Complete Streets design principles are not possible or appropriate under one or more of the following circumstances: (1) bicycles or pedestrians are not permitted on the subject transportation facility pursuant to State or local laws; (2) inclusion of Complete Streets design principles would result in a disproportionate cost to the project; (3) there is a documented absence of current and future need and demand for Complete Streets design elements on the subject roadway; and, (4) one or more significant adverse effects would outweigh the positive effects of implementing Complete Streets design elements. Plans or projects that are granted exceptions must be made available for public review.

Contra Costa County Ordinance Code

Chapter 82-16.412 of the Contra Costa County Ordinance Code (Ordinance Code) sets forth the amounts of long-term and short-term bicycle parking that a project must provide. The Ordinance Code requires a multiple-family dwelling with a parking garage to provide space for 5 percent of the number of bedrooms for short-term parking, or two spaces (whichever is greater). Long-term parking is not required.[7]

3.14.4 - Methodology

Hexagon Transportation Consultants, Inc. prepared a Transportation Analysis for the proposed project. The complete report is provided in Appendix I. The methodology of the analysis is described as follows.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip

[7] Contra Costa County Ordinance Code. 2018. Chapter 82-16.412—Bicycle Parking. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV82GERE_CH82-16OREPA_82-16.412BIPA. Accessed November 26, 2018.

assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the AM and PM peak-hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described below.

Project Trip Generation

Vehicle trips generated by the proposed residential component of the project were estimated using the trip rates published in the ITE Trip Generation Manual, 10th Edition (2017) for "Single-Family Detached Housing" (Land Use 210). Since the proposed units all include at least three bedrooms with their own attached garages, it was determined that the single-family detached housing land use would best reflect the trip generation characteristic for the proposed project. It should be noted that the single-family rates are also the highest trip generation rates out of all residential trip rates. This analysis thus represents a slightly conservative analysis.

As shown in the Table 3.14-4, the proposed project is estimated to generate 1,180 gross daily vehicle trips, with 93 gross trips occurring during the AM peak-hour and 124 gross trips during the PM peak-hour.

Table 3.14-4: Project Trip Generation Estimates

Land Use	ITE Land Use Code	Size	Daily		AM Peak-hour Trip			PM Peak-hour Trip			
			Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
Proposed Land Uses												
Single-family Detached Housing	210	125 Dwelling Units	9.44	1,180	0.74	23	70	93	0.99	78	46	124
Total Project	–	–	–	1,180	–	23	70	93	–	78	46	124
Existing Land Use												
Private School	534	370 Students	4.11	1,521	0.91	185	152	337	0.26	44	52	96
Total Existing	–	–	–	1,521	–	185	152	337	–	44	52	96
Net Project Trips	–	–	–	-341	–	-162	-82	-244	–	34	-6	28

Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition 2017.

Existing Trip Credits

Trips generated by the existing uses on the site can be credited against the proposed development. At the time of this report, the former private school is permanently closed. However, the school is being credited, pursuant to *North County Advocates v. City of Carlsbad*, 241 Cal.App.4th 94 (2015), because this traffic study is analyzed under pre-COVID conditions when the school was open. The existing baseline traffic counts, as discussed earlier, are all factored to pre-COVID conditions.

The private school trip generation estimates are based on ITE rates for Private School (K-8). According to the former school owner, the school had student enrollments ranging between 370

students and 400 students. The school also had after-school activities and was open until 6:00 p.m. on school days. For a conservative analysis, the school is credited using the 370 students. When comparing the PM peak-hour rate to other private/charter elementary and middle schools (average of 0.56 trips per student), the ITE rate of 0.26 trips per student for the PM peak-hour appeared low. Table 3.14-5 provides a PM peak-hour trip rate of elementary and middle schools similar to the existing school. Therefore, crediting school's PM trip generation using the ITE trip rates represent a conservative analysis. It is estimated that the private school with 370 students would have generated 1,521 daily trips with 337 trips during the AM peak-hour and 96 trips during the PM peak-hour.

Table 3.14-5: Comparison PM Peak-hour Trip Rate of Private/Charter Elementary and Middle Schools

School Name	Address	Counted PM Peak Commute Hour Trip Generation Rate (Trips/Student)
The Harker School–Middle School	3800 Blackford Avenue, San José, CA 95117	0.7
Downton College Prep Alum Rock Middle School	2888 Ocala Avenue, San José, CA 95148	0.78
Rocketship Si Se Puede Academy	2249 Dobern Avenue, San José, CA 95116	0.37
Rocketship Mateo Sheedy Elementary	788 Locust Street, San José, CA 95110	0.39
Rocketship Brilliant Minds	2960 Story Road, San José, CA 95127	0.68
Rocketship Discovery Prep	370 Wooster Avenue, San José, CA 95116	0.44
Rocketship Mosaic Elementary	950 Owsley Avenue, San José, CA 95122	0.7
KIPP Heritage Middle School	423 Los Arboles Street, San José, CA 95111	0.51
KIPP Heartwood and Prize Middle Schools	1250 South King Road, San José, CA 95122	0.69
ACE Franklin McKinley Middle School	1665 Santee Drive, San José, CA 95122	0.41
ACE Empower Academy Middle School	625 South Sunset Avenue, San José, CA 95116	0.34
KIPP Prize Preparatory Academy	1250 South King Road, San José, CA 95122	0.69
	Minimum Observed Trip Generation Rate	**0.34**
	Average Observed Trip Generation Rate	**0.56**
	Maximum Observed Trip Generation Rate	**0.78**

Net Project Trips

After accounting for the baseline trips generated by the former private school, the proposed residential project is estimated to generate a net decrease of 341 daily trips, with a net decrease of 244 trips in the AM peak-hour and a net increase of 28 trips in the peak-hour. It should be noted that this analysis represented a conservative analysis. Crediting the project with even the lowest observed PM rates for comparable schools would have resulted in an overall net decrease in trips.

Project Trip Distribution and Assignment

The trip distribution pattern for the proposed development was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses.

The peak-hour trips generated by the existing and proposed uses were assigned to the roadway system based on the directions of approach and departure, the roadway network connections, and the locations of project driveways. The trips generated by the existing uses were subtracted from the roadway network prior to assigning project trips. It should be noted that the school trips were only accessed on one driveway on Jones Road. It is assumed that all residential trips would enter and exit the project site via two driveways each on Jones Road and on Oak Road. Exhibit 3.14-3 shows the trip distribution and assignment of the proposed project.

3.14.5 - Significance Criteria

According to CEQA Guidelines Appendix G Environmental Checklist, to determine whether transportation and traffic impacts are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

a) Conflict with a program plan, ordinance, or policy of the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

d) Result in inadequate emergency access?

3.14.6 - Project Impacts and Mitigation Measures

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

Impact Evaluation

Circulation System

Impact TRANS-1:	**The proposed project would not conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities?**

Bicycle Facilities

Currently, there are no existing bike lanes on Jones Road. However, there is a pedestrian/bike trail, Iron Horse Regional Trail, located approximately 1,500 feet east of the project site. The bike trail provides access to the Pleasant Hill/Contra Costa Centre BART station. There is also another pedestrian/bike trail, Contra Costa Canal Trail, located approximately 450–600 feet south of the project site and crossing Oak Road and Jones Road. According to the City of Walnut Creek Bicycle Plan, there are plans to provide a bicycle route on Jones Road between Treat Boulevard and Walden Road. The project would not affect existing or planned bicycle facilities. The project also proposes to

include a bike repair space on-site. The Seven Hills School is located within a 3-mile radius of the project site. The Contra Costa Canal Trail provides a good bicycle connectivity to the project site and the Seven Hills School. Oak Road has planned Class II facilities in the vicinity of the project. The planned Class facilities is located on Oak Road between Treat Boulevard and the Contra Costa Canal Trail. The four on-street parking spaces proposed along Oak Road would not result in a conflict with future construction of this facility. The Iron Horse Regional Trail, a pedestrian/bike trail, located approximately 1,500 feet east of the project site. The Iron Horse Regional Trail extends from Marsh Drive in Concord to Santa Rita Road in Pleasanton. The Iron Horse Regional Trail provides access to the Pleasant Hill/Contra Costa Centre BART station. There is also another trail, Contra Costa Canal Trail, located approximately 650 feet south of the project site and crossing Jones Road. The Contra Costa Canal Trail extends from Muir Road in Martinez to Willow Pass Road in Concord. The Contra Costa Canal Trail provides access to Walden Park and the Iron Horse Regional Trail. According to the City of Walnut Creek Bicycle Plan, there are plans to provide a bicycle route on Jones Road between Treat Boulevard and Walden Road. Exhibit 3.14-4 shows the existing bicycle facilities within the project area. The proposed project would include bicycle parking and a bicycle repair station on-site.

Pedestrian Facilities

There are sidewalks on the east side of Jones Road within the vicinity of the project site. There are also sidewalks on both sides of Oak Road and Treat Boulevard so that residents at the project site can easily walk to the Pleasant Hill/Contra Costa Centre BART station. The traffic signals at the Oak Road/Jones Road and Oak Road/Treat Boulevard intersections include crosswalks with pedestrian signal heads to facilitate crossing the street. The Iron Horse Regional Trail and Contra Costa Canal Trial described previously are Class I pedestrian/bicycle facilities within project proximity. There are no pedestrian improvement plans along Jones Road or Oak Road along the project frontage, and the project would not affect existing or planned pedestrian facilities. The Seven Hills School is located within a 1-mile radius of the project site, and the Contra Costa Canal Trail provides a pedestrian connection to the school from the project site.

Transit Facilities

The site is served by several County Connection bus routes: 7, 9, 11, 14, 15, and 311. The project site is located with 0.5 mile of a major transit stop, the Pleasant Hill/Contra Costa Centre BART station, which is located north of the project site. The closest bus stop to the project site is located at Oak Road and Walden Park, approximately 970 feet south of the project site. There are sidewalks on Oak Road that provide connectivity to the bus stop. The Pleasant Hill/Contra Costa Centre BART station also provides other bus route connections in addition to other County Connection lines. AC Transit, Solano Express, FAST, and Wheels Express provide connecting transit routes at the Pleasant Hill/Contra Costa Centre BART station (refer to Exhibit 3.14-5 and Table 3.14-6). Paratransit services could also be provided to the residents at the project site. County Connection LINK serves Pleasant Hill, Walnut Creek, Concord, Lafayette, and other central Contra Costa cities. Paratransit service rides are provided within 1.5 miles of a bus stop or train station.

Table 3.14-6: Existing Transit Services

Bus Route	Route Description	Closest Stop and Distance to Project Site	Weekday Hours of Operation[1]	Headway[1]
County Connection				
Local Bus 7	Shadelands/BART Pleasant Hill	Pleasant Hill BART Station, 0.3 mile	6:30 a.m.–10:30 a.m. and 3:00 p.m.–7:45 p.m.	20 mins
Local Bus 9	Diablo Valley College/BART Walnut Creek	Pleasant Hill BART Station, 0.3 mile	6:00 a.m.–9:30 p.m.	60 mins
Local Bus 11	BART Concord/BART Pleasant Hill	Pleasant Hill BART Station, 0.3 mile	6:00 a.m.–8:00 p.m.	45 mins
Local Bus 14	Monument Boulevard	Oak Road and Walden Park, 0.2 mile	5:30 a.m.–9:30 p.m.	30 mins
Local Bus 15	Treat Boulevard	Pleasant Hill BART Station, 0.3 mile	6:00 a.m.–9:00 a.m.	60 mins
Local Bus 18	AMTRAK/BART Pleasant Hill	Oak Road and Walden Park, 0.2 mile	6:00 a.m.–9:30 a.m.	80 mins
Local Bus 311	BART Concord/BART Pleasant Hill/BART Walnut Creek	Oak Road and Walden Park, 0.2 mile	8:30 a.m.–8:30 p.m.; Weekends Only	60 mins
Local Bus 316	Martinez AMTRAK/BART Pleasant Hill	Pleasant Hill BART Station, 0.3 mile	7:00 a.m.–7:30 p.m.; Weekends Only	75 mins
Alameda-Contra Costa Transit District (AC District)				
702	San Francisco Temporary Transbay Terminal	Pleasant Hill BART Station, 0.3 mile	4:00 a.m.–5:00 a.m.	One Trip
Solano Express				
Blue Line	Fairfield/Sacramento/Vacaville	Pleasant Hill BART Station, 0.3 mile	5:27 a.m.–7:43 p.m.	60 mins
Wheels Bus				
70X	Dublin/Pleasanton BART	Pleasant Hill BART Station, 0.3 mile	7:04 a.m.–8:04 a.m. 4:36 p.m.–7:03 p.m.	30 mins (AM); 20-30 mins (PM)

Notes:
[1] Approximate weekday operation hours and headways during peak commute periods in the project area, as of April 2021.

Level of Significance

Less than significant impact.

Vehicle Miles Traveled

Impact TRANS-2: The proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the Guidelines section implementing SB 743. The Guidelines state that Level of Service (LOS) will no longer be considered an environmental impact under CEQA and that VMT is the most appropriate measure of transportation impact. SB 743 went into effect on July 1, 2020. In accordance with new CEQA Guidelines, the County has transitioned from intersection LOS to VMT for CEQA transportation analysis. A project's VMT is compared to the appropriate thresholds of significance based on the project location and type of development. When assessing a residential project, the project's VMT is divided by the number of residents expected to occupy the project to determine the VMT per capita. To determine whether a project would result in CEQA transportation impacts related to VMT, the County has established thresholds for residential, office, and retail projects. For residential projects, the VMT threshold of significance is 85 percent of existing Countywide average VMT per capita.

VMT Screening Criteria

The County TAG also include screening criteria for projects that are expected to result in less than significant VMT impacts. These screening criteria are generally based on project size and location, as listed below:

- Projects that:
  - Generate or attract fewer than 110 daily vehicle trips; or,
  - Projects of 10,000 square feet or less of non-residential space or 20 residential units or less, or otherwise generating less than 836 VMT per day.
- Residential, retail, office projects, or mixed-use projects proposed within 0.5 mile of an existing major transit stop or an existing stop along a high-quality transit corridor.
- Residential projects (home-based VMT) at 15 percent or below the baseline Countywide home-based average VMT per capita, or employment projects (employee VMT) at 15 percent or below the baseline Bay Area average commute VMT per employee in areas with low VMT that incorporate similar VMT reducing features (i.e., density, mix of uses, transit accessibility).
- Public facilities (e.g., emergency services, passive parks (low-intensity recreation, open space), libraries, community centers, public utilities) and government buildings.

Project-level VMT Analysis

According to the County TAG, a project is expected to result in a less than significant VMT impact if the proposed project is located within 0.5 mile of an existing major transit stop or an existing stop along a high-quality transit corridor. The Pleasant Hill/Contra Costa Centre BART station is located within 0.5ile of the project site. In addition, there are bicycle and pedestrian facilities between the project site and the Pleasant Hill/Contra Costa Centre BART station, such as continuous sidewalks along Jones Road and Oak Road that connects to the project site to this BART station. At a normal walking pace, it would take approximately 5minutes to walk from the project site to this BART station.

The Iron Horse Regional Trail and the Contra Costa Canal Trail also provide access to the Pleasant Hill/Contra Costa Centre BART station. There are also bike racks and bike lockers at the BART station for bicyclists to park their bicycles. Furthermore, the BART system provides quality regional connection to major employment destinations within the Bay Area (i.e., Oakland, San Francisco), and will soon connect to the San José area as well. The Pleasant Hill/Contra Costa Centre BART station also connects to local bus routes that are provided by County Connection. These local bus routes include County Connection weekday routes 7, 9, 11, 14, 15, and 18, County Connection weekend routes 311 and 316, County Connection Early Bird Express routes 702 and 712, Solano Express Blue and Yellow lines, FAST Blue line, Wheels Bus line 70X, and Alameda-Contra Costa Transit District (AC Transit) route 702. The regional transit connectivity available to the project residents, along with availability of bicycle parking on-site and bicycle and pedestrian facilities in the vicinity of the project site, would reduce residents' need to drive. Therefore, the project's VMT impact is considered less than significant.

Level of Significance

Less than significant impact.

Although a formal TDM plan is not required for reducing VMT for the proposed project, the following measures are recommended to facilitate further VMT reductions and the use of alternate transportation modes as required by Ordinance Code 82-32.010.[8]

- Designate a Transportation Coordinator
- Provide an online Kiosk/TDM Information Board
- Provide Transportation Information Packets
- Provide access to transit services and transit resources
- Provide Bicycle Parking and Bicycle resources such as maps and bicycle safety tips
- Provide information on Carpool and Vanpool programs

Roadway Safety Hazards

Impact TRANS-3:	**The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).**

Site Circulation and Access

A review of the project site plan was performed to determine whether adequate site access and in-site circulation would be provided, using commonly accepted transportation planning principles and traffic engineering standards.

Site Access

Vehicle site access was evaluated to determine the adequacy of the site driveways. The project-generated traffic would access the site via a new driveway connecting to Jones Road. There would also be a proposed driveway that would connect to the project site on Oak Road. The new driveway

[8] Contra Costa County Ordinance Code. Chapter 82-32 Transportation Demand Management, Section 82-32.010 Residential Projects. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV82GERE_CH82-32TRDEMA_82-32.010REPR. Accessed October 18, 2021.

on Jones Road and Oak Road would be 26 feet wide, which could accommodate two-way traffic and meet Fire Code standards.

Sight Distance

Sight distance was evaluated to determine whether a driver would have adequate visibility to enter Jones Road and Oak Road from the driveways. The project access points would remain free and clear of any obstructions that would materially and adversely affect sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on adjacent roadways. As designed, landscaping and parking would not conflict with a driver's ability to locate a gap in traffic and see oncoming pedestrians and bicyclists. Adequate corner sight distance (sight distance triangles) would be provided at all site access points in accordance with the County standards. Sight distance requirements vary depending on the roadway speeds. The speed limit on Jones Road and Oak Road is 35mph. According to the Highway Design Manual (HDM), Chapter 200, 2014, the required minimum stopping sight distance for design speed of 35 mph is 250 feet. The line of sight for vehicles exiting the driveway and vehicles traveling northbound on Jones Road are clear and visible. Vehicles exiting the driveway would be visible to the vehicles traveling southbound on Jones Road and Oak Road. There are existing red curbs on both sides of each driveway to provide adequate visibility for vehicles exiting the project site. The project would not substantially increase hazards due to any design features.

On-site Circulation

On-site circulation was reviewed in accordance with generally accepted traffic engineering standards. The project would provide new streets and alleys within the project site that lead to each unit. Each unit would have its own driveway and a garage. According to the Ordinance Code, the minimum two-way drive aisle width for multi-family uses is 20 feet and 26 feet when portion of the building has human occupancy located more than 30 feet above the access road. The site plan shows the appropriate drive aisle widths within the project site. The site plan would provide adequate space for garbage trucks, loading trucks and emergency vehicles to circulate throughout the project site.

Level of Significance

Less than significant impact.

Emergency Access

Impact TRANS-4: The proposed project would not result in inadequate emergency access.

Emergency vehicle access would be provided via the two proposed driveways on Jones Road and Oak Road. The new driveway on Jones Road would be 26 feet wide, which can accommodate two-way traffic. The site plan shows that the Oak Road driveway would be approximately 26 feet wide. The two 26-foot-wide driveways would provide adequate access for emergency vehicles. As such, impacts would be less than significant.

Level of Significance

Less than significant impact.

3.14.7 - Cumulative Impacts

The geographic scope of the cumulative transportation analysis is the roadway network and the transit, pedestrian, and bicycle facilities in the vicinity of the project site.

Circulation System

As indicated Impact TRANS-1, the proposed project would have a less than significant impact on intersection operations, public transit, bicycles, and pedestrians. Therefore, the proposed project would not have a cumulatively considerable contribution.

Vehicle Miles Traveled

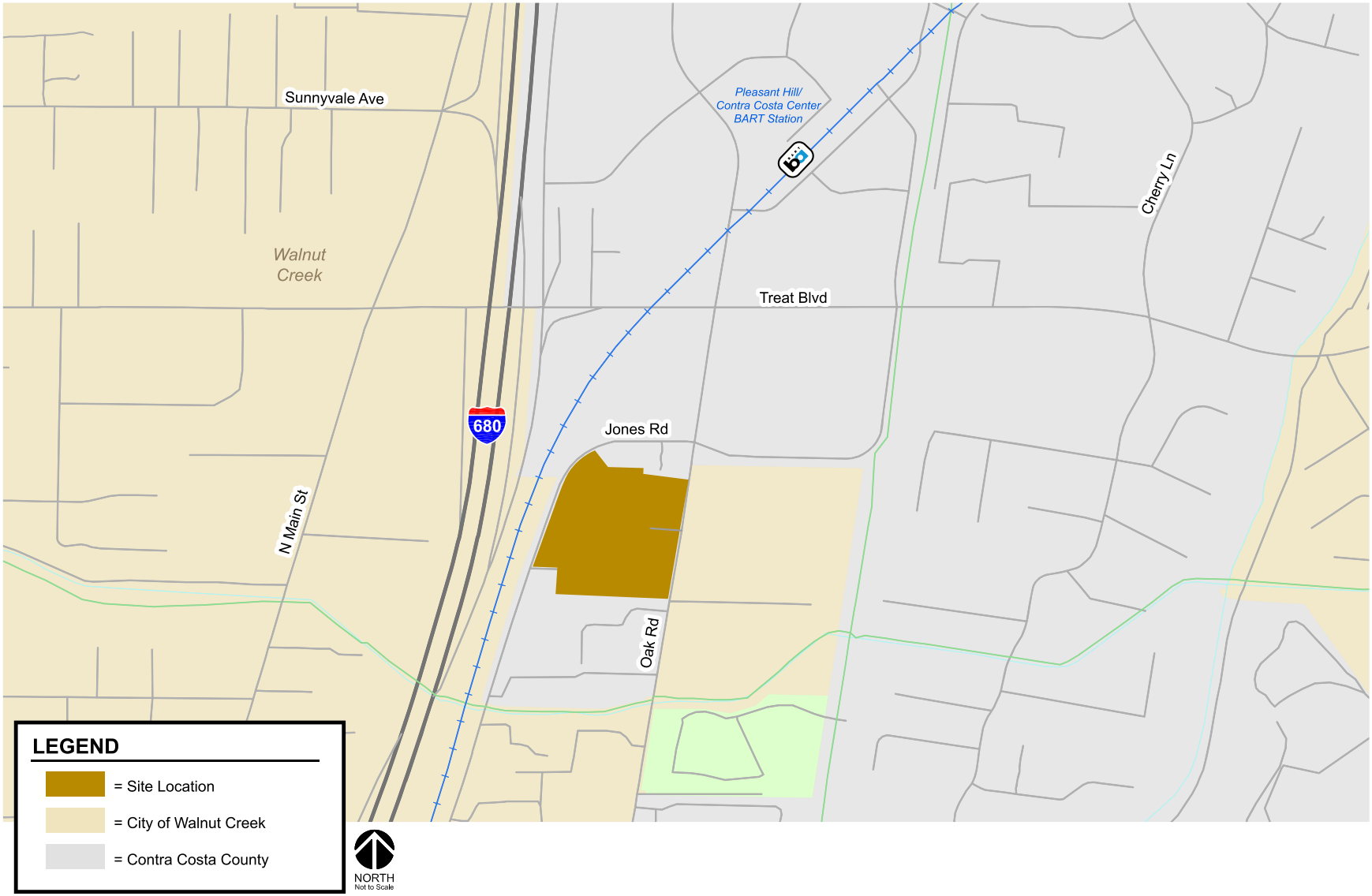
As concluded in Impact TRANS-2, the proposed project's VMT would not result in a significant impact for VMT, and therefore would not have a considerable cumulative contribution. As noted in Impact TRANS-2 the proposed project will implement recommended TDM measures that would facilitate further reductions in VMT by encouraging use of alternate transportation modes.

Roadway Safety Hazards and Emergency Access

As discussed under Impact TRANS-4, the proposed project would provide adequate emergency access via the two proposed driveways on Jones Road and Oak Road, and impacts would be less than significant. Therefore, the proposed project would not have a cumulatively considerable contribution.

Level of Cumulative Significance

Less than significant impact.



Source: Hexagon Transportation Consultants, Inc., May 10, 2001.

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Exhibit 3.14-1
Roadway Network

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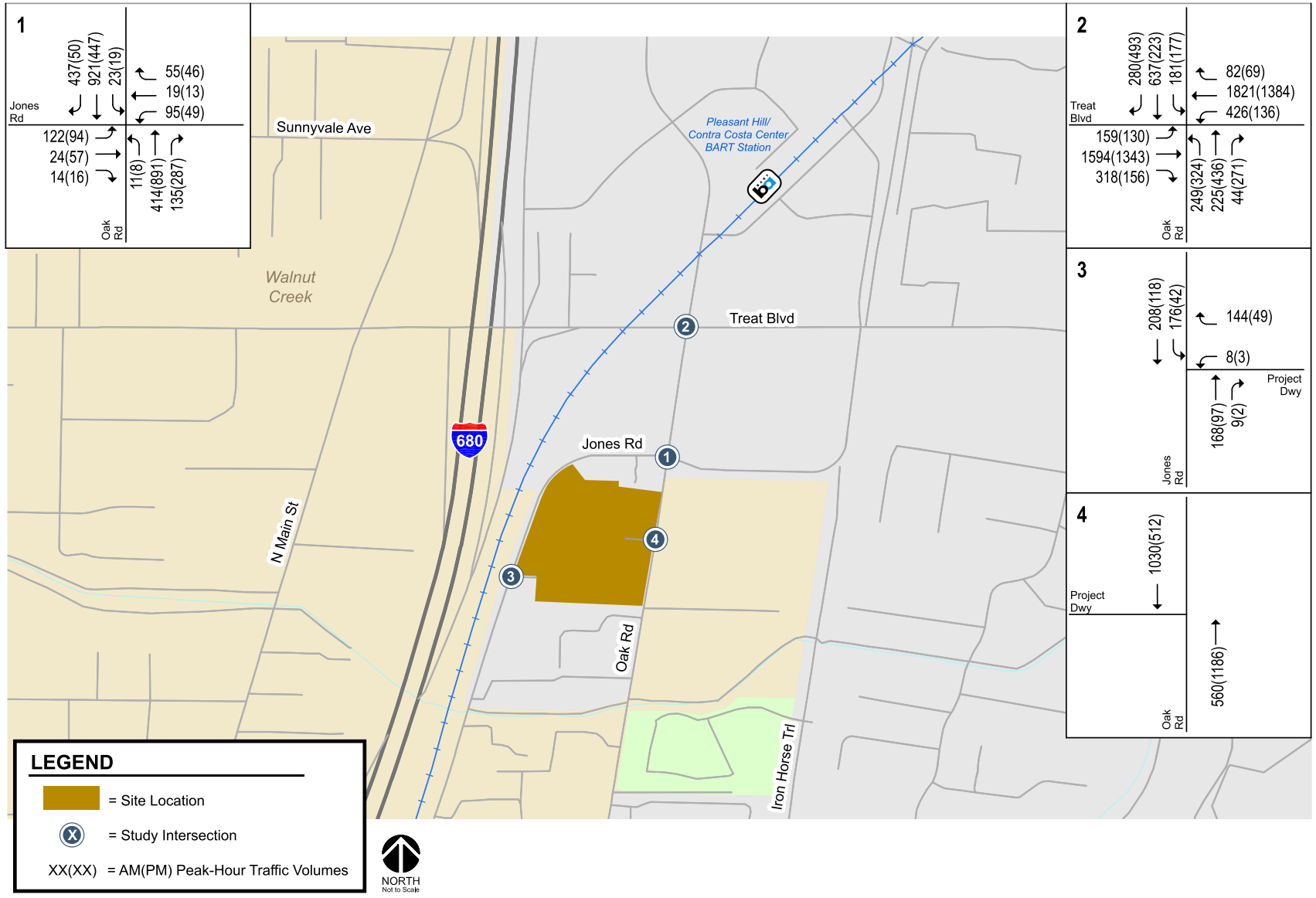

Source: Hexagon Transportation Consultants, Inc., May 10, 2001.

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Exhibit 3.14-2
Existing Traffic Volumes

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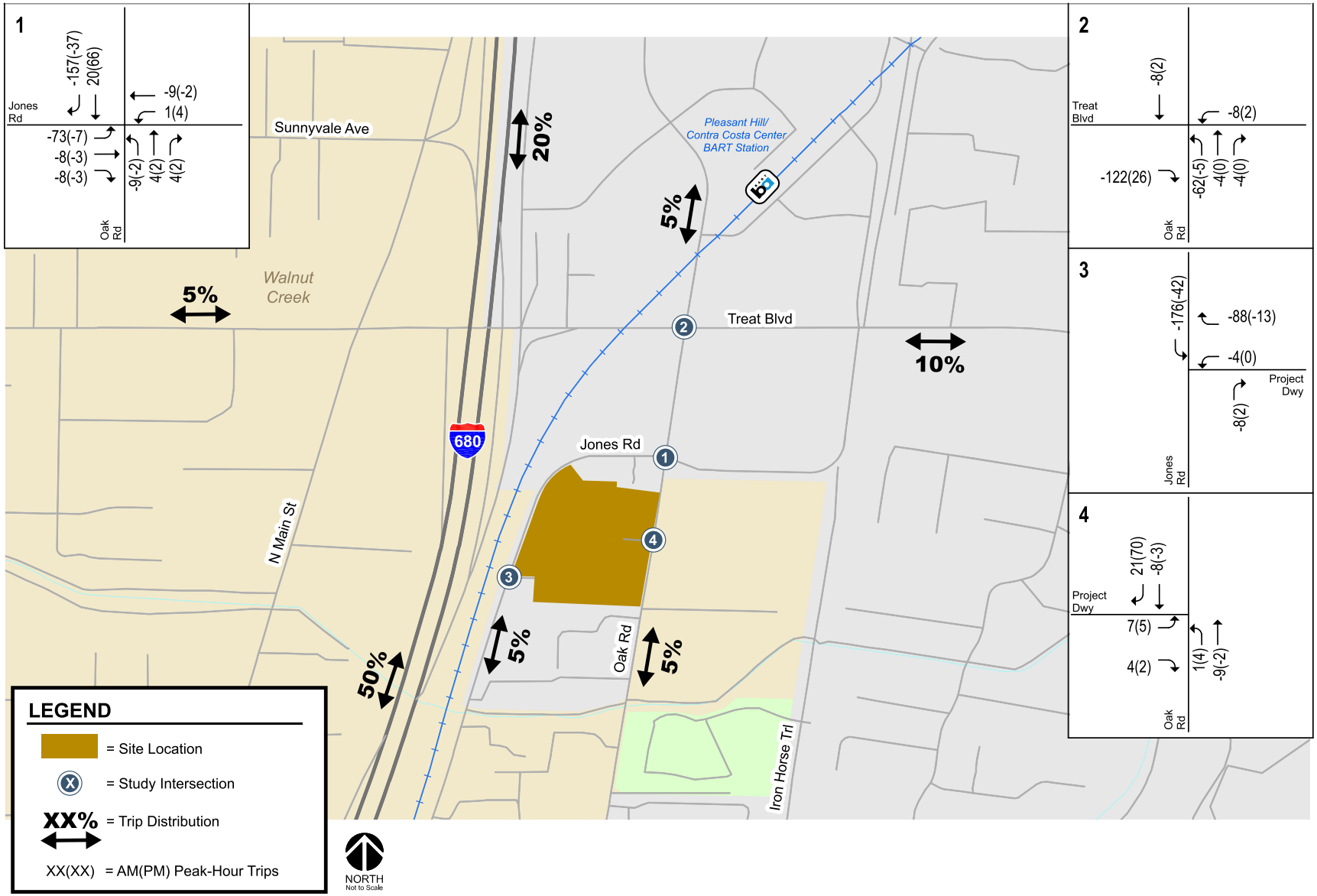

Source: Hexagon Transportation Consultants, Inc., May 10, 2001.

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Exhibit 3.14-3
Trip Distribution and Assignment

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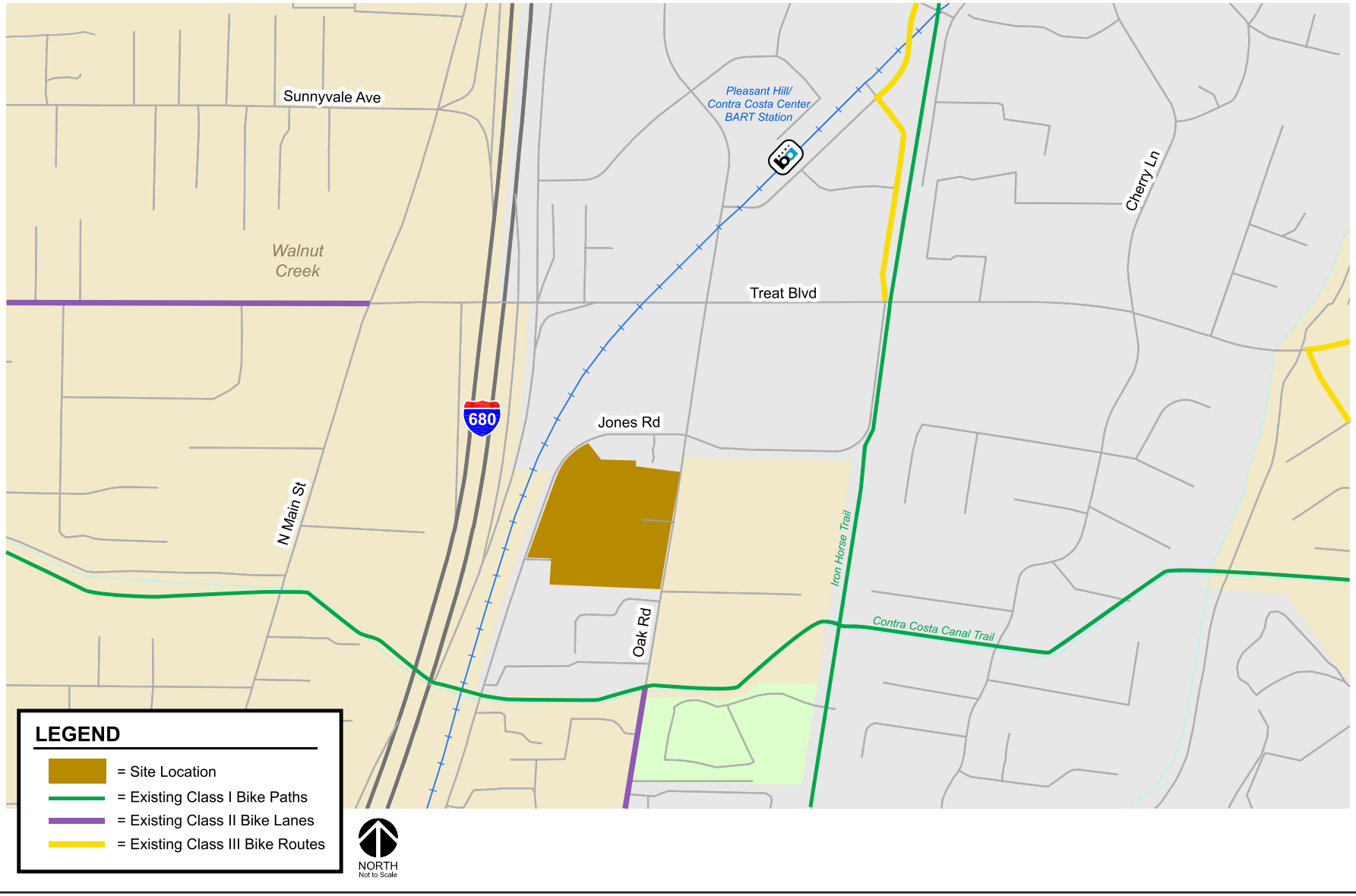

Source: Hexagon Transportation Consultants, Inc., May 10, 2001.

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Exhibit 3.14-4
Existing Bicycle Facilities

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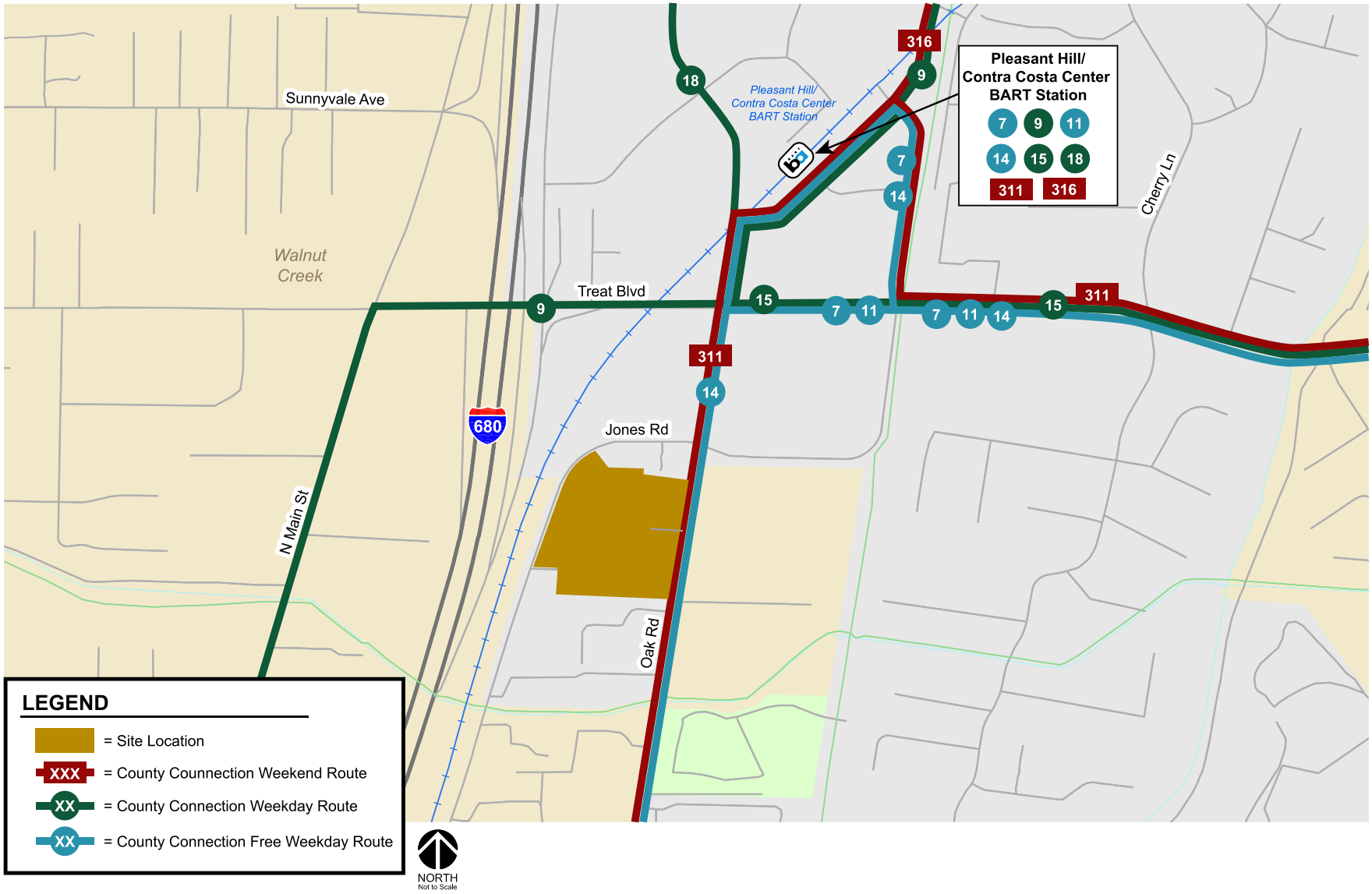

Source: Hexagon Transportation Consultants, Inc., May 10, 2001.

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Exhibit 3.14-5
Existing Transit Facilities

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3.15 - Utilities and Service Systems

3.15.1 - Introduction

This section describes the existing setting regarding utilities and systems (water, wastewater, stormwater, and solid waste) in Contra Costa County (County) and the project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to such utilities and service systems that could result from implementation of the proposed project. Descriptions and analysis in this section is based on information provided by the Contra Costa Water District (CCWD), CCWD 2015 Urban Water Management Plan (UWMP), West County Wastewater District (WCWD), California Department of Resources Recycling and Recovery (CalRecycle), and the Contra Costa County General Plan (General Plan). Information in this section is also based, in part, on the site-specific Stormwater Control Plan and Preliminary Hydrology and Hydraulics Calculations prepared by Ruggeri-Jensen-Azar (included in Appendix G). No public comments were received during the Draft Environmental Impact Report (Draft EIR) scoping period related to utilities and service systems.

3.15.2 - Environmental Setting

Water

CCWD provides potable water service to approximately 500,000 persons in central and northeastern Contra Costa County. CCWD's treated water service area includes all or portions of the cities of Clayton, Concord, Martinez, Pleasant Hill, and Walnut Creek as well as nearby unincorporated areas of Contra Costa County. CCWD's wholesale water service area includes all or portions of the cities of Antioch, Martinez, Pittsburg, and Diablo Water District (Oakley, Bethel Island, and Knightsen).

Water System Description

CCWD obtains its water supply exclusively from the Delta and serves treated and untreated (raw)water to approximately 500,000 people in north, central, and east Contra Costa County. CCWD was approved by the voters in 1936 as the legal entity to contract, purchase, and distribute water provided by the United States Bureau of Reclamation (USBR) through the Contra Costa Canal (Canal). For the first 25 years of its existence, CCWD's main responsibility was the purchase and distribution of untreated water through the Canal. The cities and other water utilities within the CCWD service area were responsible for treating and distributing water used by their customers. However, in the late 1950s, many citizens and public officials became concerned about the quality and cost of the water in the central county area. To address this problem, CCWD purchased the California Water Service Company's Concord-area treatment, pumping, storage, and distribution facilities. In 1968, CCWD replaced the treatment facilities with the construction of the Ralph D. Bollman Water Treatment Plant (Bollman WTP) in Concord. While CCWD initially provided untreated water primarily for irrigation and industry, it is now one of the larger urban water districts in California. Customers include six municipal agencies, major industrial customers, irrigation customers, and retail treated water customers consisting primarily of residential and commercial uses. CCWD's industrial base includes oil refineries, steel mills, and chemical manufacturing facilities which have historically accounted for approximately one-third of the total water use within CCWD. In providing untreated and treated water, CCWD operates and maintains a complex system of water transmission, treatment, and storage facilities discussed in more detail in the following sections.

Untreated Water Conveyance Facilities

CCWD conveys untreated water to both retail and wholesale municipal customers, as well as industrial and irrigation customers. Wholesale municipal customers include the cities of Antioch, Martinez, and Pittsburg and the Diablo Water District (DWD). Antioch, Martinez, and Pittsburg operate their own water treatment plants and treated water distribution systems. Additionally, CCWD delivers surface water on behalf of the City of Brentwood.

CCWD's primary conveyance facility for its untreated water supply is the Canal, which conveys water diverted from the Delta at the Rock Slough intake for deliveries throughout CCWD's service area. The Canal also has the ability to receive water from the Old River intake, the Middle River intake on Victoria Canal, and Los Vaqueros Reservoir and the Mallard Slough intake. The 48-mile-long Canal originates at Rock Slough and traverses through cities and communities in northeastern and central county areas, terminating at the Martinez Reservoir. Since 2009, CCWD has completed a series of projects to replace the first 4 miles of the Canal, which was previously an earthen channel, to addresses various vulnerabilities including water quality degradation and potential flooding. With the completion of Segment 4 in 2019, approximately 13,500 feet of the Canal has been enclosed in pipe. The final and remaining segment (Segment 5) is anticipated to begin construction by 2025.

Within the first 7 miles of the Canal, a series of four pump stations, Pumping Plants 1 through 4, lift water from Rock Slough to a height of 124 feet above sea level from which flows by gravity to the terminus. Starting at Pumping Plant 1, the Canal reaches are concrete lined with capacities ranging from approximately 22 cubic feet per second (cfs) to 350 cfs. The Canal has several in-line siphons, culverts, and check structures, as well as a 1.4-mile tunnel. The first 26 miles of the Canal, termed the "main" Canal, serving Municipal and Industrial (M&I) untreated water customers along its route, including Antioch, Pittsburg, Brentwood, the treated water service area served by Bollman WTP, and the large refineries in the central part of the County.

The Shortcut Pipeline, located in central Contra Costa County, originates at the Canal north of the Bollman WTP and terminates at the Martinez Reservoir. This pipeline provides redundancy to a portion of the Canal, known as the Loop Canal, which conveys untreated water from the Canal to Mallard Reservoir (for the Bollman WTP), Martinez Reservoir (for City of Martinez and Martinez Refinery [formerly Shell Oil Company]), as well as several smaller industrial customers. The Ygnacio Re-lift Pump Station diverts water from the Canal into the 5-mile Ygnacio Loop in the City of Walnut Creek.

The original Los Vaqueros Pipeline was completed in 1998 and included construction of a 100,000 AF reservoir, a new point of diversion at Old River south of the State Route 4 crossing, transmission facilities, pumping plants, and other associated facilities. The pumping plant at the Old River intake has an installed capacity of 250 cfs, and intake diversions for delivery to the CCWD's service area began in the summer of 1997. In 2010, CCWD completed construction of a pumping plant on Victoria Canal near Middle River that has an installed capacity of 250 cfs. In 2012, CCWD completed the first phase of the Los Vaqueros Reservoir Expansion Project that expanded the capacity of Los Vaqueros Reservoir from 100,000 acre-feet to 160,000 acre-feet.

The Middle River and Old River pumping plants are permitted to operate at a combined capacity of 320 cfs and pump water to the 4-million-gallon Transfer Reservoir. From the Transfer Reservoir, water can either flow by gravity to the Canal or be pumped at up to 200 cfs by the Transfer Pump Station to the Los Vaqueros Reservoir via the Transfer Pipeline. Water from the Transfer Facility is conveyed by gravity to the Canal via the Los Vaqueros Pipeline and is blended with water supplies from Rock Slough at the Neroly Blending Facility in Antioch.

An untreated water intertie connecting the Los Vaqueros Pipeline with East Bay Municipal Utility District (EBMUD's) Mokelumne Aqueducts in Brentwood, completed in 2007, enables the wheeling of a portion of CCWD's Central Valley Project water via the Freeport Regional Water Project and the Mokelumne Aqueducts. The intertie also functions as an emergency connection between EBMUD and CCWD, allowing the districts to share water resources in an emergency.

CCWD, other local water agencies, and USBR are currently pursuing Phase 2 of the Los Vaqueros Reservoir Expansion Project, which consists of a reservoir expansion up to 275,000 AFY and related conveyance facilities for regional water supply reliability and ecosystem benefits. CCWD participation in this project does not result in any increased supply for CCWD use. CCWD certified the Final Supplement to the Final Environmental Impact Study/Environmental Impact Report (EIS/EIR) for the Phase 2 Expansion in May 2020, and it has been conditionally awarded $470 million in a Proposition 1 Water Storage Investment Program funding by the California Water Commission. The Final Federal Feasibility Report with the attached EIS/EIR was delivered by USBR to Congress in August 2020 and provides for a federal cost share of up to 25 percent of total project capital costs. A Joint Powers Authority (JPA) is anticipated to be formed in the summer of 2021 to implement the Phase 2 Expansion.

Untreated Water Reservoirs

CCWD has four untreated water storage reservoirs—Los Vaqueros, Contra Loma, Mallard, and Martinez—with a total storage capacity of approximately 165,000 acre-feet. The Los Vaqueros Reservoir has a capacity of to 160,000 acre-feet and is located 8 miles south of Brentwood. The reservoir stores higher quality Delta water for blending with the Delta supply during dry periods when salinity levels typically increase. Besides improving water quality for CCWD's customers, the reservoir stores water for emergency use by providing a minimum of 70,000 acre-feet of emergency supply in wetter years and 44,000 acre-feet in dry years that could be used during an extreme drought or a catastrophic interruption of CCWD's Delta supplies. Additionally, the reservoir provides environmental benefits including reduced impacts on Delta fisheries.

Contra Loma Reservoir is used primarily as a regulating reservoir for peak demands on the Canal, short-term (1–7 days) supplies, and for emergency storage. The reservoir has an operating capacity of about 2,100 acre-feet. Mallard Reservoir provides water to Bollman WTP and is used as a storage facility for emergency use, flow regulation, and blending of the different sources of supply. The reservoir has a usable capacity of about 3,100 acre-feet.

Martinez Reservoir, located in Martinez, is at the terminus of the Canal and the Shortcut Pipeline, and has an available capacity of about 276 acre-feet. This water is primarily used by the City of Martinez for its treatment plant and for the Martinez Refining Company (formerly Shell Oil Refinery). It also provides regulating storage to capture flows from Canal operations.

Treated Water Facilities

CCWD operates three water treatment facilities, the 75 million gallons per day (mgd) Bollman WTP, the 50 mgd Randall-Bold WTP, and the 16.5 mgd City of Brentwood WTP. The Bollman WTP serves CCWD's treated water customers in the central county, and under special agreement, provides treated water to Golden State Water Company (GSWC) for the community of Bay Point. The 75 mgd Bollman WTP treatment process includes coagulation, flocculation, sedimentation, filtration, ozonation, and disinfection.

The Randall-Bold Water Treatment Plant (Randall-Bold WTP), located in Oakley, was constructed in 1992 and is jointly owned with the DWD. The treatment process includes a grit basin, influent mixing basin, flocculation, sedimentation, intermediate and post-ozonation, and disinfection. In addition to providing treated water for the DWD, Randall-Bold WTP provides treated water to CCWD's treated water service area and wholesale municipal customers (GSWC, Antioch, and Brentwood). The Multi-Purpose Pipeline (MPP), constructed in 2003, is a 21-mile pipeline that transports treated water to central Contra Costa County from the Randall-Bold WTP and to wholesale municipal customers.

CCWD entered into an agreement with the City of Brentwood in 2004 to treat water for customers in the portion of the City located outside CCWD's service area boundary. Under this agreement, CCWD constructed, and continues to operate, the Brentwood WTP adjacent to Randall-Bold WTP in 2008. Treatment processes at this plant include coagulation, flocculation, sedimentation, filtration, ozonation, and disinfection.

CCWD owns and operates distribution facilities to provide treated water to the treated water service area in central Contra Costa County. Water is pumped from the Bollman WTP and Randall-Bold WTP (via the MPP) to eight pressure zone distribution system through approximately 800 miles of pipeline ranging in diameter from 2 to 66 inches. There are 40 active storage reservoirs with a total storage capacity of approximately 72 million gallons. Thirty pump stations are used to deliver the water and maintain water pressure within the distribution system to serve the approximately 61,000 active service connections.

Water Use and Supplies

CCWD's current and project demand and water supply under average, single-dry, and multiple-dry year scenarios in five-year increments are summarized in Table 3.15-1. The projections indicate that CCWD would have adequate water supply under the average, single-dry, and the first three multiple-dry year scenarios; however, demand management measures (i.e., water conservation) would be required for the fourth and fifth multiple-dry year scenarios.

Table 3.15-1: Projected Supply and Demand Comparison

Year Type	CCWD Demand	CCWD Supply	Short-term Demand Management	
			Acre-feet	Percent of Demand
Near–term(b)				
Average	126,300	203,300	–	0%
Single-Dry	126,300	162,100	–	0%

Year Type	CCWD Demand	CCWD Supply	Short-term Demand Management	
			Acre-feet	Percent of Demand
Multiple-Dry Year 1	126,300	159,700	–	0%
Multiple-Dry Year 2	126,300	151,200	–	0%
Multiple-Dry Year 3	126,300	134,200	–	0%
Multiple-Dry Year 4	126,300	125,700	600	0%
Multiple-Dry Year 5	126,300	117,200	9,100	7%
2025				
Average	147,300	216,600	–	0%
Single-Dry	147,300	174,000	–	0%
Multiple-Dry Year 1	147,300	175,900	–	0%
Multiple-Dry Year 2	147,300	166,400	–	0%
Multiple-Dry Year 3	147,300	148,000	–	0%
Multiple-Dry Year 4	147,300	139,100	8,200	5%
Multiple-Dry Year 5	147,300	130,300	17,000	11%
2030				
Average	157,300	235,500	–	0%
Single-Dry	157,300	189,100	–	0%
Multiple-Dry Year 1	157,300	191,700	–	0%
Multiple-Dry Year 2	157,300	181,500	–	0%
Multiple-Dry Year 3	157,300	161,700	–	0%
Multiple-Dry Year 4	157,300	152,100	5,200	3%
Multiple-Dry Year 5	157,300	142,500	14,800	9%
2035				
Average	165,000	240,600	–	0%
Single-Dry	165,000	193,100	–	0%
Multiple-Dry Year 1	165,000	195,800	–	0%
Multiple-Dry Year 2	165,000	185,400	–	0%
Multiple-Dry Year 3	165,000	165,300	–	0%
Multiple-Dry Year 4	165,000	155,500	9,500	6%
Multiple-Dry Year 5	165,000	145,800	19,200	12%
2040				
Average	171,300	242,000	–	0%
Single-Dry	171,300	194,200	–	0%
Multiple-Dry Year 1	171,300	196,900	–	0%
Multiple-Dry Year 2	171,300	186,500	–	0%

Year Type	CCWD Demand	CCWD Supply	Short-term Demand Management	
			Acre-feet	Percent of Demand
Multiple-Dry Year 3	171,300	166,400	4,900	3%
Multiple-Dry Year 4	171,300	156,600	14,700	9%
Multiple-Dry Year 5 [c]	171,300	146,900	24,400	14%
2045				
Average	175,900	243,000	–	0%
Single-Dry	175,900	194,900	–	0%
Multiple-Dry Year 1	175,900	197,600	–	0%
Multiple-Dry Year 2	175,900	187,200	–	0%
Multiple-Dry Year 3	175,900	167,100	8,800	5%
Multiple-Dry Year 4	175,900	157,300	18,600	11%
Multiple-Dry Year 5[c]	175,900	149,500	26,400	15%

Notes:
AFY = acre-feet per year
CCWD = Contra Costa Water District
[a] CCWD demand and available supply is net of conservation savings.
[b] Demands shown for Near–term are based on actual 2020 demands.
[c] CCWD supply in the fifth year of a multiple-dry year period in 2040 includes a planned purchase of 1,900 acre-feet in 2045, consistent with the District's Future Water Supply Study.
Source: Contra Costa Water District (CCWD) 2021.

Existing Facilities and Consumption

The project site has an existing 1.25-inch diameter service lateral that connects to an existing 8-inch diameter water line in Jones Road. There is a second 1.25-inch diameter service lateral that connects to an existing 12-inch diameter water line in Oak Road.

The former Palmer School for Boys and Girls, a private K-8 school, operated at the project site from 1939 until its closure due to COVID-19 in June 2020. A November 2019 CCWD water bill for the Palmer School, which coincided with the school's final academic year, indicated that it consumed an average of 1,202 gallons per day during the prior 12 months.

Wastewater

The Central Contra Costa County Sanitary District (Central San) provides wastewater collection and treatment to all or portions of the incorporated cities and towns of Danville, Lafayette, Martinez, Moraga, Orinda, Pleasant Hill, San Ramon, and Walnut Creek, and unincorporated communities of Alamo, Blackhawk, Contra Costa Centre, and Pacheco. In addition, Central San provides treatment, but not collection, for the cities of Concord and Clayton. The total population served within the 147-square mile Central San service area is approximately 488,900. Central San is an independent public utility agency governed by an elected five-member Board of Directors.

Collection System

Central San's sewer collection infrastructure consists of approximately 1,540 miles of underground pipe and 18 pumping stations. Wastewater flows from Walnut Creek are conveyed north to Central San treatment plant.

Treatment Plant

Central San treats sewage at its treatment plant in Martinez. The treatment plant has a dry weather effluent discharge limit of 54 mgd, and wet weather flow of 240 mgd. The treatment plant uses ultraviolet disinfection and has secondary treatment capabilities. A portion of the treated effluent receives additional treatment and is used as recycled water; the remaining effluent is released into Suisun Bay via an outfall. The treatment plant is in compliance with all applicable federal and State environmental health and safety standards for treated wastewater. The plant obtains 90 percent of its electricity through a methane cogeneration system with a nearby landfill.

Existing Facilities and Effluent Generation

The project site has an existing 6-inch diameter service lateral that connects to an existing 12 to 18-inch diameter sewer line in Jones Road. There is a second 4-inch diameter service lateral that connects to an existing 6-inch diameter storm drain line in Oak Road.

Using the average daily water consumption of 828 gallons per day, average daily effluent generation was estimated to be 433 gallons per day.[1]

Storm Drainage

The Contra Costa County Flood Control and Water Conservation District owns and maintains drainage facilities within the unincorporated County.

Existing Facilities

Approximately 60 percent of the project site (155,600 square feet) consists of impervious surfaces. Roughly 78 percent of the site drains to Oak Road and into a 30-inch diameter storm drain line. The remaining 22 percent of the site drains to Jones Road via a 12-inch diameter service lateral that connects to an existing 15-inch diameter storm drain line.

Solid Waste

Central Contra Costa County Solid Waste Authority (RecycleSmart) is a joint powers agency that oversees solid waste management to the incorporated cities and towns of Danville, Lafayette, Moraga, Orinda, Walnut Creek, and nearby unincorporated areas of Contra Costa County. RecycleSmart contracts with Republic Services to provide solid waste collection and disposal services for residents and businesses.

[1] 1,202 gallons/day x 0.4 (Domestic water use as a percentage of total water use) x 0.9 (The percentage of domestic water that enters the wastewater system)

Landfills

The three regional landfills that serve the County are summarized in Table 3.15-2. The three landfills have a combined 136.2 million cubic yards in remaining capacity.

Table 3.15-2: Landfill Summary

Landfill	Location	Maximum Daily Throughput (tons)	Remaining Capacity (cubic yards)
Altamont Landfill	Livermore	11,150	65.4 million
Vasco Road Sanitary Landfill	Livermore	2,518	7.4 million
Keller Canyon Landfill	Pittsburg	3,500	63.4 million
Source: CalRecycle 2021.			

3.15.3 - Regulatory Framework

Federal

Safe Drinking Water Act

The Safe Drinking Water Act authorizes the United States Environmental Protection Agency (EPA) to establish national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and man-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all water providers in the United States to treat water to remove contaminants, except for private wells serving fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities.

National Pollutant Discharge Elimination System

Pursuant to Section 402 of the CWA and the Porter-Cologne Water Quality Control Act, municipal stormwater discharges in the City of American Canyon are regulated under the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit, Municipal Separate Storm Sewer System (MS4) Order No. 2013-001 (General Permit). In 1987, Congress amended the Clean Water Act to mandate controls on discharges from MS4s. Acting under the federal mandate and the California Water Code, California Water Boards require cities, towns, and counties to regulate activities that can result in pollutants entering their storm drains. All municipalities prohibit non-stormwater discharges to storm drains and require residents and businesses to use Best Management Practices (BMPs) to minimize the amount of pollutants in runoff. The Municipal Regional Permit is overseen by the Regional Water Board. On February 5, 2013, California's State Water Resources Control Board reissued the Phase II Stormwater NPDES Permit for small MS4s. Provision E.12, "Post-Construction Stormwater Management Program," mandates municipalities to require specified features and facilities—to control pollutant sources, control runoff volumes, rates, and durations, and to treat runoff before discharge from the site—be included in development plans of projects that create or replace 5,000 square feet or more

impervious surface as conditions of issuing approvals and permits. The new requirements continue a progression of increasingly stringent requirements since 1989.

Provision E.12 requires all municipal permittees to implement these requirements by June 30, 2015, to the extent allowed by applicable law. This includes projects requiring discretionary approvals that have not been deemed complete for processing and discretionary permit projects without vesting tentative maps that have not requested and received an extension of previously granted approvals.

In July of 2014, the Bay Area Stormwater Management Agencies Association (BASMAA), through the BASMAA Phase II Committee, created the BASMAA Manual to assist applicants for development approvals to prepare submittals that demonstrate their project complies with the NPDES permit requirements. Applicants who seek development approvals for applicable projects should follow the manual when preparing their submittals. The manual is designed to ensure compliance with the requirements and promote integrated Low Impact Development (LID) design.

Section E.12.c of the General Permit pertains to LID and how it relates to hydromodification management. This Permit provision requires that stormwater discharges not cause an increase in the erosion potential of the receiving stream over the existing condition. Increases in runoff flow and volume must be managed so that the post-project runoff does not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force.

State

California Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State must adopt water quality policies, plans, and objectives that protect the State's waters for the use and enjoyment of the people. Regional authority for planning, permitting, and enforcement is delegated to the nine Regional Water Quality Control Boards (RWQCBs). The Porter-Cologne Act sets forth the obligations of the California State Water Resources Control Board (State Water Board) and the nine RWQCBs, which engage in a number of water quality functions in their respective regions and regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. The San Francisco Bay RWQCB is responsible for the project site.

California Water Code Section 10910

Section 10910 of the California Water Code (as revised by Senate Bill 610) requires: "The city or county, at the time, that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act, pursuant to Section 21080.1 of the Public Resources Code, . . . [to] identify a water system . . . that may supply water for the project," and to prepare a Water Supply Assessment to address the increased water use over existing conditions. The Water Supply Assessment is intended to:

1. Identify the water system or systems that would (or may) supply water to the proposed project;
2. Compare project water demands with those projections included in the most-recently adopted Urban Water Management Plan or Plans for those service providers; and
3. Assess whether the public water system's total projected water availability for the entire system(s) during normal, single-dry, and multiple-dry years over a 20-year period will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses (including agricultural and manufacturing uses).

California Water Code Section 10910(4)(d) requires a discussion of existing water supply entitlements, water rights, or water service contracts relevant to the public water system(s). Also, Section 10910 (2)(f) requires that "If a water supply for a proposed project includes groundwater, the following additional information shall be included in the Water Supply Assessment: (1) a review of any information contained in the UWMP relevant to the identified water supply for the proposed project (2) a description of any groundwater basin or basins from which the proposed project will be supplied."

California Urban Water Management Planning Act

The Urban Water Management Planning Act (California Water Code §§ 10610-10656) requires that all urban water suppliers prepare UWMPs and update them every 5 years. The act requires that UWMPs include a description of water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions. Specifically, UWMPs must:

- Provide current and projected population, climate, and other demographic factors affecting the supplier's water management planning.
- Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier.
- Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.
- Describe plans to supplement or replace that source with alternative sources or water demand management measures.
- Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis (associated with systems that use surface water).
- Quantify past and current water use.
- Provide a description of the supplier's water demand management measures, including schedule of implementation, program to measure effectiveness of measures, and anticipated water demand reductions associated with the measures.
- Assess the water supply reliability.

California Health and Safety Code

Section 64562 of the California Health and Safety Code establishes water supply requirements for service connections to public water systems. Before additional service connections can be permitted, enough water must be available to the public water system from its water sources and distribution reservoirs to meet the total requirements of all water users adequately, dependably, and safely under maximum-demand conditions.

California Senate Bills 610 and 221

Senate Bill (SB) 610 and SB 221 (Water Code § 10910(c)(2)) amended State law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 seek to promote more collaborative planning between local water suppliers and cities and counties by requiring that detailed information regarding water availability be provided to decision-makers prior to approval of specified large development projects. SB 610 requires that detailed information be included in a Water Supply Assessment (WSA), which is then included in the administrative record that serves as the evidentiary basis for an approval action by a city or county. SB 221 requires that the detailed information be included in a verification of water supply. Under SB 610, WSAs must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code Section 10912(a)) subject to the California Environmental Quality Act (CEQA). A WSA was included in the EBMUD 2015 UWMP that addresses the current and planned future water supply and demand of the water supplier, and makes a determination of the sufficiency of its water supplies existing and planned future uses, including the project site.[2]

California Water Conservation Act

The California Water Conservation Act (SB X7-7) was enacted in November 2009 and requires each urban water supplier to select one of four water conservation targets contained in California Water Code Section 10608.20 with the statewide goal of achieving a 20 percent reduction in urban per capita water use by 2020. Under SBX7-7, urban retail water suppliers are required to develop water use targets and submit a water management plan to the Department of Water Resources (DWR) by July 2011. The plan must include the baseline daily per capita water use, water use target, interim water use target, and compliance daily per capita water use.

California Model Water Efficient Landscape Ordinance

The Model Water Efficient Landscape Ordinance was adopted by the Office of Administrative Law in September 2009 and requires local agencies to implement water efficiency measures as part of their review of landscaping plans. Local agencies can either adopt the Model Water Efficient Landscape Ordinance or incorporate provisions of the Ordinance into code requirements for landscaping. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed the DWR to update the State's Model Water Efficient Landscape Ordinance (Ordinance) through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015.

[2] East Bay Municipal Utility District (EBMUD). 2021. Urban Water Management Plan 2020 Public Draft. April. Website: https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan/. Accessed June 17, 2021.

New development projects that include landscape areas of 500 square feet or more are subject to the Ordinance. This applies to residential, commercial, industrial, and institutional projects that require a permit, plan check, or design review. The previous landscape size threshold for new development projects ranged from 2,500 square feet to 5,000 square feet. The size threshold for existing landscapes that are being rehabilitated has not changed, remaining at 2,500 square feet. Only rehabilitated landscapes that are associated with a building or landscape permit, plan check, or design review are subject to the Ordinance.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed Assembly Bill (AB) 939, the California Integrated Waste Management Act of 1989, effective January 1990. The legislation required each local jurisdiction in the State to set diversion requirements of 25 percent by 1995 and 50 percent by 2000; established a comprehensive statewide system of permitting, inspections, enforcement, and maintenance for solid waste facilities; and authorized local jurisdictions to impose fees based on the types or amounts of solid waste generated. In 2007, SB 1016, Wiggins, Chapter 343, Statutes of 2008, introduced a new per capita disposal and goal measurement system that moves the emphasis from an estimated diversion measurement number to using an actual disposal measurement number as a per capita disposal rate factor. As such, the new disposal-based indicator (pounds per person per year) uses only two factors: (1) a jurisdiction's population (or in some cases employment) and (2) its disposal as reported by disposal facilities.

Regional

San Francisco Bay Regional Water Quality Control Board

The San Francisco Bay RWQCB administers the NPDES stormwater permitting program and regulates stormwater in the San Francisco Bay region. Contra Costa County is a permittee under the Phase II NPDES Municipal Stormwater Permit for the Contra Costa Clean Water Program. Stormwater discharges from construction activities on 1 acre or more are regulated by the RWQCB and are subject to the permitting requirements of the NPDES General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit).

The San Francisco Bay RWQCB prepared the San Francisco Bay Basin Water Quality Control Plan (Basin Plan).[3] The Basin Plan contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the region and describes beneficial uses of major surface waters and their tributaries.

Local

Contra Costa County General Plan

The General Plan establishes the following goals, policies, and implementation measures related to utilities and service systems relevant to this analysis:

[3] California State Water Resources Control Board (State Water Board). 2021 Triennial Review. Basin Planning. April. Website: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/bp_ch1-7_print.html. Accessed: June 17, 2021.

Public Facilities/Services Element

Goal 7-F To assure potable water availability in quantities sufficient to serve existing and future residents.

Goal 7-G To encourage the development of locally controlled water supplies to meet the growth needs of the County.

Goal 7-H To encourage the conservation of water resources available to the County and to the State.

Goal 7-I To protect and enhance the quality of the water supplied to County residents.

Goal 7-J To ensure that new development pays the costs related to the need for increased water system capacity.

Goal 7-K To provide sewer collection, treatment and disposal facilities adequate to meet the current and projected needs of existing and future residents.

Goal 7-L To provide wastewater treatment that preserves, and to the extent feasible, enhances water quality and the natural environment.

Goal 7-M To develop wastewater reclamation as a supplement to imported surface water supplies.

Goal 7-N To assure that new development pays the costs related to the need for increased sewer system capacity.

Goal 7-Q To employ alternative drainage systems improvements which rely on increased retention capacity to lessen or eliminate the need for structural modifications to watercourses, whenever economically possible.

Goal 7-R To enhance opportunities for public accessibility and recreational use of creeks, streams, drainage channels and other drainage system improvements.

Goal 7-T To ensure that new development pays its fair share of the costs related to increased runoff created by the development.

Goal 7-U To support the concept that existing development pays the cost of building and maintaining drainage improvements required to serve existing developed areas.

Goal 7-AG To reduce the amount of waste disposed of in landfills by:

1) reducing the amount of solid waste generated (waste reduction);
2) reusing and recycling as much of the solid waste as possible;
3) utilizing the energy and nutrient value of the solid waste (waste to energy and composting); and
4) properly disposing of the remaining solid waste (landfill disposal).

Goal 7-AH To divert as much waste as feasible from landfills through recovery and recycling.

Policies

Policy 7-5 The County shall take an active role in coordinating major infrastructure construction within the County, particularly the transportation system network and extension of sewer and water service, to assure consistency of these improvements with the General Plan.

Policy 7-16 Water service systems shall be required to meet regulatory standards for water delivery, water storage and emergency water supplies.

Policy 7-17 Water service agencies shall be encouraged to establish service boundaries and to develop supplies and facilities to meet future water needs based on the growth policies contained in the County and cities' General Plans.

Policy 7-18 Water service agencies should generally be discouraged from constructing new water distribution infrastructure which exceeds future water needs based on the buildout projections of the County General Plan and city general plans.

Policy 7-19 Urban development shall be encouraged within the existing water Spheres of Influence adopted by the Local Agency Formation Commission; expansion into new areas within the Urban Limit Line beyond the Spheres should be restricted to those areas where urban development can meet all growth management standards included in this General Plan.

Policy 7-21 At the project approval stage, the County shall require new development to demonstrate that adequate water quantity and quality can be provided. The County shall determine whether (1) capacity exists within the water system if a development project is built within a set period of time, or (2) capacity will be provided by a funded program or other mechanism. This finding will be based on information furnished or made available to the County from consultations with the appropriate water agency, the applicant, or other sources.

Policy 7-26 The need for water system improvements shall be reduced by encouraging new development to incorporate water conservation measures to decrease peak water use.

Policy 7-29 Sewer treatment facilities shall be required to operate in compliance with waste discharge requirements established by the California Regional Water Quality Control Board. Development that would result in the violation of waste discharge requirements shall not be approved.

Policy 7-30 Sewer service agencies shall be encouraged to establish service boundaries and develop treatment facilities to meet future service needs based on the growth policies contained in the County and cities' General Plans.

Policy 7-31 Urban development shall be encouraged within the sewer Spheres of Influence adopted by the Local Agency Formation Commission. Expansion into new areas within the Urban Limit Line but beyond the Spheres of Influence should be restricted to those areas where urban development can meet growth management standards included in this General Plan.

Policy 7-33 At the project approval stage, the County shall require new development to demonstrate that wastewater treatment capacity can be provided. The County shall determine whether (1) capacity exists within the wastewater treatment system if a development project is built within a set period of time, or (2) capacity will be provided by a funded program or other mechanism. This finding will be based on information furnished or made available to the County from consultations with the appropriate water agency, the applicant, or other sources.

Policy 7-37 The need for sewer system improvements shall be reduced by requiring new development to incorporate water conservation measures which reduce flows into the sanitary sewer system.

Policy 7-38 Watershed management plans shall be developed which encourage the development of detention basins and erosion control structures in watershed areas to reduce peak stormwater flows, as well as to provide wildlife habitat enhancement.

Policy 7-39 Land use plans and zoning shall be the primary means for floodplain management in preference to structural improvements, where possible.

Policy 7-40 Alternative drainage system improvements such as floodplains, leveed floodways, bypass channels and culverts, and detention basins, shall be incorporated into new flood control plans and existing plans as they are revised.

Policy 7-44 New development should be required to finance its legal share of the full costs of drainage improvements necessary to accommodate projected peak flows due to the project. Reimbursement from subsequent developments, which benefit from the added capacity, may be provided.

Policy 7-45 On-site water control shall be required of major new developments so that no significant increase in peak flows occurs compared to the site's pre-development condition, unless the Planning Agency determines that off-site measures can be employed which are equally effective in preventing adverse downstream impacts expected from the development or the project is implementing an adopted drainage plan.

Policy 7-51 Detention basins shall be designed for multiple uses such as parks and playing fields when not used for holding water if liability and maintenance issues can be satisfactorily resolved.

Policy 7-55 As appropriate and to the extent allowed by law, assess all new development projects at least $0.35 per square foot of impervious surface created. This drainage fee is to be collected through existing County Flood Control drainage area fee ordinances, newly adopted drainage area fee ordinances, existing and new assessment districts, or other financial entities. The fee may be applied to the cost of any developer-sponsored regional flood control improvements on- or off-site, which mitigate the project's flooding impacts. Regional facilities are defined as systems sized to handle at least 15 cubic feet per second and suitable for public agency maintenance, i.e., 24-inch diameter and larger storm drains.

Policy 7-91 Solid waste resource recovery (including recycling, composting, and waste to energy) shall be encouraged so as to extend the life of sanitary landfills, reduce the environmental impact of solid waste disposal, and to make use of valuable resources, provided that specific resource recovery programs are economically and environmentally desirable.

Contra Costa County Ordinance Code

Title 8 Chapter 82-26—Water Conservation Landscaping in New Developments

The Water Conservation in Landscaping Act was enacted in 2006, requiring the DWR to update the Model Water Efficient Landscape Ordinance (MWELO). In 2009, the Office of Administrative Law (OAL) approved the updated MWELO, which required a retail water supplier or a county to adopt the provisions of the MWELO by January 1, 2010, or to enact its own provisions equal to or more restrictive than the MWELO provisions. Since the County did not adopt a new landscape Ordinance by January 1, 2010, the proposed project is subject to the MWELO as amended.

Title 9 Division 916—Water and Sewers

Title 9, Division 916, requires that adequate approved water supply system shall be provided to serve all of a proposed subdivision, that landscaping conform to applicable water conservation requirements, and that sewerage shall be provided to a proposed subdivision by a public sanitation district or utility having adequate plant and facility capacity.

Title 10 Division 1010—Drainage

Title 10, Division 1010, is adopted to provide for the implementation of drainage, recreation, and riparian vegetation provisions of the General Plan, protect watercourse riparian vegetation, permit control of projects that may change the hydraulic characteristics of watercourses and drainage facilities, control erosion and sedimentation, prevent the placement or discharge of polluting matter into watercourses, and require adequate watercourse drainage facilities.

Title 4 Chapter 418-10—Recycling Requirements for Landfill Disposal

Chapter 418-10 of the Contra Costa County Ordinance Code requires waste from the haulers of a local agency to meet minimum resource recovery requirements in order to dispose of solid waste in landfills located in the unincorporated area of the County.

Contra Costa Water District 2015 Urban Water Management Plan

The CCWD prepared the CCWD 2015 UWMP to meet the requirements of the California Urban Water Management Planning Act. The CCWD 2015 UWMP evaluates sources of the water supply for the County's project population and future water demand until 2040, the planning horizon. The CCWD 2015 UWMP is intended to help facilitate implementation of SB 610 and SB 221.

3.15.4 - Impacts and Mitigation Measures

According to the CEQA Guidelines Appendix G Environmental Checklist, to determine whether impacts to utilities and service systems are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple-dry years?

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e) Comply with federal, State, and local statutes and regulations related to solid waste?

Approach to Analysis

Wastewater production was calculated and compared with WCWD treatment capacity to determine whether wastewater treatment requirements would be exceeded. In addition, the demand for potable water was calculated to assist in determining whether enough water supply would be available. The County's wastewater discharge permitting and stormwater requirements were also reviewed.

The following evaluation discusses whether the proposed project would result in direct impacts on utilities and service systems such as existing wastewater and stormwater drainage facilities, water supply, or water treatment facilities. The evaluation also discusses whether the proposed project would result in indirect impacts on utilities and services systems, such as construction impacts from new stormwater drainage systems. The analysis involved reviewing published data and material provided by the EBMUD, WCWD, CalRecycle, the County, and the site-specific Stormwater Control Plan and Preliminary Hydrology and Hydraulics Calculations prepared by Ruggeri-Jensen-Azar (included in Appendix G).

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of utilities and service systems impacts resulting from implementation of the proposed project.

- Create a need for relocated, new, or expanded water supply, wastewater treatment, or stormwater drainage facilities, the construction of which would result in significant construction-related traffic, air quality, greenhouse gas (GHG) emissions, energy, or noise impacts. Determination of significance of construction-related traffic, air quality, GHG emissions, or noise impacts is based on the respective specific thresholds of significance listed in Section 3.2, Air Quality; Section 3.5, Energy; Section 3.7, Greenhouse Gas Emissions; Section 3.11, Noise; and Section 3.13, Transportation.
- Result in insufficient water supply to serve the project's potable water demand.
- Inadequate capacity at the WCWD Treatment Plant to serve the project's wastewater generation.
- Insufficient daily capacity or permitted daily capacity at the Altamont Landfill, Vasco Road Sanitary Landfill, and Keller Canyon Landfill to serve the project's waste generation.
- Unable to comply with AB 939 solid waste diversion goals.

Impact Evaluation

Water

Impact UTIL-1:	**The proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects..**

Water

Water supply would be provided to the proposed project by the CCWD. Because the project site is currently served by the CCWD, its water consumption is factored into the UWMP's planning projections. Thus, adequate water supplies are available to serve the proposed project and no new or expanded water treatment or conveyance facilities would be required. Furthermore, as discussed under Impact UTIL-2 below, the proposed project would not create the need for new water facilities or result in inefficient water supply.

The proposed project would install a new on-site looped water distribution system consisting of 6 to 10-inch diameter pipes that would connect via service lateral to an existing 12-inch diameter water line in Oak Road.

CCWD provided a letter to the applicant dated November 10, 2020, confirming it could serve the proposed project and providing standard requirements for new service connections (e.g., separate metering of domestic, fire, and irrigation). Impacts would be less than significant.

Wastewater Treatment

The proposed project would install a new on-site sewer collection system consisting of 8-inch diameter pipes that would discharge via service lateral to an existing 18-inch diameter sewer line in Jones Road.

Central San provided comments to the applicant dated August 4, 2020, confirming it could serve the proposed project providing standard requirements for new service connections (e.g., payment of connection fees). As described under Impact UTIL-3 below, Central San would contain sufficient capacity to serve all aspects of the project, and a new or expanded wastewater treatment facility would not be required. Therefore, impacts related to wastewater treatment facilities would be less than significant.

Stormwater Drainage

The proposed project would remove the existing improvements and structures and develop 125 townhomes on the project site. There would be a net increase of 40,136 square feet of impervious surfaces relative to existing conditions (155,600 square feet vs. 195,736 square feet).

Under existing conditions, the project site currently has 2.5 acres of impervious surfaces draining to Oak Road and 1.1 acres of impervious surfaces draining to Jones Road. The proposed project would result in 2.2 acres of impervious surfaces draining to Oak Road and 3 acres of impervious surfaces draining to Jones Road. Thus, there would be a net decrease in drainage to Oak Road and a net increase in drainage to Jones Road. As such, the proposed project would need to provide 2,900 cubic feet of runoff storage on-site in the form of bioretention basins.

The proposed project would install an on-site storm drainage system. Inlets would capture surface runoff, where it would enter an underground piping system ranging from 12 to 18 inches in diameter that would convey stormwater to bioretention basins or hydromodification vaults. The basins and vaults would be designed to promote percolation into the soil and would release runoff into the municipal drainage system at a rate no greater than the pre-development condition of the project site.

In accordance with applicable provisions of Section C.3 of the San Francisco Bay Regional Water Quality Control Board Municipal Regional Permit (Order No. R2-2015-0049, NPDES Permit No. CAS612008) (or more recent permit) as required under Mitigation Measure (MM) HYD-1b, the proposed project would implement LID stormwater management methods into the on-site storm drainage system consisting of rainwater harvesting and use, infiltration, evapotranspiration, or biotreatment.

Collectively, these measures would serve to slow, reduce, and meter the volume of runoff leaving the project site and ensure that downstream storm drainage facilities are not inundated with project-related stormwater. Impacts related to stormwater drainage facilities would be less than significant.

Electric Power

Electricity services would be provided by the Pacific Gas and Electric Company (PG&E). Existing overhead utility lines along the proposed project frontage on Oak Road and Jones Road would be relocated underground. As discussed in detail in Section 3.5, Energy, Impacts related to energy use from electric power would be less than significant. Therefore, the proposed project would not result in the relocation or construction of new or expanded electric power facilities, and impacts would be less than significant.

Natural Gas

No gas service would be provided to the proposed project. As discussed in Section 3.5, Energy, the proposed project would not result in the use of any natural gas. Therefore, there would be no impacts related to natural gas facilities.

Telecommunications

AT&T would provide phone services, and Comcast would provide phone and high-speed internet services to the project site. The proposed project would not require the construction or expansion of telecommunications facilities because it is located in an urban area that already contains sufficient telecommunications facilities. Therefore, impacts related to need for relocation or construction of new or expanded telecommunications facilities would be less than significant.

Level of Significance

Less than significant impact.

Wastewater

Impact UTIL-2: **The proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple-dry years.**

Construction

Impacts related to sufficient water supplies are limited to operational impacts. No respective construction impacts would occur.

Operation

Table 3.15-3 summarizes the proposed project's estimated water consumption. As shown in the table, the proposed project would demand a net increase of 64,843 gallons of water per day, which equates to 72.6 acre-feet per year. This amount of water represents less than 1 percent of both CCWD's 2025 average water year supply value of 216,600 acre-feet and CCWD's 2025 single-dry year value of 174,000 shown in Table 3.15-1.

Table 3.15-3: Water Consumption Estimate

Dwelling Units	Persons Per Household	CCWD Baseline Per Capita Consumption	Proposed Project Daily Water Consumption	Existing Daily Water Consumption	Net Increase in Daily Water Consumption	Net Increase in Annual Water Consumption
125	2.85	185 gallons/day	66,045 gallons	(1,202 gallons)	64,843	72.6 acre-feet

Dwelling Units	Persons Per Household	CCWD Baseline Per Capita Consumption	Proposed Project Daily Water Consumption	Existing Daily Water Consumption	Net Increase in Daily Water Consumption	Net Increase in Annual Water Consumption
Notes: 1 acre-foot = 325,851 gallons Persons per household obtained from California Department of Finance for unincorporated Contra Costa County (2021) Contra Costa Water District Baseline Per Capita Consumption obtained from 2020 Urban Water Management Plan Source: FirstCarbon Solutions (FCS) 2021.						

Accordingly, adequate water supplies would be available to serve the project from existing and planned supplies. Therefore, impacts related to sufficient water supply availability would be less than significant.

Level of Significance

Less than significant impact.

Storm Drainage

Impact UTIL-3: **The proposed project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.**

Construction

Impacts related to sufficient water supplies are limited to operational impacts. No respective construction impacts would occur.

Operation

Summarizes the proposed project's estimated wastewater generation. As shown in the table, the proposed project would generate an estimated 23,344 gallons per day (0.024 mgd). This amount of wastewater represents less than 1 percent of the Central San's treatment plant daily discharge limit of 54 mgd. Thus, no new or expanded wastewater treatment or conveyance facilities would be required.

Table 3.15-4: Wastewater Generation Estimate

Daily Walter Consumption	Domestic Consumption (40% of Daily Consumption)	Daily Wastewater Generation (90% of Domestic Consumption)	Existing Daily Effluent Generation	Net Increase in Effluent Generation
66,045 gallons	26,418 gallons	23,777 gallons	433 gallons	23,344 gallons (0.024 mgd)
Notes: mgd = million gallons per day Source: FirstCarbon Solutions (FCS) 2021.				

Therefore, the wastewater treatment provider, Central San, would have adequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments. Furthermore, as discussed in Impact UTIL-1, Central San provided comments to the applicant dated August 4, 2020, confirming it could serve the proposed project providing standard requirements for new service connections (e.g., payment of connection fees). Therefore, impacts would be less than significant.

Level of Significance

Less than significant impact.

Solid Waste

Impact UTIL-4: **The proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.**

Construction Solid Waste Generation

Construction waste generation is summarized in Table 3.15-5. As shown in the table, the proposed project would generate 4,480 cubic yards of construction and demolition waste. The three regional landfills have 136.2 million cubic yards of remaining capacity and, thus, can accommodate the construction solid waste generated by the proposed project.

Table 3.15-5: Construction and Demolition Solid Waste Generation Estimate

Activity	Waste Generation Rate	Square Feet	Solid Waste Generation	
			Tons	Cubic Yards
Demolition	155 pounds/square foot	35,000*	2,713	3,799
Construction	3.89 pounds/square feet	250,000	487	682
Total			**3,200**	**4,481**

Notes:
* Existing buildings estimated at 35,000 square feet
1 ton = 2,000 pounds
1 ton = 1.4 cubic yards
Each dwelling unit estimated to be 2,000 square feet (132,000 square feet)
Source: United States Environmental Protection Agency (EPA) 1998; FirstCarbon Solutions (FCS) 2021.

As a practical matter, Construction and Demolition Debris Recycling practices would divert most, if not all, construction solid waste from landfills. Waste haulers dumping construction debris at transfer stations or landfills are given the option of construction and demolition debris recycling, which typically costs less than dumping in the municipal solid waste stream. Construction and demolition debris recycling involves diverting recoverable materials for reuse or reprocessing, while non-recoverable materials are ground up into Alternative Daily Cover for use at landfills. Impacts would be less than significant.

Operational Solid Waste Generation

Operational waste generation is summarized in Table 3.15-6. As shown in the table, the proposed project would generate 321 cubic yards of solid waste annually. The three regional landfills have 136.2 million cubic yards of remaining capacity and, thus, can accommodate the solid waste generated by the proposed project at operation.

Table 3.15-6: Operational Solid Waste Generation Estimate

Use	Waste Generation Rate	Count	Solid Waste Generation	
			Tons	Cubic Yards
Residential	3,650 pounds/dwelling unit/year	125 dwelling units	229	321

Notes:
1 ton = 2,000 pounds
1 ton = 1.4 cubic yards
Source: FirstCarbon Solutions (FCS) 2021.

Republic Services provides recycling and green waste collection to customers. Aluminum, glass, plastic, paper, carboard, and organic waste are collected and diverted from the waste stream. As such, the values discussed in the table above likely overstate the solid waste generation that would be expected to occur from the proposed project. Impacts would be less than significant.

Level of Significance

Less than significant impact.

Solid Waste Regulations Consistency

Impact UTIL-5: The proposed project would comply with federal, State, and local statutes and regulations related to solid waste.

Construction

During construction, the proposed project would be required to comply with the County's Municipal Code Title 4 Division 418-2.028 related to solid waste reduction and recycling measures. These measures would ensure compliance with the Integrated Waste Management Act by ensuring project construction waste is transferred to facilities that can adequately recycle solid waste. Thus, with compliance with existing County Municipal Code and the Integrated Waste Management Act, the project would comply with applicable solid waste regulations and statutes during construction, and construction-related impacts would be less than significant.

Operation

During project operation, the proposed project would be required to comply with applicable State and local regulations related to solid waste such as the California Integrated Waste Management Act and Title 4 Chapter 418 of the Contra Costa County Municipal Code. Adherence to the County Municipal Code would ensure sufficient solid waste collection and transportation is available to the project, and would also ensure that disposal sites contain sufficient capacity through permit review

and inspections, and recycling programs are implemented in order to divert waste. As such, project operation would not impede the ability of the County to meet waste diversion requirements or cause the County to violate State and local statutes and regulations related to solid waste. Therefore, with compliance with existing State and County law requiring recycling and waste diversion from landfill requirements, operational impacts related to solid waste regulations consistency would be less than significant.

Level of Significance

Less than significant impact.

3.15.5 - Cumulative Impacts

Water

The geographic scope of the cumulative potable water analysis is the service area of the CCWD, which provides potable water to residents and businesses within the County. The CCWD considered the existing capacity and future demand for capacity to determine needed updates to water facilities. In the course of preparing the UWMP, the CCWD estimated water demand of future development in the service area and forecast the needed facility upgrades. The forecast included supply facility upgrades needed to accommodate growth in the County.

Cumulative projects listed in Table 3-1 (refer to Chapter 3, Environmental Impacts Analysis, Table 3-1, Cumulative Projects) are located within the CCWD service area and would create water supply demand. The CCWD 2015 UWMP determined that CCWD would be able to provide adequate water supplies to the County and cumulative projects area.[4] The County would have adequate water supplies to serve the cumulative projects during normal and dry years.[5] In addition, cumulative projects listed in Table 3-1, would be required to comply with provisions of the County Code and California Green Building Code related to water conservation. Therefore, the proposed project, in conjunction with identified cumulative projects in Contra Costa County, would result in a less than significant cumulative impact related to water supply and water supply facilities.

Wastewater

The geographic scope of the cumulative wastewater analysis is the service area of Central San, which provides wastewater collection and treatment services for contracted cities and residents and business in unincorporated County land. Central San considered the existing capacity and future demand for capacity to determine needed updates to wastewater and recycled water facilities. In the course of preparing the Comprehensive Wastewater Master Plan, Central San estimated wastewater generated from future development in the service area and forecast the needed facility upgrades. The forecast included treatment facility upgrades needed to accommodate growth in the County and maintain compliance with applicable regulatory standards for wastewater treatment and discharge.

[4] Contra Costa Water District. 2016. 2015 Urban Water Management Plan for the Contra Costa Water District. June 2016. Website: https://www.ccwater.com/DocumentCenter/View/2216/2015-Urban-Water-Management-Plan-PDF?bidId=. Accessed June 17, 2021.

[5] Ibid.

Cumulative projects listed in Table 3-1 are located in the Central San service area and would generate volumes of wastewater. The Comprehensive Wastewater Master Plan determined that capacity exists to service the County and cumulative projects area demand with respect to wastewater treatment facilities. Therefore, the proposed project, in conjunction with identified cumulative projects in Contra Costa County would result in a less than significant cumulative impact related to wastewater generation and wastewater treatment facilities.

Storm Drainage

The geographic scope for cumulative storm drainage is the areas that drain to Walnut Creek, which is the watershed the project site lies within. Cumulative projects listed in Table 3-1 predominantly consist of commercial and non-residential uses located in unincorporated Contra Costa County, the City of Walnut Creek, or the City of Pleasant Hill that generate volumes of stormwater. The proposed project may be required to construct improvements such that the storm drain line is adequate, which may include an expansion of this stormwater facility to ensure that adequate capacity is maintained. Therefore, the proposed project, in conjunction with the construction of other projects and Table 3-1, would not result in a significant cumulative impact related to stormwater generation and stormwater drainage facilities.

Solid Waste

RecycleSmart, a JPA, oversees regional waste diversion programs and contracts for the solid waste recycling collection services provided within this area of the County. Cumulative projects listed in Table 3-1 consist predominantly of residential uses and would generate solid waste that would increase demand on solid waste facilities to receive, process, and dispose solid waste.

The three regional landfills that serve the County have a combined remaining capacity of 136.2 million cubic yards. The anticipated waste volume of cumulative projects development would be 321 cubic yards per year that represents less than 1 percent of the available capacity. Existing solid waste facilities provide sufficient capacity to serve cumulative development anticipated in the County. Therefore, the proposed project, in conjunction with identified cumulative projects, would result in a less than significant cumulative impact related to solid waste generation and landfill capacity.

Level of Cumulative Significance

Less than significant impact.

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3.16 - Wildfire

3.16.1 - Introduction

This section describes the existing wildfire conditions in the project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to wildfire that could result from implementation of the proposed project. Information in this section is based on information provided by the Contra Costa County General Plan (General Plan), Bay Area Air Quality Management District (BAAQMD), California Department of Forestry and Fire Protection (CAL FIRE), and the Contra Costa County Fire Protection District (CCCFPD). No comments were received during the Notice of Preparation (NOP) comment period related to wildfire.

3.16.2 - Environmental Setting

Wildfire Hazard Area Designations

Contra Costa County

Land uses in the Contra Costa County (County) range from rural, agricultural, and open space to urban and developed. Most of the County is identified as moderately susceptible to wildland fire hazards, while isolated areas in the western and central areas of the County have a high susceptibility.[1] According to the CAL FIRE Fire Hazard Severity Zone Map, much of the County is in a Moderate, High, and Very High Fire Hazard Zone due to the mountainous terrain and natural vegetation.[2]

Project Site

According to CAL FIRE, the project site is not located in a Moderate, High, or Very High Fire Hazard State Responsibility Area.[3] The nearest Fire Hazard Severity Zone is located approximately 2 miles west of the project site (Briones Regional Park) and is designated as a High Fire Hazard Severity Zone.[4]

Wildfire-conducive Conditions

Grasslands and other vegetation in California easily ignite, particularly in dry seasons. Wildfire is a serious hazard in high dry fuel load areas, particularly near areas of natural vegetation and steep slopes, since fires tend to burn more rapidly on steeper terrain. Wildfire is also a serious hazard in areas of high wind, given that fires will travel faster and farther geographically when winds are higher. Furthermore, wildfire is more likely in areas where electric power lines are located above ground where they may encounter vegetation or building materials.

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1 Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan 2005-2020, Safety Element. January 18.

2 California Department of Forestry and Fire Protection (CAL FIRE). 2007 Contra Costa County Fire Hazard Severity Zone in State Responsibility Area. Website: https://osfm.fire.ca.gov/media/6662/fhszs_map7.pdf. November 7. Accessed May 17, 2021.

3 Ibid.

4 Ibid.

Contra Costa County

Land uses in the County range from rural, agricultural, and open space to urban and developed land. According to the CAL FIRE, much of the County is in Fire Hazard Severity Zones due its mountainous terrain and natural vegetation. In particular, areas near open spaces, such as Mount Diablo State Park, Briones Regional Park, and Tilden Regional Park, are located in "High" and "Very High" fire hazard severity zones.[5] In general, the average wind speed in the County ranges from 2 to 12 miles per hour (mph) and blows northeast.[6] Electric power lines mostly occur in urban areas and along roadways. Natural gas pipelines occur frequently across the County, including residential and commercial areas. Natural gas poses a lower risk of causing fire than petroleum products because it is transported at lower pressures and when released, rises and dissipates into the atmosphere.[7] There are petroleum and natural gas pipelines that traverse the western portion of the County, generally near the major roadways of Richmond Parkway and Interstate 80 (I-80).

Project Site

The project site is within the central portion of the County. The site is relatively flat (approximately 90 to 95 feet above mean sea level). The site is developed with structures associated with the former Palmer School for Boys and Girls, a private K-8 school that operated from 1939 until its closure due to COVID-19 in June 2020. These structures include 14 vacant buildings as well as associated structures, including classrooms, an auditorium, a front office, a paved courtyard, a grass field, tennis courts, basketball courts playgrounds, a swimming pool, parking lots, and planters. Several planter boxes, storm drain lines, power boxes, and a partially uncovered pipe which appears to be related to storm drainage are located along the southern boundary of the property. The project site does not contain any creeks or bodies of water. The closest creek to the project site is Walnut Creek, located approximately 1,750 feet to the south. The Contra Costa Canal is approximately 450-600 feet to the south.

The project site is located within an urbanized area and is surrounded by features that provide fuel breaks in the event of a fire, such as I-680, the Contra Costa Canal, Oak Road, and Jones Road.

The BAAQMD monitors the Bay Area's air quality at a number of stations, and the closest station to the project site is located in the City of Concord, approximately 4 miles to the northeast. The average wind speed at this station varied from month to month and ranged from 7 to 16 mph in 2020.[8]

Fire Protection and Emergency Medical Services

Northern California

CAL FIRE is responsible for fire protection and stewardship of over 31 million acres of California's privately owned wildlands. CAL FIRE also provides varying levels of emergency services in 36 of the

[5] California Department of Forestry and Fire Protection (CAL FIRE). 2007. Contra Costa County Fire Hazard Severity Zone in State Responsibility Area. Website: https://osfm.fire.ca.gov/media/6662/fhszs_map7.pdf. November 7. Accessed May 17, 2021.

[6] Bay Area Air Quality Management District (BAAQMD). 2020. Air District Air Quality Data, Meteorology. Website: http://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data/#/air-quality-home. Accessed May 17, 2021.

[7] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan 2005-2020, Safety Element. January 18.

[8] Bay Area Air Quality Management District (BAAQMD). 2019. Meteorology Data. Website: https://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data/#/met?date=2020-05-24&id=203&view=monthly&style=chart. Accessed May 24, 2021.

California's 58 counties via contracts with local governments. Because of the Department's size and major incident management experience, it is often asked to assist or take the lead in disasters.[9] In October 2017, a series of wildfires occurred in Northern California resulting in extensive property damage. In November 2018, the Camp Fire wildfire occurred in Northern California, resulting in the deadliest wildfire to occur in State history.[10] In September and October 2020, the Glass Fire burned more than 67,484 acres and destroyed 1,555 structures, Napa and Sonoma Counties.[11] In August 2020, the North Complex Fire and the LNU Lightning Complex burned approximately 318,935 and 363,220 acres respectively in several counties in Northern California, and destroyed 2,352 and 1,491 structures respectively.[12]

Contra Costa County

The CCCFPD provides fire protection and emergency medical services in and around the 19 cities and unincorporated communities of the County. The CCCFPD serves the County with 26 fire stations, and with few exceptions, County emergency ambulance transport services are provided by the CCCFPD through its unique sub-contractor Alliance model.[13] The CCCFPD consists of 19 engine companies, five truck companies, and maintains 24 fully staffed stations and two more stations staffed with paid on-call personnel. The 24 on-duty companies are trained and regularly cross-staff numerous specialty response units including 18 wildland fire apparatus, three rescue units, a trench rescue unit, a fire rescue boat, and a mobile breathing air support unit.[14]

According to the General Plan, wildfire hazards are a considerable problem in undeveloped areas and in areas of extensive unirrigated vegetation. Areas of Central Contra Costa County that contain steep slopes and are covered with natural vegetation (e.g., Mount Diablo State Park, Briones Regional Park, and Tilden Regional Park) as well as areas in East County outside the urban limit line that are used as dry farming of grains for feed are extremely flammable during the late summer and fall.[15]

The County Office of the Sheriff Emergency Services Division is responsible for planning, outreach, and training or disaster management and emergency preparedness.[16] Per Policy 7-62 of the General Plan, the County strives to reach a maximum running time of 3 minutes and/or 1.5 miles from the nearest fire station.[17] The main routes into and out of the County that would most likely serve as evacuation routes are I-80, Interstate 680 (I-680), and Interstate 580 (I-580), as well as State Route (SR) 4 and SR-24.

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[9] California Department of Forestry and Fire Protection (CAL FIRE). 2021. About Us. Website: https://www.fire.ca.gov/about-us/. Accessed May 17, 2021.

[10] California Department of Forestry and Fire Protection (CAL FIRE). 2021. Top 20 Deadliest California Wildfires. Website: https://www.fire.ca.gov/media/lbfd0m2f/top20_deadliest.pdf. April 28. Accessed May 17, 2021.

[11] California Department of Forestry and Fire Protection (CAL FIRE). 2020. Glass Fire. Website: https://www.fire.ca.gov/incidents/2020/9/27/glass-fire/. Accessed May 17, 2021.

[12] California Department of Forestry and Fire Protection (CAL FIRE). 2021. Top 20 Deadliest California Wildfires. Website: https://www.fire.ca.gov/media/lbfd0m2f/top20_deadliest.pdf. April 28. Accessed May 17, 2021.

[13] Contra Costa County, California. 2021. Fire Protection Districts. Website: https://www.contracosta.ca.gov/1550/Fire-Protection-Districts. Accessed May 14, 2021.

[14] Contra Costa County Fire Protection District (CCCFD) .Operations Division. 2014. Fire/Rescue. Website: https://www.cccfpd.org/emergency-operation. Accessed May 17, 2021.

[15] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan 2005-2020, Safety Element. January 18. Accessed May 17, 2021.

[16] Contra Costa County Office of the Sheriff. Emergency Services Division. Website: https://www.cocosheriff.org/disaster-preparedness/emergency-services-division. Accessed May 24, 2021.

[17] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan 2005-2020, Public Facilities/Services Element. January 18.

Project Site

As discussed under Impact PUB-1 in Section 3.13, Public Services and Recreation, based on this distance from CCCFPD Station No. 2, the response time for a fire engine traveling at an average speed of 35 mph would be 2 minutes and 24 seconds. The main arterial roads into and out of the project vicinity are Jones Road and Oak Road, which would serve as the main emergency response and evacuation routes into and out of the project vicinity.

Post-fire Slope Instability and Drainage Pattern Changes

Slope instability from wildfire scarring of the landscape can result in more intensive flooding and landslides. These post-fire slope soils and altered drainage patterns can more easily creep away downslope sides of foundations and can also reduce lateral support.

Contra Costa County

The major post-wildfire hazards in the County are unstable hill slopes and altered drainage patterns. Slopes may suffer landslides, slumping, soil slips, and rockslides. The General Plan has historically recognized that major slope areas in excess of 26 percent are "not readily developable" or "undevelopable," recognizing the cost and engineering difficulties of grading steep slopes as well as their inherent unsuitability for development.[18] Figure 10-6 of the General Plan shows Landslide Hazards in the County. In 2018, 2019, and 2020, there were nine, nine, and six CAL FIRE reported incidents in the County, respectively.[19, 20, 21] As of May 24, 2021, there were no current year CAL FIRE reported incidents in the County.[22]

Project Site

According to Figure 10-6 of the General Plan, the project site is not located on a site susceptible to landslides or an area where landslides previously occurred. Current on-site drainage and storm runoff generally sheet flows across the site or captured by on-site small drainage inlets connected by underground storm drain pipes and discharged into the existing storm drain facilities in Jones Road or Oak Road. Furthermore, wildfire has not previously occurred on the project site.

3.16.3 - Regulatory Framework

Federal

United States Department of Interior

Review and Update of the 1995 Federal Wildland Fire Management Policy

1. Safety—Firefighter and public safety is the first priority. All Fire Management Plans and activities must reflect this commitment.

[18] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan 2005-2020, Safety Element. January 18.

[19] California Department of Forestry and Fire Protection (CAL FIRE). 2021. 2018 Incident Archive. Website: https://www.fire.ca.gov/incidents/2018/. Accessed May 24, 2021.

[20] California Department of Forestry and Fire Protection (CAL FIRE). 2021. 2019 Incident Archive. Website: https://www.fire.ca.gov/incidents/2019/. Accessed May 24, 2021.

[21] California Department of Forestry and Fire Protection (CAL FIRE). 2021. 2020 Incident Archive. Website: https://www.fire.ca.gov/incidents/2020/. Accessed May 24, 2021.

[22] California Department of Forestry and Fire Protection (CAL FIRE). 2021. 2021 Incident Archive, Website: https://www.fire.ca.gov/incidents/2021/. Accessed May 24, 2021.

2. Fire Management and Ecosystem Sustainability—The full range of fire management activities will be used to help achieve ecosystem sustainability, including its interrelated ecological, economic, and social components.
3. Response to Wildland Fire—Fire, as a critical natural process, will be integrated into land and resource management plans and activities on a landscape scale, and across agency boundaries. Response to wildland fire is based on ecological, social, and legal consequences of the fire. The circumstances under which a fire occurs, and the likely consequences on firefighter and public safety and welfare, natural and cultural resources, and values to be protected dictate the appropriate management response to the fire.
4. Use of Wildland Fire—Wildland fire will be used to protect, maintain, and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role. Use of fire will be based on approved Fire Management Plans and will follow specific prescriptions contained in operational plans.
5. Rehabilitation and Restoration—Rehabilitation and restoration efforts will be undertaken to protect and sustain ecosystems, public health, and safety, and to help communities protect infrastructure.
6. Protection Priorities—The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be based on the values to be protected, human health and safety, and the costs of protection. Once people have been committed to an incident, these human resources become the highest value to be protected.
7. Wildland Urban Interface—The operational roles of federal agencies as partners in the Wildland Urban Interface are wildland firefighting, hazardous fuels reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, State, or local governments. Federal agencies may assist with exterior structural protection activities under formal Fire Protection Agreements that specify the mutual responsibilities of the partners, including funding. (Some federal agencies have full structural protection authority for their facilities on lands they administer and may also enter into formal agreements to assist State and local governments with full structural protection.)
8. Planning—Every area with burnable vegetation must have an approved Fire Management Plan. Fire Management Plans are strategic plans that define a program to manage wildland and prescribed fires based on the area's approved land management plan. Fire Management Plans must provide for firefighter and public safety; include fire management strategies, tactics, and alternatives; address values to be protected and public health issues; and be consistent with resource management objectives, activities of the area, and environmental laws and regulations.

9. Science—Fire Management Plans and programs will be based on a foundation of sound science. Research will support ongoing efforts to increase our scientific knowledge of biological, physical, and sociological factors. Information needed to support fire management will be developed through an integrated interagency fire science program. Scientific results must be made available to managers in a timely manner and must be used in the development of land management plans, Fire Management Plans, and implementation plans.
10. Preparedness—Agencies will ensure their capability to provide safe, cost-effective fire management programs in support of land and resource management plans through appropriate planning, staffing, training, equipment, and management oversight.
11. Suppression—Fires are suppressed at minimum cost, considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives.
12. Prevention—Agencies will work together and with their partners and other affected groups and individuals to prevent unauthorized ignition of wildland fires.
13. Standardization—Agencies will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, values-to-be-protected methodologies, and public education programs for all fire management activities.
14. Interagency Cooperation and Coordination—Fire management planning, preparedness, prevention, suppression, fire use, restoration and rehabilitation, monitoring, research, and education will be conducted on an interagency basis with the involvement of cooperators and partners.
15. Communication and Education—Agencies will enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education programs. These programs will be continuously improved through the timely and effective exchange of information among all affected agencies and organizations.
16. Agency Administrator and Employee Roles—Agency administrators will ensure that their employees are trained, certified, and made available to participate in the wildland fire program locally, regionally, and nationally as the situation demands. Employees with operational, administrative, or other skills will support the wildland fire program, as necessary. Agency administrators are responsible and will be held accountable for making employees available.
17. Evaluation—Agencies will develop and implement a systematic method of evaluation to determine effectiveness of projects through implementation of the 2001 Federal Fire Policy. The evaluation will assure accountability, facilitate resolution of areas of conflict, and identify resource shortages and agency priorities.

State

California Emergency Response Plan

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local governments and private agencies. Responding to wildfire incidents is one

part of this plan. The plan is administered by the California Governor's Office of Emergency Services, which coordinates the responses of other agencies. The County Office of the Sheriff's Emergency Services Division coordinates response to emergencies in unincorporated areas of the County. Emergency response team members respond and work with local fire and police agencies, emergency medical providers, the California Highway Patrol, CAL FIRE, the California Department of Fish and Wildlife (CDFW), and California Department of Transportation (Caltrans).

California Department of Forestry and Fire Protection Threat Potential Mapping

CAL FIRE has mapped fire threat potential throughout California. CAL FIRE maps fire threat based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The threat levels include no fire threat, moderate, high, and very high fire threat. Further, the maps designate the County as the Local Responsibility Area (LRA) for the project site. Additionally, CAL FIRE produced a 2010 Strategic Fire Plan for California, which contains goals, objectives, and policies to prepare for and mitigate the effects of fire on California's natural and built environments. CAL FIRE's Office of the State Fire Marshal provides oversight of enforcement of the California Fire Code as well as overseeing hazardous liquid pipeline safety.

California Building Standards Code

The State of California provided a minimum standard for building design through the 2019 California Building Standards Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations. The 2019 CBC is based on the 2018 International Building Code, but has been modified for California conditions. It is generally adopted on a jurisdiction by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local City and County building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all new high-rise buildings and residential buildings; the establishment of fire resistance standards for fire doors, building material; and specific types of construction.

California Public Resources Code

The California Public Resources Code includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that use an internal combustion engine; [23] specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on-site for various types of work in fire-prone areas.

These regulations include the following:

- Earthmoving and portable equipment with internal combustion engines shall be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (Public Resources Code [PRC] § 4442);

[23] A spark arrestor is a device that prohibits exhaust gases from an internal combustion engine from passing through the impeller blades where they could cause a spark. A carbon trap is commonly used to retain carbon particles from the exhaust.

- Appropriate fire suppression equipment shall be maintained during the highest fire danger period—from April 1 to December 1 (PRC § 4428);
- On days when a burning permit is required, flammable materials shall be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor shall maintain the appropriate fire suppression equipment (PRC § 4427); and
- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines shall not be used within 25 feet of any flammable materials (PRC § 4431).

Regional

Association of Bay Area Governments Hazard Mitigation Plan

The Association of Bay Area Governments (ABAG) multi-jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area was updated in 2010 in partnership with the Bay Conservation and Development Commission. Adapting to Rising Tides Program to support local governments in the regional plan for existing and future hazards of climate change. This detailed 5-year plan identifies potential natural and human-made hazards, assesses their potential risks, and includes mitigation methods to reduce risks. The potential hazards identified in the plan include earthquakes and liquefaction, wildfires, floods, drought, solar storms, dam or levee failure, disease outbreak, freezes, wind, heat, thunder and lightning storms, siltation, tornadoes, hazardous materials, slope failure and mudflows, and other hazards. Similarly, mitigation measures include hazard event planning, emergency preparedness coordination, education, facility upgrades, and monitoring actions.

Local

Contra Costa County Hazard Mitigation Plan

The County and a partnership of local governments within the County have developed a Hazard Mitigation Plan (HMP) to reduce future losses resulting from disasters. Hazard mitigation is the use of long- and short-term strategies to reduce the loss of life, personal injury, and property damage that can result from a disaster. It involves planning efforts, policy changes, programs, capital projects, and other activities that can mitigate the impacts of hazards. The HMP contains the following goals aimed at reducing the vulnerability from natural hazards within the County in a cost-effective manner:

Goal 1 Save, or protect lives and reduce injury.

Goal 2 Increase resilience of infrastructure and critical facilities.

Goal 3 Avoid, minimize, or reduce damage to property.

Goal 4 Encourage the development and implementation of long-term, cost-effective, and environmentally sound mitigation projects.

Goal 5 Build and support capacity to enable local government and the public to prepare, respond, and recover from the impact of natural hazards.

Contra Costa Emergency Operations Plan

The County Operational Area Emergency Operations Plan (EOP) addresses response to emergency incidents affecting the County. The Contra Costa Operational Area consists of the cities/towns, special districts, reclamation districts, municipal improvement districts and the unincorporated areas within the County. The EOP is based on the functions and principles of the California Standardized Emergency Management System, the National Incident Management System, and the Incident Command System. It identifies how the County emergency operational system fits into the overall California and national risk-based, all-hazard emergency response and recovery operations plans.

Contra Costa County General Plan

Public Facilities/Services Element

The General Plan Public Facilities/Services Element establishes the following goals, policies, and implementation measures related to wildfire hazards relevant to this analysis:

Goal 7-AA To incorporate requirements for fire-safe construction into the land use planning and approval process.

Goal 7-AD To provide special fire protection for high-risk land uses and structures.

Policies

Policy 7-64 New development shall pay its fair share of costs for new fire protection facilities and services.

Policy 7-66 Sprinkler systems may be required in new residential structures, where necessary to protect health, safety and welfare.

Policy 7-80 Wildland fire prevention activities and programs such as controlled burning, fuel removal, establishment of fire roads, fuel breaks and water supply, shall be encouraged to reduce wildland fire hazards.

Policy 7-81 All structures located in Hazardous Fire Areas, as defined in the Uniform Fire Code, shall be constructed with fire-resistant exterior materials, such as fire-safe roofing, and their surroundings are to be irrigated and landscaped with fire-resistant plants, consistent with drought resistance and water conservation policies.

Policy 10-89 Every high-rise building shall be designed and constructed to provide for the evacuation of occupants and/or for the creation of a safe environment in case of a substantial disaster, such as a severe earthquake or fire.

Implementation Measures

Implementation Measure 7-at

The Conservation and Development Department shall include fire agency code requirements requested by the districts as advisory notes to the applicant within proposed conditions of project approval when the Planning Agency is considering subdivisions, development plans, use permits and other entitlement requests.

Implementation Measure 7-au

Fire protection agencies shall be afforded the opportunity to review projects and submit conditions of approval for consideration to determine whether:

- There is an adequate water supply for fire fighting
- Road widths, road grades and turnaround radii are adequate for emergency equipment; and
- Structures are built to the standards of the Uniform Building Code, the Uniform Fire Code, other State regulations, and local ordinances regarding the use of fire-retardant materials and detection, warning and extinguishment devices.

3.16.4 - Impacts and Mitigation Measures

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist, to determine whether wildfire impacts would be considered significant from implementation of the proposed project, the following questions are analyzed and evaluated. If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Approach to Analysis

The project site is not located in a “Fire Hazard Severity Zone” in a State Responsibility Area (SRA) or a “Very High Fire Hazard Severity Zone” in a local, State, or federal responsibility area. The closest designated “Very High Fire Hazard Severity Zone” is located approximately 2 miles to the southeast of the project site (Briones Regional Park). The BAAQMD monitors the Bay Area’s air quality at a number of stations, and the closest station to the project site is located in the City of Concord,

approximately 4 miles to the northeast. The average wind speed at this station varied from month to month and ranged from 7 to 16 mph in 2020.[24]

As the project site is located 2 miles from an SRA or lands classified as "Very High Fire Hazard Severity Zone," this evaluation focuses on whether the project would result in changes to the physical environment that would cause or exacerbate adverse effects related to wildfires or whether the project would be placed in a location susceptible to wildfire or post-wildfire conditions. The evaluation also includes a determination of whether changes to the physical environment caused by the project would impair or interfere with emergency response plans, expose people to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire, expose people/structures to downslope flooding or landslides, or include installation or maintenance of infrastructure that may exacerbate fire risk. The following analysis is based, in part, on information provided by the General Plan and CAL FIRE website.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of wildfire impacts resulting from implementation of the project.

- Impaired implementation of or interference with an adopted emergency response plan or emergency evacuation plan via blockage of an evacuation route or provision of only one access point for emergency vehicles.
- Location in or near area of steep slopes, high wind areas, or historical wildfire burn areas leading to greater wildfire risk and, thereby, exposing project occupants to smoke and other wildfire-related air pollutants.
- Installation or maintenance of roads, fuel breaks, emergency water sources, electrical power lines, or natural gas lines that may exacerbate fire risk.
- Location in or near area of wildfire-scarred slopes or altered drainage areas and, thereby, exposing project occupants to flooding and landslide hazards.

Impact Evaluation

Emergency Response/Evacuation Plan Consistency

Impact WILD-1:	**The proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan.**

Construction

During construction, it is expected that construction equipment and vehicles would be accessing and leaving the project site, which could potentially impede evacuation or emergency vehicle access. However, as discussed under Impact TRANS-3 and Impact HAZ-6, the proposed project would result in less than significant impacts related to emergency vehicle access. In addition, the proposed

[24] Bay Area Air Quality Management District (BAAQMD). 2019. Meteorology Data. Website: https://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data/#/met?date=2020-05-24&id=203&view=monthly&style=chart. Accessed May 24, 2021.

project would comply with the County EOP, ensuring efficient response to emergency incidents associated with emergencies affecting the County. Furthermore, blockage of an evacuation route would not occur during project construction because the proposed project would not result in road closures to either Oak Road or Jones Road, the most likely evacuation routes from the project site. Therefore, construction impacts related to emergency response/evacuation plan consistency would be less than significant.

Operation

As indicated in Section 3.13, Public Services, Impact PUB-1 and PUB-2, and Section 3.8, Hazards and Hazards Materials, Impact HAZ-6, the proposed project would be adequately served by police and fire services, including respective evacuation or emergency vehicle access. The proposed project would not create a permanent increase in population unaccounted for in the General Plan that could lead to overwhelming calls for emergency services. In addition, the proposed project would be designed in accordance with the County's standards to accommodate emergency vehicle access by providing two points of access to the project site and internal roadways that would be available to emergency vehicles. Furthermore, blockage of an evacuation route would not occur during project operation because the proposed project would not result in road closures to Oak Road or Jones Road, the most likely evacuation routes from the project site. With adherence to General Plan Policy 7-64, and Implementation Measures 7-at and 7-au, which recommend and require development fees, fire agency project review, and creation of a safe environment in case of substantial disaster, the proposed project would not conflict with the County EOP or General Plan. Therefore, operational impacts related to emergency response/evacuation plan consistency would be less than significant.

Level of Significance

Less than significant impact.

Expose Project Occupants to Pollutant Concentrations from Wildfire

Impact WILD-2:	**The proposed project would not due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.**

Construction

Impacts related to exposure of project occupants to pollutants concentrations from wildfire are limited to operational impacts. No respective construction impacts would occur.

Operation

As indicated by the General Plan, fire hazards present a considerable problem throughout the County, primarily within undeveloped areas with natural vegetation and steep slopes. The project site is located within the central portion of the County and is relatively flat (approximately 90 to 95 feet above mean sea level). The project site is mostly surrounded by urbanized uses on relatively flat areas lacking in woodlands or vegetation that could provide fuel load for wildfire, or steep slopes that could cause fire to spread more rapidly. The project site is surrounded by other features that provide fuel breaks in the event of a fire, such as I-680, the Contra Costa Canal, Oak Road, and Jones Road. The closest open space area (Briones Regional Park) is located approximately 3 miles west of the project site.

According to CAL FIRE, the project site is not located in an SRA or an LRA Fire Hazard Severity Zone.[25] The nearest Fire Hazard Severity Zone is located approximately 2 miles west of the project site (Briones Regional Park) and is designated as a High Fire Hazard Severity Zone.[26] The BAAQMD monitors the Bay Area's air quality at a number of stations, and the closest station to the project site is located in the City of Concord, approximately 4 miles to the northeast. The average wind speed at this station varied from month to month and ranged from 7 to 16 mph in 2020.[27] Given that the project site is not located on or near steep terrain surrounded by natural vegetation, is mostly surrounded by urban uses, and does not consistently experience high winds, the project site would not be prone to wildfires.

Compliance with applicable State and local plans and regulations would decrease the risk of impacts related to wildland fire hazards. Specifically, General Plan policies incorporate requirements for fire-safe construction into the land use planning and approval process and ensure special fire protection for high-risk land uses and structures. The County also implements an EOP, which addresses response to emergency incidents affecting the County. Furthermore, as indicated in Section 3.13, Public Services and Recreation, the proposed project would be adequately served in terms of fire protection services by the CCCFPD. Finally, the proposed project would be required to comply with the California Fire Code regarding emergency access and types of building materials. Therefore, impacts related to exposure of project occupants to pollutant concentrations from a wildfire or uncontrolled spread of wildfire would be less than significant.

Level of Significance

Less than significant impact.

Infrastructure That Exacerbates Fire Risk

Impact WILD-3:	**The proposed project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.**

Construction

Impacts related to installation or maintenance of infrastructure (such as roads, fuel breaks, emergency water sources, electrical power lines, or natural gas lines) that may exacerbate fire risk are limited to operational impacts. No respective construction impacts related to infrastructure that exacerbates fire risk would occur.

Operation

The proposed project would include adequate emergency access via existing roads at two access points. The project site is in an urban area surrounded by existing roadways. The proposed project

[25] California Department of Forestry and Fire Protection (CAL FIRE). 2007 Contra Costa County Fire Hazard Severity Zone in State Responsibility Area. Website: https://osfm.fire.ca.gov/media/6662/fhszs_map7.pdf. November 7. Accessed May 17, 2021.

[26] California Department of Forestry and Fire Protection (CAL FIRE). 2007 Contra Costa County Fire Hazard Severity Zone in State Responsibility Area. Website: https://osfm.fire.ca.gov/media/6662/fhszs_map7.pdf. November 7. Accessed May 17, 2021.

[27] Bay Area Air Quality Management District (BAAQMD). 2019. Meteorology Data. Website: https://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data/#/met?date=2020-05-24&id=203&view=monthly&style=chart. Accessed May 24, 2021.

would not require the installation of firebreaks, because it is in an urban area surrounded by existing development with little natural vegetation. The proposed project would not require emergency water sources, because potable water is currently provided by the Contra Costa Water District, which has adequate water supplies available to serve the project and future development during normal, dry, and multiple dry years. New electrical power and natural gas lines on and connecting to the project site would be installed underground, minimizing potential ignition and related fire risk above ground, at the project site according to the CBC, Uniform Fire Code, and Contra Costa County General Plan Implementation Measure 7-au. Finally, off-site improvements, including frontage sidewalks, driveway curbs, and gutter improvements, would not exacerbate fire risk. Therefore, impacts related to infrastructure that exacerbates fire risk would be less than significant.

Level of Significance

Less than significant impact.

Flooding and Landslide Hazards Due to Post-fire Slope Instability/Drainage Changes

Impact WILD-4:	**The proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.**

Construction

Impacts related to post-fire slope instability are limited to operational impacts. No respective construction impacts related to flooding and landslide hazards due to post-fire slope instability or drainage changes would occur.

Operation

The project site is not located on or near steep slopes susceptible to landslides or downstream flooding. The project site has also not been affected by previous wildfires that could have resulted in drainage changes or loss of vegetation. Therefore, impacts related to flooding and landslide hazards due to post-fire slope instability or drainage changes would be less than significant.

Level of Significance

Less than significant impact.

3.16.5 - Cumulative Impacts

The geographic scope of the cumulative analysis related to wildfire is the project vicinity or roughly the western portion of the County. The analysis also considers the foreseeable development projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, in unincorporated Contra Costa County and the surrounding cities, in addition to the proposed project.

Wildfire Hazards and Emergency/Evacuation Response

A combination of federal, State, and local regulations limit or minimize the potential for exposure to wildfires by reducing the amount of development in wildland urban interface areas, ensuring new development is developed according to the CBC and Uniform Fire Code, and incorporating requirements for fire-safe construction into the land use planning. Development listed in Table 3-1

consists predominantly of residential and commercial development. Only one of the projects anticipated in Table 3-1 would be located in designated and High or Very High Fire Hazard Zones. Project 2 is located on the edge of a High Fire Hazard Zone. However, this project, as all the other projects listed in Table 3-1, would be in areas that are already developed, and do not contain significant levels of dry fuel susceptible to ignition, or significantly high average wind speeds.

The cumulative projects listed in Table 3-1, would result in predominantly in-fill development and would not significantly increase emergency services beyond the existing service area. Furthermore, all cumulative project construction would adhere to the County Building Codes that are designed to minimize the potential for uncontrolled fires. Adherence to County Building Codes would ensure that California Fire Code standards such as automatic sprinkler systems and management of fuel loads in response to annual inspection by the Fire Department are included in development. Once cumulative development is proposed, the County assesses the needs for fire protection services and informs efforts to improve or expand needed facilities. All development would, however, comply with emergency access requirements, such as two emergency vehicle access points, as a condition of construction. Furthermore, the cumulative projects would not result in permanent road closures, nor impede an established emergency or evacuation access route, such as I-680, or interfere with emergency response requirements, such as fire protection response time standards established by the General Plan. As such, there would be a less than significant cumulative impact associated with wildfire hazards and emergency/evacuation response.

Level of Cumulative Significance

Less than significant impact.

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CHAPTER 4: ALTERNATIVES TO THE PROPOSED PROJECT

4.1 - Introduction

The following section contains a comparative impact assessment of potentially feasible alternatives to the proposed project. The primary purpose of an alternatives analysis under the California Environmental Quality Act (CEQA) is to provide the decision makers, other interested parties, and the general public with a reasonable number of potentially feasible project alternatives that could attain most of the basic project objectives, while avoiding or reducing any of the proposed project's significant adverse environmental effects.

However, as demonstrated by the administrative record for this project, all impacts of the proposed project are less than significant or can be mitigated to below a level of significance; therefore, the proposed project does not have any significant unavoidable impacts. Findings rejecting alternatives are required only if one or more significant environmental effects will not be avoided or substantially lessened by mitigation measures. When approving a project, Contra Costa County (County), as the lead agency, need not make findings rejecting the alternatives described in the Draft Environmental Impact Report (Draft EIR) where all of the proposed project's significant impacts will be avoided or substantially lessened by mitigation measures. (*See Laurel Hills Homeowners Assn v. City Council* (1978) 83 Cal. App. 3rd 515 [if mitigation measures substantially lessen a project's significant environmental effects, the lead agency may approve the project without making findings on the feasibility of the EIR's project alternatives]; *see also Stevens v. City of Glendale* (1981) 125 Cal. App. 3rd 986, 996; *No Slo Transit, Inc. v. City of Long Beach* (1987) 197 Cal. App. 3rd 241].) Thus, if the County finds that all of the proposed project's significant adverse effects will be avoided or substantially lessened by mitigation measures, it need not make findings that environmentally superior alternatives are infeasible. (*See Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal. App. 4th 477; *Protect Our Water v. County of Merced* (2003) 110 Cal. App. 4th 362, 373; *Kings County Farm Bureau v City of Hanford* (1990) 221 Cal. App. 3rd 692.).

An EIR must describe a reasonable range of alternatives to the proposed project, or to its location, that would feasibly attain most of the project's basic objectives while reducing or avoiding any of its significant effects. The discussion of alternatives is subject to a rule of reason and the scope of alternatives to be analyzed must be evaluated on the facts of each case. Accordingly, analysis of the following two alternatives to the proposed project is provided for discussion purposes and to allow the decision makers to consider the proposed project in light of hypothetical alternative development scenarios, thereby promoting CEQA's purpose as an information disclosure statute. This analysis is guided by the following considerations set forth under CEQA Guidelines Section 15126.6:

- An EIR need not consider every conceivable alternative to a project;
- An EIR should identify alternatives that were considered by the lead agency, but rejected as infeasible during the scoping process;
- Reasons for rejecting an alternative include:

- Failure to meet most of the basic project objectives;
- Infeasibility; or
- Inability to avoid significant environmental effects.

4.1.1 - Significant Unavoidable Impacts

The proposed project was analyzed for potentially significant impacts related to each of the environmental topic areas discussed in Sections 3.1 through 3.16. The results of the analysis demonstrate that the proposed project would not result in any significant and unavoidable impacts**.**

4.1.2 - Alternatives to the Proposed Project

For discussion purposes, this Draft EIR presents a reasonable range of potentially feasible alternatives to the proposed project for analysis and evaluation of their comparative merits, pursuant to CEQA Guidelines Section 15126.6, discussed above. Where a project does not include any significant and unavoidable impacts and the potential impacts associated with a project can all be reduced to below a level of significance with the incorporation of mitigation, the analysis properly considers alternatives that would also reduce or eliminate those less than significant with mitigation impacts. CEQA Guidelines Section 15126.6(a) states that an EIR need not evaluate every conceivable alternative to a project. For informational purposes the following analysis is provided for each alternative to allow a meaningful comparison with the proposed project.

The proposed project would result in less than significant impacts with mitigation incorporated for the following environmental topic areas:

- Aesthetics, Light, and Glare
- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Public Services and Recreation

The two alternatives to the proposed project analyzed in this section are as follows:

Alternative 1–No Project, No Build Alternative: Under the No Project, No Build Alternative, the proposed project would not be constructed. The closed, vacant private school and its associated structures would remain on-site, and no development of any kind would occur. For the purposes of this alternatives analysis, it is assumed that the existing buildings would remain vacant and no educational, or other alternative, land use activities would occur.

Alternative 2–Reopening the Palmer School Alternative: Under the reopening of the Palmer School Alternative, the currently closed school would reopen and resume operations as a private nonsectarian, co-educational school, serving Junior Kindergarten to Eighth Grade students. All

buildings and structures would remain in place, no trees would be removed, and no new development would take place on the project site. The school would resume operations at the same level as at the time of school closure in June 2020. Reopening the Palmer School would require compliance with and obtaining approvals/permits from the State Department of Education and/ or appropriate local agencies. This process would include obtaining a land use permit from Contra Costa County.

The school would continue its mission to offer an alternative to the larger class size and teacher ratio of public schools. The school would resume operating with a low student-to-faculty ratio and structured academic program that includes on-campus sports and community-based activities.

Under this alternative, the school would return to its pre-closure enrollment of approximately 370-400 students, employing approximately 45-52 staff members. School hours would follow pre-closure hours and would be open Monday through Friday, from 7:00 a.m. until 6:00 p.m., with grade-level specific hours as follows: Junior Kindergarten 8:30 a.m. to 11:30 a.m., Kindergarten 8:30 a.m. to 1:00 p.m., First Grade 8:30 a.m. to 2:00 p.m., Second and Third Grades 8:30 a.m. to 2:30 p.m., and Fourth through Eighth Grades 8:30 a.m. to 3:30 p.m. Consistent with the pre-closure schedule, students would be allowed on campus as early as 8:00 a.m. and could remain until 4:00 p.m. daily. An extended day program would be available before and after these hours (7:00-8:00 a.m. and 4:00-6:00 p.m.). The school would also host nighttime meetings for parents, scouting meetings, and other activities.

Consistent with pre-closure activity, during the summer months, the school would offer a 10-week recreational program for children aged four to eleven years old. Activities would include arts and crafts, organized sports and games, nature study, cooking, science, swimming, camp songs and more. Summer camp would enroll approximately 100-160 students and employ approximately 25 staff members. The camp would operate Monday through Friday (with the exception of Independence Day observance) from 9:00 a.m. to 3:30 p.m. Extended day care would be offered before and after the camp hours similar to school days.

4.2 - Project Objectives

As stated in Section 2, Project Description, the objectives of the proposed project are to:

- Develop an appropriate mix of multi-family units (including affordable units) that meets the existing General Plan land use designation and regional housing goals.
- Provide affordable housing units in accordance with the Contra Costa County Housing Element (2014).
- Locate housing in close proximity to transit in order to reduce vehicle miles traveled.
- Provide housing with a variety of floor plans and unit types to enhance the economic viability of the development for long-term sustainability.

- Retain the architectural and visual character of the neighborhood by building 3-story townhouse condominiums with roof-deck elements on selected homes fronting Oak Road and providing replacement landscaping that will mature over time.
- Replace an obsolete private school with new market rate and affordable for-sale townhouse condominium homes consistent with the General Plan and surrounding neighborhood.
- Establish physical and social connections between Jones and Oak Roads by building safe, private streets, walkable landscaped open spaces including stormwater management and green building components.
- Provide on-site open space amenities for future residents.
- Phase development to allow for managed, orderly, and economically viable growth.

4.3 - Alternative 1—No Project, No Build Alternative

CEQA Guidelines Section 15126.6(e) requires EIRs to evaluate a "No Project," alternative which is defined as the "circumstance under which the project does not proceed." Under the No Project, No Build Alternative, the proposed 125-unit townhome condominium community would not be constructed on the project site. In this scenario, the existing buildings and structures associated with the former Palmer School that are currently on the project site would remain, the off-site improvements (frontage sidewalk, driveway curb, gutter improvements) would not occur, the trees would not be removed or impacted, and grading would not take place. Under this alternative, the zoning for the site would remain as Multiple Family Residential (M-17), Multiple Family Residential (M-29), and Single Family Residential (R-15). It is assumed that the existing buildings would remain vacant and no educational land use activities would occur.

4.3.1 - Impact Analysis

The No Project, No Build Alternative would avoid the proposed project's less than significant impacts with mitigation, as well as the need to implement any mitigation measures, associated with air quality, biological resources, cultural resources and tribal cultural resources, geology and soils, greenhouse gas emissions, hydrology and water quality, noise, public services and recreation, and transportation. However, the vacant buildings would pose the potential need for regular police service and potential fire protection services to protect against likely vandalism, use by transients, and continuing hazards related to deteriorating conditions common in vacant buildings. Because this alternative would likely result in fewer calls for service in comparison with the proposed project because the site would be vacant, it would result in reduced impacts compared to the proposed project.

The No Project, No Build Alternative would avoid the proposed project's less than significant impacts without mitigation associated with aesthetics, light, and glare, air quality, biological resources, energy, geology and soils, greenhouse gas emissions, hydrology and water quality, noise, population and housing, transportation, utilities and service systems, and wildfire.

Under the No Project, No Build alternative, the existing structures, which may contain lead-based paint (LBP) and asbestos-containing material (ACM), would not be removed; however, the site would remain vacant, so exposure to these materials would be limited. In addition, on-site soils exhibiting evidence of contamination from petroleum releases from the 50-gallon underground storage tank (UST) that was removed from the site approximately 25 years ago and/or any potential previously unidentified subgrade structures of environmental concern (e.g., USTs), would not be removed. If the existing structures were to remain without further activity, they would ultimately deteriorate to a ruin. Hazardous conditions related to continued degradation of the structures, and the potential for transients to utilize the vacant buildings, would exacerbate blight conditions, and urban design requirements would not be met. As these potentially hazardous materials and potentially hazardous conditions would not be removed from the project site, the No Project, No Build Alternative would result in greater impacts related to hazards and hazardous materials in comparison with the proposed project; however, these impacts would be less than significant.

Although the No Project, No Build Alternative would not result in any construction activities on the project site, this alternative would result in greater impacts than the proposed project associated with land use and planning. Under this alternative, the site would not be developed with 125 townhouse condominiums. The site would remain vacant and underutilized, and as such, the No Project, No Build Alternative would not be consistent with the General Plan goals and policies related to providing residences in unincorporated area of the County, nor would the project site be rezoned to achieve consistency with the Contra Costa County Zoning Ordinance. This alternative would not be consistent with other applicable goals and policies of the General Plan adopted for various land use planning reasons, including the purpose of avoiding or mitigating an environmental impact or fully utilizing land uses to contribute to economic growth. As the site would not be developed with 125 townhouse condominium units, including affordable units, in close proximity to the Pleasant Hill/Contra Costa Centre Bay Area Rapid Transit (BART) station, this alternative would not be consistent with Goal 3-E, which encourages higher residential densities near major transportation hubs and job centers, Policy 3-22, which requires the creation of housing opportunities for all income levels, and Policy 3-8, which encourages the infilling of already developed areas. Therefore, the No Project, No Build Alternative would result in significant and unavoidable impacts related to land use and planning in comparison with the proposed project.

4.3.2 - Conclusion

Except for hazards and hazardous materials and land use and planning, the No Project, No Build Alternative would avoid all the proposed project's less than significant impacts and less than significant impacts with mitigation described in Sections 3.1 through 3.16, as well as avoid the need to implement any mitigation measures. The No Project, No Build Alternative would result in greater impacts than the proposed project associated with hazards and hazardous materials; however, this impact would remain less than significant. Because this alternative would result in vacant and underutilized parcels inconsistent with land use and planning, it would result in a significant and unavoidable impact with respect to land use, which is a greater impact in comparison with the proposed project.

The No Project, No Build Alternative would not meet any of the project objectives because the project site would not be developed with 125 townhouse condominium units, including affordable units. Instead, the existing buildings on the project site would remain vacant and no educational land use activities would occur. As such, the No Project, No Build Alternative would not meet the objectives of developing an appropriate mix of multi-family units (including affordable units) that meets regional housing goals, providing affordable housing units in accordance with the Contra Costa County Housing Element (2014), locating housing in close proximity to transit in order to reduce vehicle miles traveled, providing housing with a variety of floor plans and unit types to enhance the economic viability of the development for long-term sustainability, replacing an obsolete private school with new market rate and affordable for-sale townhouse condominium homes consistent with the General Plan and surrounding neighborhood, and establishing physical and social connections between Jones and Oak Roads by building safe, private streets, walkable landscaped open spaces including stormwater management and green building components.

4.4 - Alternative 2–Reopening the Palmer School

Under the Reopening the Palmer School Alternative, the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, and no new development would take place on the project site. The school would resume operations at the same level and intensity as at the time of school closure in June 2020. Under this alternative, the zoning for the site would remain as Multiple Family Residential (M-17), Multiple Family Residential (M-29), and Single Family Residential (R-15). Reopening the Palmer School would require compliance with and obtaining of approvals/permits from the California Department of Education and/or appropriate local agencies. This process would include obtaining a land use permit from Contra Costa County.

Because the site was operating as a private school as recently as June 2020 and had to adhere to applicable federal, State, and local regulations for a school (including an annual inspection through the Office of the State Fire Marshall and the Private School Building Safety Act of 1986)[1,2] it is assumed that no hazardous material abatement or seismic retrofit would be necessary to reopen the school.

4.4.1 - Impact Analysis

Aesthetics, Light, and Glare

As noted in Section 3.1, Aesthetics, the proposed project's impacts related to scenic vistas, scenic resources, and the existing visual character and quality of public views of the site and its

[1] California Legislative Information. 2019. Cal. Health & Safety Code §13146.3. Website: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=13146.3.#:~:text=13146.3.,less%20than%20once%20each%20year. Accessed: September 21, 2021.

[2] Private schools are subject to the provisions of the Private Schools Building Safety Act of 1986 to ensure that children attending private schools are afforded equivalent earthquake safety as afforded public school students. The legislation regulates the design and structure of private schools and provides for inspections by an enforcement agency. A "private school structure" is defined by California law as "any building used for educational purposes through the 12th grade by 50 or more persons for more than 12 hours per week or 4 hours in any one day." Source: United States Department of Education. 2014. California State Regulations: Private Schools (Cal. Educ. Code § 17320 et seq.). Website: https://www2.ed.gov/about/inits/ed/non-public-education/regulation-map/california.html. Accessed: September 21, 2021.

surroundings would be less than significant without mitigation; cumulative impacts would be less than significant without mitigation. Impacts with respect to lighting and glare would be less than significant with mitigation.

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, no new development would take place on the project site, and no new land uses would be introduced. This alternative would not result in a change on the views, visual character, nighttime lighting, or daytime glare either on-site or off-site compared to existing conditions. Therefore, the Reopening the Palmer School Alternative would result in less impacts on aesthetics, light, and glare as compared to the proposed project; impacts would be less than significant without mitigation with respect to scenic vistas, scenic resources, the existing visual character, and quality of public views of the site, lighting and glare, and cumulative impacts.

Air Quality

As noted in Section 3.2, Air Quality, the proposed project's impacts related to air quality would be less than significant without mitigation with respect to air quality management plan consistency and exposure to objectionable odors during construction and operation. The proposed project's impacts related to criteria pollutant emissions would be less than significant with mitigation for construction and less than significant without mitigation for operations. The proposed project's impacts related to sensitive receptors' exposure to toxic air contaminant concentrations would be less than significant with mitigation during construction and would be less than significant during operation; cumulative impacts would be less than significant with mitigation.

Construction

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, and no new development would take place on the project site. Because the Reopening the Palmer School Alternative would not require construction, there would be no impact related to air quality during construction (i.e., criteria pollutant emissions and sensitive receptors' exposure to toxic air contaminant concentrations). Though the existing buildings could contain asbestos, there would be no demolition of buildings so exposure to these materials would be limited. There would be no impact related to exposure to objectionable odors during construction. Because the Reopening the Palmer School Alternative would result in no construction-related impacts, there would be less impacts as compared to the proposed project.

Operation

As described in Impact AIR-1, in Section 3.2, Air Quality, a measure for determining whether a use supports the primary goals of the 2017 Clean Air Plan is if a use would result in 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 or the interim emission reductions specified in the Air Quality Plans (AQPs). The development of the AQP is based, in part, on the land use pattern envisioned by local general plans of the various cities and counties that constitute the Air Basin. Because the school was operational until its closure in June 2020, it was included in the growth

assumptions forming the basis for the AQP. As such, the Reopening the Palmer School Alternative would be consistent with the air quality management plan. Therefore, this alternative would result in similar impacts to air quality management plan consistency when compared to the proposed project.

Impact AIR-2 (Table 3.2-11) provides the operational emissions for the Palmer School, none of which are above Bay Area Air Quality Management District (BAAQMD) thresholds. The Transportation Analysis Memorandum prepared by Hexagon Transportation Consultants for the proposed project includes trip rates associated with the Palmer School (1,521 daily trips with 337 trips during the AM peak-hour and 96 trips during the PM peak-hour). In addition, as identified in the Transportation Analysis Memorandum, the studied intersection near the project site which currently experiences the greatest level of vehicle traffic is the intersection of Oak Road and Treat Boulevard, which experiences an estimated 6,016 vehicle trips during the AM peak-hour and 5,142 vehicle trips during the PM peak-hour. Therefore, conservatively assuming all peak-hour traffic generated by this alternative would travel through the intersection of Oak Road and Treat Boulevard, this alternative would not cause any intersections near the project site to experience traffic volumes of 44,000 vehicles per hour and would not cause an exceedance of the carbon monoxide (CO) screening criteria. Therefore, similar to the proposed project, this alternative would have a less than significant impact on criteria pollutant emissions during operation without mitigation.

The alternative assumes the currently closed school would reopen and resume operations as a private K-8 school at the same intensity as previously operated. Operation of a school would likely not generate objectionable odors. In addition, public records retrieved from the BAAQMD show that no odor complaints were filed for this location between January 1, 2018, and the time at which this analysis was prepared during which time the school was operational. Therefore, it is not anticipated that reopening the Palmer School would result in the generation of objectionable odors which may affect a substantial number of people. Therefore, the Reopening the Palmer School Alternative would result in similar impacts related to objectionable odors as compared to the proposed project and impacts would be less than significant.

Biological Resources

As noted in Section 3.3, Biological Resources, the proposed project would result in no impacts with respect to sensitive and natural communities or riparian habitat and wetlands and jurisdictional features and would not conflict with an adopted Habitat Conservation Plan. The proposed project would result in less than significant impacts without mitigation with respect to fish and wildlife movement corridors and cumulative impacts. The proposed project's impacts related to special-status wildlife species and conflict with local policies or ordinances would be reduced to less than significant with mitigation incorporated.

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, no new development would take place on the project site, and no new land uses would be introduced. Similar to the proposed project, no impacts would occur with respect to sensitive and natural communities or riparian habitat, wetlands and jurisdictional features, and conflicts with an adopted Habitat Conservation Plan. The alternative would also result

in less than significant impacts without mitigation with respect to fish and wildlife movement corridors and cumulative impacts. Because the Reopening the Palmer School Alternative would not require construction (including ground disturbance and building demolition) there would a less than significant impact without mitigation related to special-status wildlife. In addition, none of the existing trees would be removed, and there would be a less than significant impact without mitigation related to conflict with local policies or ordinances resulting in reduced impacts related to biological resources as compared to the proposed project.

Cultural Resources and Tribal Cultural Resources

As noted in Section 3.4, Cultural Resources and Tribal Cultural Resources, the proposed project's impacts related to historic resources, archaeological resources, disturbance to human remains, and tribal cultural resources, and cumulative impacts would be reduced to less than significant with mitigation incorporated.

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, no new development would take place on the project site, and no new land uses would be introduced. Because the Reopening the Palmer School Alternative would not require construction or associated ground disturbance, there would be no impact related to historic resources, archaeological resources, disturbance to human remains, tribal cultural resources, and cumulative impacts resulting in reduced impacts related to cultural resources as compared to the proposed project.

Energy

As noted in Section 3.5, Energy, the proposed project would result in energy consumption during construction and at project operation. However, the proposed project's impacts related to energy would be less than significant without mitigation with respect to energy use during construction and at operation, conflicting with a plan for renewable energy or energy efficiency, and cumulative impacts.

This alternative would require energy usage by students and staff during operation, which would consist primarily of building energy consumption and vehicle fuel consumption. Because this alternative would result in greater vehicle activity than was estimated for the proposed project,[3] there would be greater impacts related to vehicle energy consumption as compared to the proposed project. Nonetheless, the continued implementation of various State agreements and legislation, such as the State's Light-Duty Greenhouse Gas Emissions Standards, would contribute to increasingly fuel-efficient vehicles utilized during operation. In addition, Senate Bill (SB) 100 would ensure that building electricity is sourced from increasingly renewable and carbon-free sources through the year 2045. Therefore, the Reopening the Palmer School Alternative would result in greater impacts related to energy at operation as compared to the proposed project; however, impacts would be less than significant without mitigation.

[3] Hexagon Transportation Consultants, Inc. 2021. Transportation Analysis for the Summerhill Homes Townhome Condo Site Residential Redevelopment at 2740 Jones Road in Walnut Creek, California. May 10.

Geology and Soils

As noted in Section 3.6, Geology and Soils, the proposed project would have no impact related to wastewater disposal systems. The proposed project's cumulative impact would be less than significant without mitigation. The proposed project's impacts related to exposure of persons, structures, or improvements to seismic- and soil-related hazards, soil erosion or the loss of topsoil, paleontological resources, and cumulative resources would be reduced to less than significant levels with mitigation incorporated.

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, no new development would take place on the project site, and no new land uses would be introduced. Because the Reopening the Palmer School Alternative would not require construction or associated ground disturbance, there would be no impact with respect to wastewater disposal systems, exposure of persons, structures, or improvements to seismic- and soil-related hazards, soil erosion or the loss of topsoil, paleontological resources, or any cumulative impacts during construction. Accordingly, this alternative would result in reduced impacts related to geology and soils (with respect to soil erosion or the loss of topsoil and impacts to paleontological resources) as compared to the proposed project.

At operation, similar to the proposed project, there would be no impact with respect to soil erosion or topsoil loss or wastewater disposal systems. Because the site was operating as a private school as recently as June 2020 and had to adhere to applicable federal, State, and local regulations for a school (including an annual inspection through the Office of the State Fire Marshall and the Private School Building Safety Act of 1986), and would continue to do so once the school reopens, it is assumed that no seismic retrofit would be necessary to reopen the school. Therefore, there would be a less than significant impact without mitigation with respect to exposure of persons, structures, or improvements to seismic- and soil-related hazards and cumulative impacts resulting in reduced impacts related to geology and soils as compared to the proposed project.

Greenhouse Gas Emissions

As noted in Section 3.7, Greenhouse Gas Emissions, the proposed project's impacts with respect to greenhouse gas (GHG) emissions, GHG emissions reduction plan consistency, and cumulative impacts would be less than significant.

Differing from the proposed project, the Reopening the Palmer School Alternative would not involve any construction. Therefore, there would be reduced impacts related to GHG emissions under this alternative during construction and impacts would be less than significant without mitigation.

At operation, there would be greater impacts related to GHG emissions compared with the proposed project due to the increase in building operation emissions and vehicle traffic as compared to the proposed project, which would require the implementation of mitigation measures such as on-site measures and/or the purchase of carbon credits; impacts would be less than significant with mitigation.

The continued implementation of various State agreements and legislation, such as the State's Light-Duty Greenhouse Gas Emissions Standards, would contribute to increasingly fuel efficiency vehicles utilized during the operation of this alternative. SB 100 would additionally ensure that building electricity is sourced from increasingly renewable and carbon-free sources through the year 2045. In addition, this alternative's GHG emissions would need to be mitigated to less than significant levels, which would demonstrate consistency with the 2030 GHG legislative reduction target codified in SB 32. As such, this alternative would result in similar impacts related to consistency with a plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

Hazards and Hazardous Material

As noted in Section 3.8, Hazards and Hazardous Materials, the proposed project would have no impact related to proximity to a public airport safety hazard. The proposed project's impacts related to hazardous materials upset risk, hazardous emissions proximate to a school, being located on a listed hazardous materials site, proximity to public airport safety hazard, emergency response and evacuation, wildland fires, and cumulative impacts would be less than significant without mitigation. The proposed project's impacts related to the release of hazardous materials during excavation and construction from potentially contaminated soils, soil vapor, and on-site wells, would be reduced to less than significant levels with mitigation incorporated.

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, no new development would take place on the project site, and no new land uses would be introduced. Similar to the proposed project, this alternative's impacts related to hazardous materials upset risk, hazardous emissions proximate to a school, being located on a listed hazardous materials site, proximity to public airport safety hazard, emergency response and evacuation, wildland fires, and cumulative impacts would be less than significant without mitigation. With respect to hazardous emissions proximate to a school, the proposed project would not be expected to include industrial or retail development that involves hazardous materials such as gas stations, paint stores, or auto parts stores. No hazardous materials other than small containers of conventional cleaning supplies and insecticides would be utilized on-site in accordance with applicable local, State, and federal regulations.

Because the Reopening the Palmer School Alternative would not result in any construction activities on the project site, this alternative would not include mitigation requiring abatement or removal of ACM and LBP. Though the existing buildings could contain ACM and LBP, there would be no demolition of buildings and these buildings would be required to be kept in good repair, so exposure to these materials would be limited. In addition, on-site soils exhibiting evidence of contamination from petroleum releases from the 50-gallon UST that was removed from the site approximately 25 years ago and/or previously unidentified subgrade structures of environmental concern (e.g., USTs), would not be removed. Because the site was operating as a private school as recently as June 2020 and had to adhere to applicable federal, State, and local regulations for a school (including an annual inspection through the Office of the State Fire Marshall) and would continue to do so once the school reopens, it is assumed that potential adverse effect is less than significant. However, since the potential presence of these materials has not been verified through testing, impacts would be considered greater than the proposed project (which would require testing and possible abatement).

Hydrology and Water Quality

As noted in Section 3.9, Hydrology and Water Quality, the proposed project's impacts related to surface and groundwater quality during construction and operation, groundwater supply/recharge, risk of pollutant release due to project site inundation, water quality control or sustainable groundwater management plans consistency, and cumulative impacts would be less than significant without mitigation. The proposed project's impacts related to erosion/siltation, additional sources of polluted runoff, exceedance of storm drainage capacity resulting in flooding, and impedance of flood flows from alterations to the existing drainage pattern of the site would be reduced to less than significant levels with mitigation incorporated.

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, no new development would take place on the project site, and no new land uses would be introduced. Because the Reopening the Palmer School Alternative would not require construction or associated ground disturbance, there would be no impact with respect to erosion/siltation, additional sources of polluted runoff, exceedance of storm drainage capacity resulting in flooding, impedance of flood flows from alterations to the existing drainage pattern, surface and groundwater quality, groundwater supply/recharge, risk of pollutant release due to project site inundation, water quality control or sustainable groundwater management plans consistency, and cumulative impacts during construction resulting in reduced impacts related to hydrology and water quality compared to the proposed project.

Currently, on-site drainage and storm runoff generally sheet flows across the site or is captured by on-site small drainage inlets connected by underground storm drainpipes which is then discharged into the existing storm drain facilities in Jones Road or Oak Road. Based on field observation and record drawings, it appears most of the existing on-site drainage is discharged or conveyed via underground storm drains to the existing 30-inch storm drains in Oak Road. At operation, this alternative would utilize the existing storm drainage system. It would also include the same amount of impervious surfaces compared to existing conditions and would continue to abide by existing applicable federal, State, and local regulations to minimize stormwater runoff and pollution. Because this drainage system is already in place, the alternative would result in less than significant without mitigation impacts with respect to erosion/siltation, additional sources of polluted runoff, exceedance of storm drainage capacity resulting in flooding, impedance of flood flows from alterations to the existing drainage pattern, surface and groundwater quality, groundwater supply/recharge, risk of pollutant release due to project site inundation, water quality control or sustainable groundwater management plans consistency, and cumulative impacts. Therefore, the Reopening the Palmer School Alternative would result in reduced impacts related to hydrology and water quality as compared to the proposed project and impacts would be less than significant without mitigation.

Land Use and Planning

As noted in Section 3.10, Land Use and Planning, the proposed project's impacts related to physically dividing an established community, conflicting with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, and cumulative impacts would be less than significant without mitigation.

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, no new development would take place on the project site, and no new land uses would be introduced. Similar to the proposed project, this alternative would not physically divide and established community. Although this alternative would utilize existing educational resources, it would not maximize the use of the 5.94-acre site or the facilities and would not achieve the majority of applicable General Plan goals. Because this alternative would not develop 125 townhouse condominiums, this alternative would not be consistent with the General Plan goals and policies related to providing residences in unincorporated area of the County, nor would the project site be rezoned to achieve consistency with the Contra Costa County Zoning Ordinance. This alternative would not be consistent with other applicable goals and policies of the General Plan adopted for various land use planning reasons, including the purpose of avoiding or mitigating an environmental impact. As the site would not be developed with multi-family residential units, including affordable units, in close proximity to the Pleasant Hill/Contra Costa Centre BART station, this alternative would not be consistent with Goal 3-E, which encourages higher residential densities near major transportation hubs and job centers, Policy 3-22, which requires the creation of housing opportunities for all income levels, and Policy 3-8, which encourages the infilling of already developed areas. Therefore, this alternative would conflict with several applicable land use plans, policies, and regulations and would result in greater impacts related to land use and planning than the proposed project; however, impacts would be less than significant.

Noise

As noted in Section 3.11, Noise, the proposed project would result in noise from construction activities and operational noise from mechanical ventilation equipment and increased traffic on local roadway segments in the project vicinity. There would be no impact associated with excessive noise levels from airport activity. The proposed project's impacts would be less than significant without mitigation with respect to substantial noise increases in excess of standards (during operation only), groundborne vibration, groundborne noise levels, excessive noise levels from airport activity, and cumulative impacts. The proposed project's impacts would be less than significant with mitigation with respect to noise levels that would conflict with any land use plan, policy, or regulation, and impacts related to substantial noise increase in excess of standards during construction.

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, no new development would take place on the project site, and no new land uses would be introduced. Because the Reopening the Palmer School Alternative would not require construction or associated ground disturbance, there would be no construction-related impact with respect to noise levels that would conflict with any land use plan, policy, or regulation, substantial noise increase in excess of standards, groundborne vibration, groundborne noise levels, excessive noise levels from airport activity, and cumulative impacts resulting in reduced impacts related to noise compared to the proposed project.

At operation, the school uses would result in potential noise impacts from operations similar to when the school was in operation. Operational noise sources include mechanical ventilation

equipment operations, parking lot activity and outdoor recreational use activities associated with typical school land uses. Reintroduction of these noise sources to the project site could potentially result in a substantial increase in ambient noise levels as measured at adjacent noise-sensitive residential land uses compared to existing conditions experienced with the vacant and unused school. However, the noise level is expected to be similar to the noise level that would be generated by residents of 125 townhouse condominium units and associated parking lots and outdoors activities. Operational noise impacts would be similar to the proposed project.

Population and Housing

As noted in Section 3.12, Population and Housing, the proposed project would have no impact with respect to population/housing displacement and a less than significant impact without mitigation with respect to population growth and cumulative impacts.

The alternative would not include the development of new housing, and the two existing residential units that are occupied by the property owner's family members serving as caretaker and security for the property, would remain on-site. Similar to the proposed project, this alternative would have no impact with respect to population/housing displacement and a less than significant impact without mitigation with respect to population growth and cumulative impacts and this alternative would result in similar impacts related to population and housing as compared to the proposed project.

Public Services and Recreation

As noted in Section 3.13, Public Services and Recreation, the proposed project may result in an increased demand for fire protection facilities and police protection facilities during construction. At operation, the proposed project would add an estimated 357 persons to the County's population, and in turn, could result in an increase in calls for fire protection, emergency services, or police protection. However, the proposed project's impacts related to fire protection facilities, police protection facilities, school facilities, library facilities, and cumulative impacts would be less than significant without mitigation. Impacts related to the provision of parks and recreational facilities would be less than significant with mitigation.

Because the Reopening the Palmer School Alternative would not require construction or associated ground disturbance, there would be no impact with respect to increased demand for fire and police protection services during construction nor construction impacts related to provision of on-site recreational facilities. Similar to the proposed project, there would be no impact with respect to the need for new or altered school, library, or park facilities. Because there would be no construction-related impacts, this alternative would result in reduced impacts related to public services compared to the proposed project.

Under this alternative, the school would return to its pre-closure enrollment of approximately 370-400 students, employing approximately 45-52 staff members. School hours would follow pre-closure hours and would be open Monday through Friday. Because the service providers recently provided services (the school was closed in June 2020) to this site, and reopening the school would not result in additional students or staff, this alternative would not result in the need for new or altered fire or police protection facilities, school facilities, library facilities, or park facilities; cumulative impacts

would be less than significant, and this alternative would result in a less than significant impact with respect to these public services during operation.

Overall, because this alternative would not require additional public services associated with construction, it would result in reduced impacts related to public services as compared to the proposed project.

Transportation

As noted in Section 3.14, Transportation, the proposed project's impacts related to bicycle, pedestrian facilities, and transit facilities, Vehicles Miles Traveled (VMT), roadway safety hazards, emergency access, and cumulative impacts would be less than significant without mitigation.

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, no pedestrian, bicycle, or transit facilities would be removed, no new development would take place on the project site, and no new land uses would be introduced. Because the alternative would include school uses on a site previously utilized for this purpose and would not include the removal of any existing pedestrian, bicycle, or transit facilities, and because of the site's proximity and connectivity of these facilities to the project site, similar to the proposed project, this alternative would not conflict with a program plan, ordinance, or policy of the circulation system including transit, bicycle, and pedestrian facilities. Similar to the proposed project, this alternative would be expected to result in a less than significant VMT impact because the project site is located within 0.5 mile of an existing major transit stop or an existing stop along a high-quality transit corridor.[4] Impacts would also be less than significant without mitigation with respect to roadway safety hazards and emergency access as this site was utilized for the same land use up until June 2020, and the alternative would follow all applicable regulations and policies. Cumulative impacts would also be less than significant without mitigation.

In conclusion, the Reopening the Palmer School Alternative would result in similar, less than significant impacts related to transportation as compared to the proposed project.

Utilities and Service Systems

As noted in Section 3.15, Utilities and Service Systems, the proposed project could result in up to 357 persons at the project site, and in turn, would result in an increase in the demand for water, wastewater, and solid waste collection services. Development of the site would also require the construction of new stormwater facilities and power and telecommunication facilities. The proposed project's impacts related to water supply or conveyance facilities, wastewater treatment or conveyance facilities, stormwater drainage facilities, natural gas, electric power, telecommunications facilities, landfill capacity, consistency with solid waste regulations, and cumulative impacts would be less than significant without mitigation.

[4] Hexagon Transportation Consultants, Inc. 2021. Transportation Analysis for the Summerhill Homes Townhome Condo Site Residential Redevelopment at 2740 Jones Road in Walnut Creek, California. May 10.

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school with no increase in intensity or need for additional capacity. All buildings and structures would remain in place, no trees would be removed, no new development would take place on the project site, and no new land uses would be introduced. Under this alternative, the school would return to its pre-closure enrollment of approximately 370-400 students, employing approximately 45-52 staff members. The utility providers and conveyance systems that served the project site previously (prior to June 2020) would continue to serve the project site and reopening the school would not result in additional students or staff. Therefore, this alternative would not result in the need for new or altered water supply or conveyance facilities, wastewater treatment or conveyance facilities, stormwater drainage facilities, natural gas, electric power, telecommunications facilities, additional landfill capacity, and the alternative would adhere to all applicable solid waste regulations; cumulative impacts would be less than significant. This alternative would result in a less than significant impact with respect to these utilities and service systems during operation and cumulative impacts would be less than significant. Thus, similar to the proposed project, impacts under this alternative would be less than significant without mitigation.

Wildfire

As noted in Section 3.16, Wildfire, the proposed project's impacts related to impairment of an emergency response plan or emergency evacuation plan, exposing project occupants to pollutant concentrations from wildfire, installation or maintenance of infrastructure that exacerbates fire risk, flooding and landslide hazards due to post-fire slope instability or drainage changes, and cumulative impacts would be less than significant without mitigation.

The Reopening the Palmer School Alternative assumes the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, no pedestrian, bicycle, or transit facilities would be removed, no new development would take place on the project site, and no new land uses would be introduced. As discussed above under Section 3.13, Public Services and Recreation, the alternative proposed project would be adequately served by police and fire services, which would include respective evacuation or emergency vehicle access, and adhere to all applicable policies. This alternative would be required to comply with an annual inspection through the Office of the State Fire Marshall and County Emergency Operations Plan (EOP), ensuring efficient response to emergency incidents associated with emergencies affecting the County. Therefore, this alternative would result in similar impacts as compared to the proposed project related to emergency response and emergency evacuation and impacts would be less than significant without mitigation.

Similar to the proposed project, the site is relatively flat, not located near steep slopes susceptible to wildfire, mostly surrounded by urban uses, and lacking in woodlands that could provide fuel load for wildfire. Therefore, this alternative would result in similar impacts as compared to the proposed project related to exposing project occupants to pollutant concentrations from wildfire, installation or maintenance of infrastructure that exacerbates fire risk, or flooding and landslide hazards due to post-fire slope instability or drainage changes and cumulative impacts. Thus, similar to the proposed project, impacts under this alternative would be less than significant without mitigation.

4.4.2 - Conclusion

The Reopening the Palmer School Alternative would result in similar impacts to the proposed project's less than significant impact without mitigation associated with population and housing, transportation, utilities and service systems, and wildfire. This alternative would lessen the severity of the proposed project's less than significant with mitigation impacts associated with respect to aesthetics, biological resources, cultural and tribal cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and public services and recreation. This alternative would result in a greater, although still less than significant, impact related to energy and land use and planning. With respect to GHG emissions, this alternative would require mitigation where the proposed project would not, which would result in a greater impact than the proposed project. This alternative would result in similar or greater impacts with respect to noise.

The Reopening the Palmer School Alternative would not meet any of the project objectives because the project site would not be developed with 125 multi-family residential units, including affordable units. Instead, the currently closed school would reopen and resume operations as a private K-8 school. All buildings and structures would remain in place, no trees would be removed, and no new development would take place on the project site. The school would resume operations at the same level as at the time of school closure in June 2020. As such, the Reopening the Palmer School Alternative would not meet the objectives of (1) developing an appropriate mix of multi-family units (including affordable units) that meets regional housing goals, (2) providing affordable housing units in accordance with the Contra Costa County Housing Element (2014), (3) locating housing in close proximity to transit in order to reduce vehicle miles traveled, (4) providing housing with a variety of floor plans and unit types to enhance the economic viability of the development for long-term sustainability, (5) replacing an obsolete private school with new market rate and affordable for-sale townhouse condominium homes consistent with the General Plan and surrounding neighborhood, (6) establishing physical and social connections between Jones and Oak Roads by building safe, private streets, walkable landscaped open spaces including stormwater management and green building components, (7) providing on-site open space amenities for future residents, and (8) phase development to allow for managed, orderly, and economically viable growth. This alternative would partially meet the objective related to retaining the architectural and visual character of the neighborhood because the on-site trees would not be removed.

4.5 - Environmentally Superior Alternative

The qualitative environmental effects of each alternative in relation to the proposed project are summarized in Table 4-1. The significant conclusion for each alternative is also identified in the table. Table 4-2 presents a comparison of the alternative's ability to meet project objectives. As explained in detail above, because there are no significant and unavoidable impacts, the comparison contained in Table 4-1 and Table 4-2 and the subsequent discussion are provided for discussion purposes only.

Table 4-1: Summary of Alternative Impacts

Environmental Topic Area	Proposed Project	Alternative 1–No Project, No Build Alternative	Alternative 2–Reopening the Palmer School Alternative
Aesthetics, Light, and Glare	LTSM	NI (less)	LTS (less)
Air Quality	LTSM	NI (less)	LTS (less)
Biological Resources	LTSM	NI (less)	LTS (less)
Cultural Resources and Tribal Cultural Resources	LTSM	NI (less)	LTS (less)
Energy	LTS	NI (less)	LTS (greater)
Geology and Soils	LTSM	NI (less)	LTS (less)
Greenhouse Gas Emissions	LTS	NI (less)	LTSM (greater)
Hazards and Hazardous Materials	LTSM	LTS (greater)	LTS (greater)
Hydrology and Water Quality	LTSM	NI (less)	LTS (less)
Land Use and Planning	LTS	S/U (greater)	LTS (greater)
Noise	LTSM	NI (less)	LTS (similar)
Population and Housing	LTS	NI (less)	LTS (similar)
Public Services and Recreation	LTSM	LTS (less)	LTS (less)
Transportation	LTS	NI (less)	LTS (similar)
Utilities and Service Systems	LTS	NI (less)	LTS (similar)
Wildfire	LTS	NI (less)	LTS (similar)
Total Less:		**14**	**7**
Total Similar:		**0**	**5**
Total Greater:		**2**	**4**

Notes:
NI = No Impact LTS = less than significant impact LTSM = less than significant with mitigation incorporated
Source: FirstCarbon Solutions (FCS) 2021.

Table 4-2: Summary of Alternatives Meeting of Project Objectives

Objective	Proposed Project	Alternative 1—No Project, No Build Alternative	Alternative 2—Reopen the Palmer School
Develop an appropriate mix of multi-family units (including affordable units) that meets the existing General Plan land use designation and regional housing goals.	Yes	No	No
Provide affordable housing units in accordance with the Contra Costa County Housing Element (2014).	Yes	No	No
Locate housing in close proximity to transit in order to reduce vehicle miles traveled.	Yes	No	No
Provide housing with a variety of floor plans and unit types to enhance the economic viability of the development for long-term sustainability.	Yes	No	No
Retain the architectural and visual character of the neighborhood by building 3-story townhouse condominiums with roof-deck elements on selected homes fronting Oak Road and providing replacement landscaping that will mature over time.	Yes	No (existing structures will remain on-site) Yes (74 trees will not be removed)	No (existing structures will remain on-site) Yes (74 trees will not be removed)
Replace an obsolete private school with new market rate and affordable for-sale townhouse condominium homes consistent with the General Plan and surrounding neighborhood.	Yes	No	No
Establish physical and social connections between Jones and Oak Roads by building safe, private streets, walkable landscaped open spaces including stormwater management and green building components.	Yes	No	No
Provide on-site open space amenities for future residents.	Yes	No	No
Phase development to allow for managed, orderly, and economically viable growth.	Yes	No	No
Source: FirstCarbon Solutions (FCS) 2021.			

CEQA Guidelines Section 15126(e)(2) requires an EIR to identify an environmentally superior alternative. If the No Project Alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives.

As shown in Table 4-1, the No Project, No Build Alternative would avoid the proposed project's less than significant impacts associated with mitigation for nine environmental topic areas, as well as the need to implement any mitigation measures. The No Project, No Build Alternative would avoid the proposed project's less than significant impacts without mitigation associated with six environmental

topic areas. Lastly, the No Project, No Build Alternative would result in greater impacts than the proposed project associated with one environmental topic areas (though it would still be less than significant), and a greater, significant unavoidable impact in one environmental topic area. As shown in Table 4-2, this alternative would not meet any of the project objectives.

As shown in Table 4-1, the Reopening the Palmer School Alternative would reduce the proposed projects less than significant impacts with eight environmental topic areas, would result in similar impacts in five topic areas, and would result in greater impacts in three topic areas. This alternative would not result in any significant and unavoidable impacts. Because this alternative would lessen several of the proposed project's impacts and would not result in significant and unavoidable impacts, it would be the environmentally superior alternative. As shown in Table 4-2, this alternative would meet almost none of the project's objectives. It would partially meet the objective related to retaining the architectural and visual character of the neighborhood because none of the on-site trees would be removed.

4.6 - Alternatives Rejected from Further Consideration

CEQA Guidelines 15126.6(c) requires an EIR to discuss alternatives that were initially considered but rejected from further consideration.

4.6.1 - Develop According to Existing General Plan by Different Applicant Alternative

A Develop According to Existing General Plan by Different Applicant Alternative, which would include the development of 140 residential units, was considered. There is no current proponent for development of a higher density residential project, and it is entirely speculative that any proponent would come forward. This alternative was rejected from further consideration because it would not avoid or substantially lessen the proposed project's significant effects as it would be very similar to the proposed project. This alternative would meet most of the project objectives, although in some cases to a lesser extent than the proposed project. As this alternative would include the development of 15 more residential units, this alternative may provide fewer walkable landscaped open spaces and on-site open space amenities for future residents. As this alternative would include the development of 15 more residential units, this alternative may not retain the architectural and visual character of the neighborhood by building 3-story townhouse condominiums with roof-deck elements on selected homes fronting Oak Road and providing replacement landscaping that will mature over time. Based on Section 15126.6 of the CEQA Guidelines, this alternative was rejected as infeasible (as there is no current proponent) and unable to meet the objectives of the proposed project.

4.6.2 - Reduced Scale Alternative

A Reduced Scale Alternative, which would result in a 25 percent reduction in development, was considered. This alternative would include development of 94 residential units, which would result in a lower density than the proposed project. There is no current proponent for development of a lower density residential project, and it is entirely speculative that any proponent would come forward. This alternative was rejected from further consideration because it would not entirely avoid or substantially lessen the proposed project's significant effect. This alternative would meet most of

the project objectives, although in some cases to a lesser extent than the proposed project. As this alternative would include the development of 31 less residential units, this alternative may not meet the goal of retaining the architectural and visual character of the neighborhood by building 3-story townhouse condominiums with roof-deck elements, and would meet the goal of locating housing in close proximity to transit in order to reduce vehicle miles traveled to a lesser degree than the proposed project as density would be lower resulting in fewer people utilizing adjacent public transit. Based on Section 15126.6 of the CEQA Guidelines, this alternative was rejected as infeasible (as there is no current proponent) and unable to meet the objectives of the proposed project.

4.6.3 - Alternative Location

CEQA Guidelines Section 15126.6(f)(2) sets forth considerations to be used in evaluating an alternative location. The section states that the "key question" is whether any of the significant effects of the project would be avoided or substantially lessened by relocating the project. The CEQA Guidelines identify the following factors that may be taken into account when addressing the feasibility of an alternative location:

1) Site suitability
2) Economic viability
3) Availability of infrastructure
4) General Plan consistency
5) Other plans or regulatory limitations
6) Jurisdictional boundaries
7) Whether the project applicant can reasonably acquire, control, or otherwise have access to the alternative site

The CEQA Guidelines establishes that only locations that would accomplish this objective should be considered as alternative locations for the project.

During the alternatives review process, the County conducted a review of available land near Interstate 680 and in close proximity to the Pleasant Hill/Contra Costa Centre BART station that could support a project similar in size and type as the proposed project, and that had an appropriate General Plan land use designation and zoning classification to allow for multi-family residential land uses. An appropriate alternative vacant site was not identified within the County limits in the general vicinity. Furthermore, CEQA confirms that whether a proponent can reasonably acquire, control, or otherwise have access to an alternative site is a key factor in determining whether an off-site alternative is potentially feasible (State CEQA Guidelines § 15126.6(f)). The County, as lead agency, is therefore not required to select an alternative site for the proposed project. Based on CEQA Guidelines Section 15126.6, a potential alternative location was rejected as infeasible.

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CHAPTER 5: OTHER CEQA CONSIDERATIONS

California Environmental Quality Act (CEQA) Guidelines Section 15126 requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the Draft Environmental Impact Report (Draft EIR) must also identify (1) significant environmental effects of the proposed project; (2) significant environmental effects which cannot be avoided if the proposed project is implemented; (3) significant irreversible environmental changes which would be involved in the proposed project should it be implemented; (4) growth-inducing impact of the proposed project; (5) mitigation measures proposed to minimize the significant effects; and (6) alternatives to the proposed project.

This chapter provides a discussion of other CEQA-mandated topics, including significant unavoidable impacts, growth inducement, and significant irreversible environmental changes which would be involved in the proposed project should it be implemented. Chapter 3, Environmental Impact Analysis, describes the significant environmental effects of the proposed project and provides mitigation measures proposed to minimize significant effects. Chapter 6, Alternatives to the Proposed Project, discusses alternatives to the proposed project.

5.1 - Significant Unavoidable Impacts

CEQA Guidelines Section 15126.2(c) requires an EIR to describe significant environmental effects of the proposed project that cannot be avoided if the proposed project were implemented.

The proposed project was analyzed for potentially significant impacts related to each of the environmental issues discussed in Sections 3.1 through 3.16. The results of the analysis indicate that the proposed project would not result in any significant and unavoidable impacts.

5.2 - Growth-Inducing Impacts

There are two types of growth-inducing impacts that a project may have: direct and indirect. To assess the potential for growth-inducing impacts, the project's characteristics that may encourage and facilitate activities that individually or cumulatively may affect the environment must be evaluated (CEQA Guidelines § 15126.2(e)). CEQA Guidelines, as interpreted by the County, state that a significant growth-inducing impact may result if the project would:

- Induce substantial population growth in an area (for example, by proposing new homes and commercial or industrial businesses beyond the land use density/intensity envisioned in the general plan);
- Substantially alter the planned location, distribution, density, or growth rate of the population of an area; or
- Include extensions of roads or other infrastructure not assumed in the general plan or adopted capital improvements project list when such infrastructure exceeds the needs of the project and could accommodate future developments.

Direct growth-inducing impacts occur when the development of a project imposes new burdens on a community by directly inducing unplanned population growth or by leading to the construction of additional developments in the same area. Also included in this category are projects that remove physical obstacles to population growth (such as a new road into an undeveloped area or a wastewater treatment plant with excess capacity that could allow additional development in the service area). Construction of these types of infrastructure projects cannot be considered isolated from the development they facilitate and serve. Projects that physically remove obstacles to growth, or projects that indirectly induce growth, may provide a catalyst for future unrelated development in an area such as a new residential community that requires additional commercial uses to support residents.

Direct Population Growth

The proposed project would develop 125 new townhouse condominium units on the project site. Table 5.2-1 summarizes project-related population growth. As shown in the table, the project would add an estimated 357 persons to the County's population. This would represent an increase of 0.2 percent relative to the unincorporated population of 174,423. This amount of population growth would be within the General Plan's 2020 population and dwelling projections for the unincorporated area and, therefore, would not be considered substantial. Furthermore, it would also be within the Association of Bay Area Governments (ABAG) 2020-2040 regional population growth projections. Impacts would be less than significant.

Table 5.2-1: Project-Related Population Growth

Dwelling Units	Persons Per Household	Population Growth	Population Growth as a Percent of Unincorporated Contra Costa County's 2021 Population
125	2.85	357	0.2%

Notes:
Contra Costa County's 2021 unincorporated population estimated to be 174,423; refer to Table 3.12-1
Source: California Department of Finance 2021; FirstCarbon Solutions (FCS) 2021.

Indirect Population Growth

The proposed project is exclusively residential; it would not create new permanent employment opportunities. Thus, no indirect population growth from new employment would occur.

The project site has been developed since the 1930s and is located within an urbanized area of the unincorporated County. It is served with urban infrastructure and utilities including potable water, sewer, storm drainage, electricity, and natural gas. As such, the proposed project would not remove a barrier of growth through the extension of infrastructure or utilities to an unserved area. Impacts would be less than significant.

5.3 - Significant Irreversible Environmental Changes

The environmental effects of the proposed projects are summarized in the Executive Summary and are analyzed in detail in Section 3, Environmental Impact Analysis, of this Draft EIR.

As mandated by the CEQA Guidelines, the EIR must address any significant irreversible environmental change that would result from implementation of the proposed project. Specifically, pursuant to the CEQA Guidelines (§ 15126.2(c)), such an impact would occur if:

- The proposed project would involve a large commitment of nonrenewable resources;
- Primary and secondary impacts would generally commit future generations to similar uses;
- The proposed project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The proposed consumption of resources is not justified (e.g., the project results in the wasteful use of energy).

The proposed project consists of the development of new infill multi-family residential uses on a site that currently supports a closed private school. The site is within an urbanized area of unincorporated Contra Costa County adjacent to the Walnut Creek city limits and is zoned for residential use.

Construction and demolition debris recycling practices would be expected to allow for the recovery and reuse of building materials such as concrete, lumber, and steel and would limit disposal of these materials, some of which are nonrenewable.

Construction of the proposed project would include the consumption of resources that are not replenishable or which may renew so slowly to be considered nonrenewable. These resources would include the following: certain types of lumber and other forest products; aggregate materials used in concrete and asphalt such as sand, gravel, and stone; metals such as steel, copper, and lead; petrochemical construction materials such as plastics; and water. Fossil fuels such as gasoline and oil would also be consumed in the use of construction vehicles and equipment. Consumption of building materials and energy is common to most other development in the region, and commitments of resources are not unique or unusual to the proposed project. Development would not be expected to involve an unusual commitment of nonrenewable resources, nor be expected to consume any resources in a wasteful manner.

At operation, day-to-day activities would involve the use of nonrenewable resources such as petroleum and natural gas during operations. The new buildings uses would be required to adhere to the latest adopted edition of the California Building Standards Code, which includes a number of standards that would reduce energy demand, water consumption, wastewater generation, and solid waste generation that would collectively reduce the demand for resources. This would result in the emission and generation of less pollution and effluent and would lessen the severity of corresponding environmental effects. Although the proposed project would result in an irretrievable commitment of nonrenewable resources, the commitment of these resources would not be significantly inefficient, unnecessary, or wasteful.

Finally, the proposed project is within walking distance of the Pleasant Hill/Contra Costa Centre Bay Area Rapid Transit (BART) station, the Iron Horse Trail, and the Contra Costa Canal Trail. It is also within walking distance of employment opportunities in Contra Costa Centre. Overall, the proposed project would be expected to result in less consumption of resources than a comparable residential project at the urban edge.

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CHAPTER 6: EFFECTS FOUND NOT TO BE SIGNIFICANT

6.1 - Introduction

This chapter is based on the Oak Road Townhouse Condominiums Project Draft Environmental Impact Report (Draft EIR) Notice of Preparation (NOP), dated April 28, 2021, and contained in Appendix A of this Draft EIR. The NOP was prepared to identify the potentially significant effects of the proposed project and was circulated for public review between April 28, 2021, and May 28, 2021. In response to the NOP, no public comments were received related to agricultural resources, forestry resources, or mineral resources, and the lead agency determined that there was no substantial evidence of a potentially significant effect related to Agriculture and Forestry Resources and Mineral Resources.[1] Consistent with California Environmental Quality Act (CEQA) Guidelines Section 15128, this chapter provides a brief description of topics found to have no potential impact, or a less than significant impact, based, in part, on the NOP, the NOP public comments received, and/or more detailed analysis conducted as part of the preparation of this Draft EIR.

6.2 - Effects Found not to be Significant

6.2.1 - Agriculture and Forestry Resources

No agricultural land or forestland currently exist on the project site. The Contra Costa County General Plan (General Plan) designates the site as Multiple-Family Residential–High-Density (MH), and is zoned for residential uses only including Single-Family Residential (R-15), and Multiple-Family Residential (M-17 and M-29) on the County's Zoning Map.

The site is mapped as "Urban and Built-Up Land" by the by the California Department of Conservation Farmland Mapping and Monitoring Program,[2] and is not under a Williamson Act Contract.[3] In addition, the General Plan Conservation Element Figure 8-2 does not delineate the project site as an Important Agricultural Area.[4] As such, construction and operation of the proposed project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses, or result in the loss or conversion of forestland to non-forest uses. The proposed project would not conflict with any zoning for agricultural use or a Williamson Act Contract, or any zoning for forestland or timberland. Therefore, no impact related to agriculture or forestry resources would occur.

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1 This Effects Found not to be Significant Chapter is limited to entire topical areas found to be less than significant. In some instances, throughout this document, specific impacts that were found to be less than significant are nonetheless included in the Draft EIR topical sections (Sections 3.1 through 3.16) for purposes of clarity and to facilitate the readers' understanding of the overall environmental impact within the topical area.

2 California Department of Conservation. 2016. California Important Farmland Finder. Website: https://maps.conservation.ca.gov/dlrp/ciff/. Accessed May 18, 2021.

3 Contra Costa County Department of Conservation and Development. 2017. 2016 Agricultural Preserves Map. Website: https://www.contracosta.ca.gov/DocumentCenter/View/882/Map-of-Properties-Under-Contract?bidId=. Accessed May 18, 2021.

4 Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan 2005-2020, Conservation Element. January 18.

6.2.2 - Mineral Resources

There are no mineral resource recovery sites on or in the project vicinity. A Mineral Resource Zones and Resources Sectors map prepared by the California Geological Survey indicates that the project site is located in an area that does not containing any known mineral occurrences.[5] There are no mines on the site or in the project vicinity. [6] In addition, the General Plan Conservation Element Figure 8-4 indicates that no mineral resource zones are located on the project site or within the surrounding area.[7] The site is designated as Multiple-Family Residential–High-Density (MH) by the General Plan; as such, construction and operation of the proposed project would not result in the loss of availability of a known mineral resource of value to the region and residents of the State. Therefore, no impact related to mineral resources would occur.

[5] California Geological Survey Division of Mines and Geology. 1983. Mineral Resource Zones and Resource Sectors Contra Costa County.

[6] California Department of Conservation Division of Mine Reclamation Mines Online. 2018. Website: https://maps.conservation.ca.gov/mol/index.html. Accessed May 18, 2021.

[7] Contra Costa County Department of Conservation and Development. 2005. Contra Costa County General Plan 2005-2020, Conservation Element. January 18.

CHAPTER 7: PERSONS AND ORGANIZATIONS CONSULTED/LIST OF PREPARERS

7.1 - Lead Agency

7.1.1 - Contra Costa County

Department of Conservation and Development

Principal Planner..... Jennifer Cruz

7.2 - Other Agency CEQA Support

7.2.1 - Contra Costa County Public Works Department

Engineering Services..... Randolf Sanders

7.3 - Project Sponsor and Sponsor Consultants

7.3.1 - SummerHill Homes

Director of Development..... Marshall Torre

7.3.2 - Illingworth & Rodkin, Inc. (Air Quality & Greenhouse Gas Assessment)

Principal..... James A. Reyff
Senior Consultant ..... Jay Witt, PE

7.3.3 - Live Oak Associates, Inc. (Special-status Species)

Project Manager/Staff Ecologist..... Katrina Krakow, MS

7.3.4 - Hort Science (Tree Report)

Certified Arborist.....James R. Clark, PhD

7.3.5 - Environmental Science Associates (Cultural Resources Study)

Cultural Resources Program Manager..... Candace Ehringer, MA, RPA

7.3.6 - Urban Programmers (Cultural Resources Study)

Consultant .....Bonnie L. Bamburg

7.3.7 - ENGEO (Preliminary Geotechnical Exploration)

Registered Professional Engineer ..... Bahareh Heidarzadeh, PhD, PE
Certified Engineering Geologist..... Robert H. Boeche, CEG
Engineer in Training ..... Anne Robertson, EIT

7.3.8 - Roux Environmental Consulting (Phase I Environmental Site Assessment)

Staff Geologist ..... Katherine Grellman
Principal Engineer ..... Angela Liang Cutting, PE

7.3.9 - Salter (Environmental Noise Assessments)

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Senior Consultant ..... Justin Reidling

7.3.10 - Hexagon Transportation Consultants, Inc. (Transportation Analysis)

Vice President, Principal ..... Ollie Zhou
Engineer ..... Jonathan Wong

7.4 - County Consultants

7.4.1 - FirstCarbon Solutions (Environmental Impact Report)

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Senior Project Manager ..... Lisa Davison
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