SHADY VIEW RESIDENTIAL PROJECT

Draft Environmental Impact Report

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Shady View Residential Project
Environmental Impact Report

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LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing materials
ADMRT	Air Dispersion Modeling and Risk Tool
ADT	average daily traffic
AFY	acre-feet per year
AGR	Agricultural Supply
AIA	Airport Influence Area
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMSL	above mean sea level
APCD	Air Pollution Control District
APN	Accessor's Parcel Number
APS	alternative planning strategy
AQTR	Air Quality Technical Report
AQUA	Aquaculture
ASP	Alvarado Specific Plan
AST	aboveground storage tank
ATS	advanced treatment system
Basin Plan	Water Quality Control Plan for the San Diego Basin
BAT	best available technology economically achievable
BCT	best conventional pollutant control technology
BIOL	Preservation of Biological Habitats of Special Significance
BMP	best management practice
BTU	British thermal units
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CalGEM	California Department of Conservation Geologic Energy Management Division
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CASQA	California Stormwater Quality Association
CBC	California Building Code
CBSC	California Building Standards Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife

CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CEUS	Commercial End Use Survey
CFG	California Fish and Game
CFGC	California Fish and Game Commission
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CH_4	methane
CHMIRS	California Hazardous Materials Incident Reporting System
CIR	compliance inspection report
City	City of Chino Hills
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COMM	Commercial and Sport Fishing
CPS-SLIC	Cleanup Program Sites Spills, Leaks, Investigation, and Cleanup
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSMP	Construction Site Monitoring Program
CWA	Clean Water Act
cy	cubic yard
dB	decibel
dBA	A-weighted decibel
DEH	Department of Environmental Health
DMA	Drainage Management Area
DOC	California Department of Conservation
DOT	U.S. Department of Transportation
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
DU	dwelling unit
du/ac	dwelling units per acre
ECHO	Enforcement and Compliance History Online
Ed Data	Education Data Partnership
EDR	Environmental Data Resources, Inc.
EIR	Environmental Impact Report
EO	Executive Order
EPIC	Energy and Policy Initiatives Center
ESA	Environmental Site Assessment
°F	degrees Fahrenheit

FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FINDS	Facility Index System/Registry System
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
g	gravity
GHG	greenhouse gas
GPA	General Plan Amendment
gpd	gallons per day
GWP	global warming potential
H_2S	hydrogen sulfide
HA	hydrologic area
HARP	Hotspots Analysis and Reporting Program
HCP	Habitat Conservation Plan
Heartland Fire	Heartland Fire and Rescue
HELIX	HELIX Environmental Planning, Inc.
HFCs	hydrofluorocarbons
HMMD	Hazardous Materials Management Division
HRA	health risk assessment
HRS	Hazard Ranking System
HSA	hydrologic subarea
HU	Hydrologic Unit
HVAC	heating, ventilation, and air conditioning
HWD	Helix Water District
I-	Interstate
IEM	Iowa Environmental Mesonet
IND	Industrial Service Supply
IPCC	Intergovernmental Panel on Climate Change
ITP	Incidental Take Permit
IWMA	Integrated Waste Management Act
IWMP	Integrated Waste Management Plan
IWRP	Integrated Water Resources Plan
JPA	joint powers agreement
JURMP	Jurisdictional Urban Runoff Management Program
LBP	lead-based paint
LCFS	Low Carbon Fuel Standard
LDC	Land Development Code
L_{EQ}	one-hour average sound level
LID	Low Impact Development
LMMC	La Mesa Municipal Code
LOP	Local Oversite Program

LOS	level of service
LUST	Leaking Underground Storage Tank
MAR	Marine Habitat
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MCL	maximum contaminant level
MEP	maximum extent practicable
MG	million gallons
mgd	million gallons per day
MHMP	Multi-Jurisdictional Hazard Mitigation Plan
MIGR	Migration of Aquatic Organisms
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
MOU	Memorandum of Understanding
mph	miles per hour
MPOs	metropolitan planning organizations
MS4	Municipal Separate Storm Sewer Systems
MSCP	Multiple Species Conservation Program
MT	metric ton
MTS	Metropolitan Transit System
MW	megawatt
MWD	Metropolitan Water District of Southern California
MWJPA	Metro Wastewater Joint Powers Authority
N_2O	nitrous oxide
NA	Native American
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NASA	National Aeronautics and Space Administration
NAV	Navigation
NCCP	Natural Community Conservation Planning
NED	National Elevation Dataset
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NHTSA	U.S. Department of Transportation's National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOA	naturally occurring asbestos
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intention
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
NSLU	noise-sensitive land use

O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	lead
PEIR	Program Environmental Impact Report
PFCs	perfluorocarbons
PM_{10}	respirable particulate matter
$PM_{2.5}$	fine particulate matter
POC	point of confluence
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PROC	Industrial Process Supply
Province	Peninsular Ranges Geomorphic Province
RAQS	Regional Air Quality Strategy
RARE	Rare Threatened or Endangered Species
RASS	Residential Appliance Saturation Survey
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act
RCRA-SQG	Resource Conservation and Recovery Act – Small Quantity Generator
REAP	Rain Event Action Plan
REC-1	Contact Water Recreation
REC-2	Non-contact Water Recreation
RECON	RECON Environmental, Inc.
RHNA	Regional Housing Needs Allocation
RMS	root mean square
ROG	reactive organic gas
RRP Rule	Renovation, Repair and Painting Rule
RTP	Regional Transportation Plan
RUWMP	Regional Urban Water Management Plan
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
SAFE Vehicles Rule	Safer Affordable Fuel-Efficient Vehicles Rule
SAM	Site Assessment and Mitigation
SANDAG	San Diego Association of Governments
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCIC	South Coast Information Center
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCRAA	San Diego County Regional Airport Authority

SDG&E	San Diego Gas & Electric
SDREO	San Diego Regional Energy Office
SDWA	Safe Drinking Water Act
SEL	sound exposure level
SF	square foot / feet
SF_6	sulfur hexafluoride
SHELL	Shellfish Harvesting
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SoCalGas	Southern California Gas Company
SoundPLAN	SoundPlan Essential
SPWN	Spawning, Reproduction, and/or Early Development
SQG	small quantity generator
SR	State Route
SRRE	Source Reduction and Recycling Element
SUSMP	Standard Urban Storm Water Mitigation Plan
SWEEPS	Statewide Environmental Evaluation and Planning System
SWIS	Solid Waste Information System
SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Storm Water Quality Management Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
T_C	time of concentration
TDM	transportation demand management
TIA	Transportation Impact Analysis
TMDL	Total Maximum Daily Load
TOD	transit-oriented development
TPA	Transit Priority Area
TPH	total petroleum hydrocarbons
TRPH	total recoverable petroleum hydrocarbons
Urbana	Urbana Preservation & Planning, LLC
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
UWMP	Urban Water Management Plan
VCP	vitrified clay pipe
VdB	decibel notation
VMT	vehicle miles traveled
VOC	volatile organic compound
WARM	Warm Freshwater Habitat
Water Authority	San Diego County Water Authority

WDR	Waste Discharge Requirement
WILD	Wildlife Habitat
WLA	waste load allocation
WQBEL	water quality-based effluent limitation
WQIP	Water Quality Improvement Plan
WRCC	Western Regional Climate Center
WRI	World Resource Institute
WSA	Water Supply Assessment
WTP	Water Treatment Plant / Wastewater Treatment Plant
WURMP	Watershed Urban Runoff Management Program
ZEV	zero emissions vehicle

EXECUTIVE SUMMARY

Following is a summary of the Environmental Impact Report (EIR) for the proposed Shady View Residential Project and associated discretionary actions (collectively referred to throughout this EIR as the "project" or "proposed project") has been prepared on behalf of the City of Chino Hills (City) in compliance with the California Environmental Quality Act (CEQA) Statute and Guidelines (Public Resources Code [PRC], Section 21000 et seq. and California Code of Regulations [CCR], Title 14, Section 15000, et seq.).

PROJECT LOCATION

The City is in the Chino Valley, in the southwestern corner of San Bernardino County. The City is bordered by Los Angeles County on the north and west, by Orange County on the south and west, and by Riverside County on the south and east. The City is located south of State Route (SR) 60, north of SR-91, and generally west of SR-71. A small portion of the City is located on the east side of SR-71.

The project site (Assessor's Parcel Number [APN] 1057-261-06) is approximately 130 acres and is in the southeastern portion of the City, at the southern termini of Shady View Drive and Via La Cresta, south of the existing South Trail residential development. The project site is roughly rectangular, with a square cut-out parcel in the northeast portion of the site that is not part of the project site. The project site is located east of Chino Hills State Park, and west of SR-71. The City's corporate boundary and the San Bernardino County/Riverside County boundary are adjacent to the east of the project site.

PROJECT OBJECTIVES

The project has the following objectives:

- Develop a project that supports a sustainable balance of land uses, open spaces, and infrastructure.
- To provide additional high-quality housing that serves the local community and is compatible and complementary with land uses and architectural fabric of the surrounding community.
- To provide adequate parking and integrated pedestrian and bicycle pathways to serve the residents and guests of the proposed development and provide connectivity to the surrounding community.
- To protect existing prominent knolls and increase the total amount of private, public, and protected open space by integrating the development with the hillside conditions.
- To minimize the impact on the natural environment by developing a project that promotes sustainability and supports regional water quality standards and greenhouse gas emissions reduction targets.
- Develop a project that endeavors to minimize risks from naturally occurring hazards by respecting and mitigating flooding, fire, and seismic hazards.

- To achieve a quality environment, designed to fit into and incorporate regional surroundings by integrating local environmental features and existing land uses into a cohesive and logical pattern.
- Create an efficient and safe circulation and transportation system, which accommodates the community's traffic demands and provides local connections to public streets.
- Provide a sufficient density of development to support needed infrastructure improvements.
- Provide a network of habitat and recreational opportunities that also provide separation between neighborhoods, while encouraging walkable linkages and connectivity through land use siting, open space, and pedestrian pathways.
- Design a development plan for the project site that protects existing quality habitat.
- Plan and develop the project as a cohesive community within the City with unifying architectural and landscape design themes, utilizing variety in the design of structures within this context.
- Provide a variety of home configurations for both single and two-story homes.

PROJECT SUMMARY

The project proposes the development of a single-family residential subdivision. The proposed subdivision would consist of 159 single-family residential homes, a community recreation center, private interior streets, debris basins, utility infrastructure, and other associated improvements. Additionally, the project includes approximately 80.8 acres of homeowners' association-maintained open space. The proposed project is designed to be consistent with the City of Chino Hills General Plan and Chino Hills Zoning Code. The existing General Plan land use designation is split between two residential land uses, Agriculture Ranch and Low Density Residential. In addition, the zoning for the property is split between two residential zoning districts, R-S Low Density Residential and R-A Agriculture/Ranches. The location of the split occurs at the same location for both land use and zoning. As proposed, all residential development would occur in the Low-Density Residential land use designated, R-S zoned portion of the site.

The project consists of four main components:

1. Residential Development
2. Oil Tank Removal and Construction
3. Amenities and Open Space
4. Access, Circulation, and Parking

Residential Development

The proposed residential development would provide 159 single-family residential lots on approximately 32.2 acres in the northern and eastern portions of the project site. The R-S zoning requires that all residential lots be a minimum of 7,200 square feet with 50-foot minimum width and a maximum density of 6 dwelling units per acre. The proposed project meets these standards with lot sizes ranging from a minimum of 7,215 square feet up to a maximum of 14,613 square feet. The average lot size is approximately 8,808 square feet with a median proposed lot size of 8,243 square feet. The proposed

project has a density of 2.74 dwelling units per acre for the portion of the site designated with R-S zoning, and an overall density of 1.2 dwelling units per acre for the entire project site. The project proposes 56 single-story homes and 103 two-story homes. No homes would be constructed within 50 feet of the Earthquake Fault Zone. Site work and grading is expected to occur west of the proposed residential development to allow for stabilization of the existing earthquake fault and relocation of existing oil storage tanks and existing oil transmission lines. The proposed project includes five distinct architectural themes: Spanish Heritage, Rancho Adobe, Farm Heritage, French Country, and Italianate, available across floor plan types. Additional colors, materials, and reversed plans for each architectural style would provide more visual variation throughout the proposed residential development. The project would be constructed with primarily stucco facades with wood and brick accents. Roofing material would consist of concrete tile.

Oil Tank Removal, Construction, and Maintenance

The project would require the removal of three existing aboveground oil storage tanks located near the east central boundary of the project site and the construction of three new aboveground oil storage tanks to be located in northwestern portion of the project site. Associated pipeline and other ancillary equipment would also be removed from its current location on the project site and relocated with the tanks. The decommissioning and removal of the existing tanks and the rerouting of pipelines and valves to the new proposed tanks would be conducted in accordance with applicable environmental regulations and the guidelines and requirements of the California Department of Conservation Geologic Energy Management Division (CalGEM). Applicable environmental regulations would include testing (and mitigation, if required) for asbestos; obtaining a replacement/demolition permit from South Coast Air Quality Management District; and disposal of all materials and drained fluids per applicable regulations.

The three aboveground oil storage tanks are proposed in the northwestern portion of the project site on a 1.27-acre lot, near the western project boundary and west of the proposed residential structures. The tank site is located at an elevation of 670 feet above mean sea level and would consist of an elevated pad surrounded by manufactured slopes and a berm. The tanks would be separated from the proposed residences by the extension of Via La Cresta, an ascending slope, and a berm. The proposed tanks would be constructed of steel. The three tanks consist of one 250 oil-barrel-capacity tank and two 500 oil-barrel-capacity tanks. The largest, or 500-oil-barrel-capacity, tank would be 18 feet in height, with a diameter of 12 feet. The new tank battery capacity is smaller, mainly due to the reduced oil production from the existing wells, many of which have been abandoned/shut down or have lower production rates. The tank site (the three tanks and the surrounding tank containment) measures approximately 40 feet by 100 feet. Ancillary operational equipment adjacent to the existing tank farm is also being removed. Construction of the tank site would include surveying, preparing, and grading the tank site for proper access and drainage. Tank foundations would be designed and constructed consistent with CalGEM requirements for leak detection. Pipelines would be installed consistent with CalGEM requirements. No odors have been noted in association with the current aboveground tank (AGT) compound. The older tanks and pipes are being replaced by new and more efficient tanks pipes, which will be designed and constructed in accordance with best available control technology (BACT). In addition, the new tanks are anticipated to have similar operations as existing tanks.

Oil leases continue in perpetuity as long as oil is being produced and payments are being paid to lease holder. The new tank farm is indented to stay for the duration the lease is in place. Optima will continue to operate and manage the tank farm, wells and all the ancillary pipes/equipment. Optima will inherit

the physical tanks and equipment inside the newly built tank farm and the underlying land will be owned by the HOA. Construction of the tank site would include construction of new access routes to the tank site that would connect with existing routes at the western property line. The new tank access route would have two access points at the western property boundary, approximately 200 feet apart from each other at the property line, which would connect the tank site with adjacent property to the west. Additionally, emergency and fire access would be provided to the tank site via an access road that connects the tank site to the proposed extension of Via La Cresta in the northwest corner of the project site.

Construction of the new facility shall follow all applicable environmental regulations and CalGEM guidelines. A Permit to Construct/Permit to Operate would be obtained from the SCAQMD, and construction design plans submitted to the city of Chino Hills for approval prior to the beginning of construction. After surveying, preparing, and grading the new facility site for proper access and drainage, the tank foundations would be designed by a California-licensed professional Structural Engineer and constructed consistent with CalGEM requirements for leak detection. Pipelines would be installed consistent with CalGEM requirements. The design would consist of:

- Tanks designed and fabricated either per API 12B Specifications for bolted steel tanks (except the plate and sheet material may be of a grade, which exceeds the requirements), or per API 12F Specifications for pre-welded steel tanks.

- Tank foundations as follows: 1-6” Grade Beam with 3/4“ crushed gravel on level and compacted grade with liner and leak detection or other acceptable design criteria as per CalGEM regulations a Concrete or street ring wall built on level location.

- Pipeline design that complies with CalGEM regulations

Pipeline maintenance on all newly installed, repaired, or modified existing pipelines must be tested prior to starting or re-starting operations. Any pipeline having a leak of reportable quantity must successfully pass pressure-testing before returning to service. Additionally, CalGEM-regulated pipelines must be tested on a periodic basis. Active oil or gas pipelines located in high-risk areas, such as environmentally sensitive, urban, and sensitive areas, require biennial testing after reaching the age of 10 years.

Acceptable testing methods include pressure testing, ultrasonic, and smart pigging. Approval from CalGEM is required before using a testing method other than pressure testing or ultrasonic testing to determine wall thickness. CalGEM recommends operators seek input from CalGEM when planning an ultrasonic test of a pipeline located in a high-risk area (NTO 2019-09). Operators may conduct pipeline leak inspection per regulation 1774.1 and without notification to CalGEM as this activity is not testing. Furthermore, pipelines not located within high-risk areas are to be tested at a minimum per the interval specified by Cal-OSHA. Operators must notify the local CalGEM district office at least two days prior to any required pipeline testing. CalGEM does not require test notification for pipelines not located within high-risk areas, unless these pipelines are tested following a repair due to a reportable leak.

Tank Maintenance inspections are required at least once a month on all in-service tanks associated with oil and gas production. Operators shall inspect for the following:

1. Leakage at base, seams, associated piping, tank shell plugs, or any other fitting that could leak;

2. Presence of corrosion or shell distortions;

3. General condition of the foundation, including any signs of settling or erosion that may undermine the foundation; and

4. Condition of paint coatings, insulation systems, and tank grounding system components if present.

Monthly inspection findings shall be documented either on paper or electronically. The records shall be maintained and easily accessible so that a CalGEM inspector can review them. California requires that the walls or sides of in-service tanks be tested for thickness every five years, unless otherwise approved by the CalGEM State Supervisor of Oil and Gas. Operators must notify CalGEM two days or more prior to conducting required tank testing. Tank wall thickness testing is usually performed by a reputable tank inspection company using ultrasonic thickness-testing equipment. The inspection company goes to the site to measure the wall thickness in various places. Using the smallest thickness measured from the various readings, the inspector can potentially determine the tank corrosion rate. If the corrosion rate can be determined, inspection time intervals, subject to approval by the CalGEM State Supervisor of Oil and Gas, may be extended, but must still be done at least once every 15 years. The minimum thickness for a tank shell is 0.06 inch. In-service tanks shall be internally inspected and tested to determine bottom plate thickness no less than once every 20 years. A tank is exempt from this requirement if: the tank is not an environmentally sensitive tank, it is not in an urban area, and is not located above subsurface fresh water; or the sub-base of the foundation of the tank has an impermeable barrier designed to prevent downward fluid migration and to allow leaks to drain away from the tank; or the tank has a properly installed, operating and maintained leak detection system. The internal inspection and bottom plate thickness testing is also usually conducted using ultrasonic thickness testing equipment by a reputable tank inspection company. For the bottom plate thickness testing, the inspector will take readings at various places. The smallest thickness measured from the various readings determines if the plate is still usable. The minimum bottom plate thickness shall meet the following criteria:

1. 0.10 inch for tank bottom/foundation design with no means of detection and containment of a bottom leak;

2. 0.05 inch for tank bottom/foundation design with adequate leak detection and containment of a bottom leak;

3. 0.05 inch in conjunction with a reinforced tank bottom lining, greater than 0.05 inch thick.

Amenities and Open Space

The private community recreation center would be located on an approximately 1-acre parcel within the residential area. It would be a private center maintained by the homeowners' association, available to residents only. The community recreation center would include an outdoor 1,500-square-foot, resort-style swimming pool, pool deck, pool building, a play structure, a barbeque area, and a parking lot. The project includes a pocket park in the northeast portion of the development and a bocce ball court and a seating area in the southern portion of the proposed development. The pocket park would be approximately 0.17 acre and would include turf and benches for seating. The project would include six additional landscaped lots with grass areas for recreational use.

The project would include a total of approximately 80.8 acres of open space. The 80.8 acres consist of open space areas within the residential portion of the site, manufactured and restored open space

areas, and natural open space. The project would include eight landscaped open space lots (including a pocket park and a bocce ball court), two landscape buffer areas, and two slope access areas within the residential development area, totaling 1.48 acres of open space. Manufactured and restored open space areas would consist of manufactured slopes, two landscape lots with slope access, two landscape buffer areas, and slope access and would cover approximately 27 acres. These manufactured and restored open space areas would be located along the northern and eastern property boundaries, around the proposed tank location, and adjacent to the southwest of the existing fault line in the central portion of the project site. Natural open space areas would be maintained in the southwest portion of the project site, covering approximately 45.4 acres. This natural open space area would include unimproved walking/hiking trails and would be preserved via an open space easement or deed restriction.

Access, Circulation, and Parking

The City proposes the extension of Via La Cresta and Shady View Drive from their existing termini in the South Trail community to the north. Via La Cresta would be extended in a southeast direction into the project site and Shady View Drive would extend to the southwest to intersect the extension of Via La Cresta. Via La Cresta and Shady View Drive would provide the two access points into the proposed development. The extension of these roadways would be private, and the proposed development would not include gated access. The project includes the construction of 11 internal private streets to provide access throughout the development.

Parking for the project would be provided consistent with the requirements of Chino Hills Municipal Code Section 16.34.060. For single-family dwelling units up to 3,100 square feet in R-S zoning districts, 4 parking spaces are required per unit, with 2 of the 4 spaces required to be in a garage. For single-family dwelling units of 3,101 to 6,000 square feet, 5 parking spaces are required, with 3 of the spaces required to be in the garage. The project proposes 56 units that are up to 3,100 square feet, and 103 units that are greater than 3,100 square feet but less than 6,000 square feet. Thus, the parking requirement for the project totals 739 parking spaces and the project provides 739 parking spaces, consistent with the requirements identified in the Municipal Code. On street parking within the proposed development would occur consistent with City Engineering standards, as required by Chino Hills Municipal Code Section 16.34.070 and would be restricted along some project roadways to provide fire lane access. These areas would be marked with “No Parking – Fire Lane” signs consistent with CVFD standards. Proposed locations for restricted on street parking to provide a fire lane include the southwestern side of the Via La Cresta extension, between Shady View Drive and B Street, the western side of D Street between Via La Cresta and C Street, and the cul-de-sac portions of C Street, E-G Streets, and I-K Streets.

SUMMARY OF PROJECT ALTERNATIVES

Alternatives to the project are found in Section 7.0. In accordance with Section 15126.6 of the CEQA Guidelines, acceptable alternatives are those that could feasibly attain most of the basic project objectives but would avoid or substantially lessen potential significant effects of the project. Due to the content of the project goals, only two alternatives are identified. These include Alternative 1, the No Project Alternative, and Alternative 2, The Reduced Project Alternative.

The No Project Alternative is required per State CEQA Guidelines Section 15126.6(e). It provides a basis for comparing the impacts that would occur if the project were approved, relative to what would occur if the project were not approved. The No Project Alternative assumes that the project would not be

adopted and no single-family residential buildings would be constructed at the project site. The existing conditions described in Chapter 2 of this EIR would remain at the project site. The No Project Alternative would avoid the significant and unmitigable transportation VMT impact. The No Project Alternative would also avoid significant but mitigable impacts to air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, transportation, tribal cultural resources, and wildfire. It would also avoid all other impacts of the project related to aesthetics, air quality, biological resources, cultural resources, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use, noise, public services, transportation, tribal cultural resources, utilities, and wildfire. The No Project Alternative would have the least environmental impact; however, the no project alternative is not feasible due to the fact that this alternative would fail to meet any of the basic project objectives.

The Reduced Project Alternative would consist of the development of the project site with a reduced residential development. This alternative would result in the development of the project site with approximately half of the single-family residences proposed for the project, resulting in the development of 79 single-family residential dwelling units at the project site. The Reduced Project Alternative would not avoid the significant, unmitigable VMT impact associated with the project. The Reduced Project Alternative would avoid significant but mitigable impacts to sensitive vegetation communities and jurisdictional impacts. Significant but mitigable impacts to air quality, biological resources (sensitive wildlife species, migratory species, and trees protected by local ordinances), cultural resources, geology and soils, hydrology and water quality, noise, tribal cultural resources, and wildfire would be slightly reduced due to a smaller grading area and a lower number of residences, but the required mitigation would be the same. The project and the Reduced Project Alternative would have essentially the same significant impacts with the same mitigation required to reduce impacts to less than significant levels relative to hazards and hazardous materials. Less than significant impacts with respect to aesthetics, GHG, public services, and utilities would be reduced for this alternative. The differences are primarily associated with the lower intensity of development required for this alternative. Less than significant land use impacts would be slightly greater due to the reduction in residential units. This reduction would not fully capitalize on the site's residentially-zoned land given the limited availability of residentially-zoned land remaining in the City. The Reduced Project Alternative would build less proposed residences by approximately 50 percent of the project. However, it would have the same uses and public improvements, and it would meet the project objectives (to a lesser extent given the reduction of residential units).

Due to the No project Alternative not meeting any of the goals, the environmentally superior alternative would be the Reduced Project Alternative. This alternative would overall reduce impacts of the project, except the significant but mitigable impacts to hazards and hazardous materials and less than significant land use impacts. The significant but mitigable impacts to hazards and hazardous materials would be about the same for both the project and this alternative. The less than significant land use impacts would be slightly greater due to the reduction in residential units compared to what is allowable under existing zoning standards for the site. This alternative would meet all the identified project objectives although some to a lesser extent than the project.

AREAS OF CONTROVERSY

Section 15123(b)(2) of CEQA requires that the EIR include a brief statement of areas of controversy associated with the project and/or EIR process. Potential areas of controversy and issues to be resolved by the City's decision-makers may include those environmental issue areas where the potential for an

unavoidable and significant impact has been identified. The following specific environmental concerns were raised by responses to the NOP for the project (the reference in parentheses is the EIR Section in which the analysis is provided).

- Impacts on access and circulation and landlocking of southern properties adjacent to the project site (Section 4.12 Transportation);
- Increase in VMT on local roadways, intersections, and the regional traffic system (Section 4.12 Transportation);
- Addition of new students to local schools resulting from proposed residential uses (Section 4.11.5.1, Public Facilities);
- Noise impacts on existing and proposed surrounding sensitive land uses (Section 4.10, Noise);
- Air quality degradation resulting from construction and operation of the proposed project (Section 4.2, Air Quality);
- Disturbance of endangered species and habitats in the project area (Section 4.3, Biological Resources);
- Flooding on the Park/Residential Site (Section 4.8, Hydrology and Water Quality);
- Adequacy of utilities and effect on existing utility service lines (Section 4.14, Utilities);
- Risk of soil contamination associated with existing oil tanks/pipelines (Section 4.7, Hazards and Hazardous Materials);
- Impacts on on-site cultural resources associated with construction activities (Section 4.4, Cultural Resources);
- Potential altering of existing storm drains (Section 4.8, Hydrology and Water Quality).

ISSUES TO BE RESOLVED

Section 15123(b)(3) of the CEQA Guidelines requires that the EIR Summary include a brief statement of issues to be resolved. In this proposed project, the major issues to be resolved include decisions by the City's Planning Commission and City Council as to:

1. Whether this EIR adequately describes the environmental impacts of the project;
2. Whether the mitigation measures identified in this EIR should be adopted as written, modified, replaced, or eliminated;
3. Whether the proposed development project provides benefits and responds to the community vision, goals and objectives;
4. Whether the benefits of the project override the potentially significant and unavoidable impacts relative to traffic that cannot feasibly be avoided or mitigated to a level of insignificance.

The project is expected to generate unavoidable significant impacts relative to traffic. Should the City decide to approve the proposed General Plan Update regardless of these unavoidable impacts, CEQA requires that the City consider adoption of two sets of findings. The first set is the Statement of Facts and Findings which requires the City to identify significant project impacts, presents facts supporting the conclusions reached in the analysis, makes one or more of three findings for each impact, and explains the reasoning behind the City's findings. The second set is the Statement of Overriding Considerations which requires the City to make findings that weigh the economic, legal, social, technological, and other benefits of the project against the unavoidable environmental risks.

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table ES-1, *Summary of Project Impacts and Mitigation*, provides a summary of the potential environmental effects of the Project, the Mitigation Program recommended to ensure that Project impacts are mitigated to the extent feasible, and the expected status of effects following the implementation of the Mitigation Program. The Mitigation Program will serve to prevent, reduce, and/or fully mitigate potential environmental impacts. The more detailed evaluation of these issues, as well as the full text of the Mitigation Program, is presented in EIR Sections 4.1 through 4.15.

Given the length of some measures and conditions, some are only summarized in the table. Each measure is identified by a number that can be used to reference the full text of the measure in the applicable EIR section. Where a measure applies to more than one topic, it is presented (either summarized or full text) in the primary section to which it applies and is then cross-referenced.

Table ES-1
SUMMARY OF PROJECT IMPACTS AND MITIGATION

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.1 Aesthetics				
Scenic Vistas	The construction of the proposed project would not result in significant impacts associated with obstructing views of Exceptionally Prominent or Prominent Ridgelines, and impacts would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant
State Scenic Highways	There are no candidates for the scenic highway land use designation within the vicinity. As such, no impact related to damaging scenic resources within a state-designated scenic highway would occur.	No Impact	No mitigation is necessary.	Less than Significant
Visual Character and Quality	Although the proposed project would result in substantial alterations to the visual appearance of the project site, the project would not result in significant impacts associated with substantially degrading the existing visual character or quality of public views of the site and its surroundings. Impacts would be less than significant	Less than Significant	No mitigation is necessary.	Less than Significant
Light and Glare	Lighting would be appropriate for their location and would be designed to meet the requirements of the City's Municipal Code. The number of windows and overall surface area of glass on the homes would not be at a scale to generate adverse glare effects. As such, impacts associated with lighting and glare at the project site would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.2 Air Quality				
Conflicts with Air Quality Plans	Implementation of the project would not conflict with or obstruct implementation of the AQMP, and the impact would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant
Air Quality Standards	The maximum daily construction period unmitigated emissions for NOx would exceed the SCAQMD significance threshold, and the impact would be potentially significant if not mitigated. Long-term operation of the project would not result in criteria pollutant or precursor emissions that would exceed the SCAQMD significance thresholds. Operational impacts would be less than significant.	Potentially Significant	**MM-AQ-1 Tier IV Off-Road Construction Equipment**. All off-road diesel-powered equipment rated at 50 horsepower or greater used on the project site during construction of the project shall be USEPA Tier IV (or better) certified or have CARB approved engine/exhaust retrofit kits to result in equivalent emissions. Prior to issuing permits, the City shall verify that construction contracts specify the off-road equipment certification or retrofit requirements. The applicant shall compile and maintain an inventory, including documentation of engine certification or emissions retrofits, of all off-road diesel-powered equipment rated at 50 horsepower or greater used on the project site during construction. The inventory shall be available for review and verification by the City on demand.	Less than Significant
Sensitive Receptors	Construction of the project would not result in exposure of sensitive receptors to substantial localized concentrations of criteria pollutants and precursors. Construction of the project would result in a potentially significant impact related to the exposure of sensitive receptors to substantial DPM concentrations.	Potentially Significant	Refer to MM-AQ-1	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	Operation of the project would not result in exposure of sensitive receptors to pollutants.			
Odors	The proposed project would not result in other emissions, such as those leading to odors, affecting a substantial number of people.	Less than Significant	No mitigation is necessary.	Less than Significant
4.3 Biological Resources				
Special Status Species	No impacts to rare plant species would occur. During construction, the proposed project has the potential to directly and/or indirectly affect special status animal species including Coastal California Gnatcatcher, mastiff bat, coast horned lizard raptors, least Bell's vireo, and burrowing owl.	Potentially Significant	**MM-BIO-1 Sensitive Bat Species**. Due to presence of potentially suitable habitat for sensitive bat species, the following avoidance and minimization measures shall be implemented to avoid potential indirect impacts to these two species: (1) Construction activities (i.e., earthwork, clearing, grubbing, etc.) shall occur outside the bat maternity roosting season (April 1 through August 31). (2) If construction activities are proposed within the bat maternity roosting season, a qualified biologist experienced with bats shall conduct a pre-construction survey within all suitable habitat on the study area. The pre-construction survey shall be conducted 30 days prior to commencing construction activities and shall consist of two separate surveys conducted no more than a week apart. The second and final survey should be conducted no more than seven days prior to commencing construction activities. The pre-construction surveys should be conducted using a detector for echolocation calls, such as an Anabat bat detector system. The results of the pre-construction survey shall be documented by the qualified biologist and submitted to the City.	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			• If the qualified biologist determines that no sensitive bat maternity roosts are present, the construction activities shall be allowed to proceed without any further requirements. If the qualified biologist determines that sensitive bat maternity roosts are present, the following avoidance and minimization measures shall be implemented: (A) No construction activities may occur within 300 feet of any sensitive bat maternity roosts. A qualified biologist shall clearly delineate any bat maternity roosts and any required avoidance buffers, which shall be clearly marked with flags and/or fencing prior to the initiation of construction activities. (B) If construction activities are proposed within 300 feet of a sensitive bat maternity roost, a biological monitor shall be required to observe the behavior of any roosting bats. The construction supervisor shall be notified if the construction activities appear to be altering the bats' normal roosting behavior. No construction activities will be allowed within 300 feet of bat maternity roosts until the additional minimization measures are taken, as determined by the biological monitor in coordination with CDFW. The biological monitor shall prepare written documentation of all monitoring activities and any additional minimization measures that were taken, which shall be submitted to CDFW at the completion of construction activities.	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			MM-BIO-2 Coast Horned Lizard. A qualified wildlife biologist will be monitor initial clearing of suitable habitat (i.e., California sagebrush scrub). If coast horned lizard individuals are found in the project footprint, the biologist(s) shall direct all work to occur within an area of the study area away from coast horned lizard. The biologist(s) shall passively flush individuals away from the active work area. The qualified biologist(s) shall submit to CDFW the number and locations of coast horned lizard disturbed by vegetation removal activities.	
			MM-BIO-3 Burrowing Owl. In compliance with the CDFW Staff Report on BUOW Mitigation (2012), a take avoidance survey shall be conducted on the study area within 14 days prior to ground disturbance to determine presence of BUOW. If the take avoidance survey is negative and BUOW is confirmed absent, then ground-disturbing activities shall be allowed to commence, and no further mitigation would be required. If BUOW are observed during the take avoidance survey, active burrows shall be avoided by the project in accordance with the CDFW's Staff Report (2012). The CDFW shall be immediately informed of any BUOW observations. A BUOW Protection and Relocation Plan (plan) shall be prepared by a qualified biologist, which must be sent for approval by CDFW prior to initiating ground disturbance. The plan shall detail avoidance measures that shall be implemented during construction and passive or active relocation methodology. Relocation shall only occur outside	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			of the nesting season (September 1 through January 31).	
			MM-BIO-4 Coastal California Gnatcatcher. Due to presence of CAGN and suitable habitat within the study area, the following measures shall be implemented to minimize and avoid potential direct impacts: 1. Prior to issuance of a grading permit, it shall be demonstrated that FESA consultation with USFWS regarding the project's effects to CAGN has occurred and that the USFWS has authorized such take through an incidental take statement or incidental take permit, as applicable. Compensatory mitigation for permanent direct impacts to 25.65 acres of suitable CAGN habitat identified in this report shall be offset through compensatory mitigation which may include, but is not necessarily limited to, on-site or off-site California sage scrub preservation, enhancement, restoration, and/or creation at a ratio of no less than 1:1. However, if the USFWS issues a biological opinion or incidental take permit for the project that covers CAGN, that document will supersede any measures and mitigation ratios provided in this report. Mitigation for the project's effects to CAGN shall be determined by USFWS in accordance with the FESA consultation process and the biological opinion or incidental take permit that is issued by USFWS for the project.	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			2. If construction activities (i.e., earthwork, clearing, and grubbing) occur outside of the CAGN nesting season (September 1 through February 15), the following measures shall be implemented to avoid potential impacts. a. Pre-Construction Surveys: A pre-construction survey shall be conducted by the qualified biologist(s) to confirm that CAGN are absent, or breeding and nesting activities are not within 500 feet of the outer limits of disturbance. The survey shall be conducted no more one day prior to impacts to suitable habitat. b. Biological Monitoring: A qualified biologist(s) shall monitor initial clearing of suitable habitat. If CAGN are found in the project footprint, the biologist(s) shall direct all work to occur within an area of the study area away from CAGN. The biologist(s) shall passively flush individuals away from the active work area. The qualified biologist(s) shall submit to USFWS the number and locations of CAGN disturbed by vegetation removal activities. 3. If construction activities (i.e., earthwork, clearing, grubbing, etc.) are proposed within the CAGN nesting season (February 15 through August 31), the following measures shall be implemented to avoid potential impacts: a. Pre-Construction Surveys: Following notification to USFWS, a pre-	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			construction survey shall be conducted by the qualified biologist(s) to confirm that CAGN are absent or breeding and nesting activities are not present within 500 feet of the outer limits of disturbance. The survey shall be conducted one day prior to impacts to suitable habitat and USFWS will be notified at least seven days prior to initiation of the survey. The qualified biologist(s) shall submit to USFWS the number and locations of CAGN observed on and within 500 feet of the project footprint. b. Biological Monitoring: Construction activities shall not occur within 500 feet of an active CAGN nest unless noise monitoring and/or noise attenuation measures are implemented (see below). Noise monitoring and noise attenuation measures shall be approved by USFWS prior to implementation. A qualified biologist(s) shall monitor initial clearing of suitable habitat. After vegetation removal is complete, surveys shall be completed once per week during project construction that occurs within the breeding season. Weekly surveys may be suspended if approved by USFWS c. Noise Monitoring: If an active nest is observed on or within 500 feet of the project footprint, a qualified acoustician shall assess the potential for noise	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			levels to exceed 60 A-weighted decibels (dB[A]) hourly in areas occupied by the CAGN, or an hourly average increase of 3 dB(A) if existing ambient noise levels exceed 60 dB(A). The qualified acoustician shall coordinate with the qualified biologist(s) and USFWS to identify noise attenuation measures. Construction may proceed within 500 feet of an active nest if noise levels are maintained below a 60 dB(A) hourly average, or below an hourly average increase of 3 dB(A) if existing ambient noise levels exceed 60 dB(A), near the nest site and as approved by USFWS. i. A qualified acoustician shall be retained to determine ambient noise levels for construction activities within 500 feet of active nests. Noise levels near the nest site shall not exceed an hourly average of 60 dB(A), or an hourly average increase of 3 dB(A) if existing ambient noise levels exceed 60 dB(A). If project-related noise levels exceed the threshold described above, construction activities shall cease until additional minimization measures are taken to reduce project-related noise levels to below an hourly average of 60 dB(A), or below an hourly average increase of 3 dB(A) if existing ambient noise levels	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			exceed 60 dB(A). If additional measures do not decrease project-related noise levels below the thresholds described above, construction activities shall cease until CDFW and/or USFWS are contacted to discuss alternative methods. ii. All project personnel shall attend a training program presented by a qualified biologist prior to construction activities. The training program shall inform project personnel about the life history of CAGN and all avoidance and minimization measures. iii. The construction contractor shall only allow construction activities to occur during daylight hours. iv. The construction contractor shall require functional mufflers on all construction equipment (stationery or mobile) used within or immediately adjacent to any 500-foot avoidance buffers to reduce construction equipment noise. Stationary equipment shall be situated so that noise generated from the equipment is not directed towards any suitable habitat for the CAGN. v. The construction contractor shall place staging areas as far as	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			feasible from any suitable CAGN habitat. vi. The biological monitor shall prepare written documentation of all monitoring activities at the completion of construction activities, which shall be submitted to USFWS.	
Sensitive Habitats	The project would result in no impact to CDFW sensitive vegetation communities/ habitats would occur. Permanent impacts to USACE/RWQCB non-wetland waters of the U.S. are a significant impact; mitigation is required.	Potentially Significant	**MM-BIO-5 Jurisdictional Resources**. Prior to issuance of a grading permit for impacts to jurisdictional resources, the Project Applicant shall obtain the necessary regulatory permits from USACE, RWQCB, and CDFW (collectively, the "Resource Agencies"). Permanent impacts to jurisdictional resources shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of jurisdictional streambed and/or riparian habitat at a ratio of no less than 2:1. The following minimization measures shall be implemented during construction: • Use of standard Best Management Practices (BMPs) to minimize the impacts during construction. • Construction-related equipment shall be stored in developed areas, outside of drainages. • Source control and treatment control BMPs shall be implemented to minimize the potential contaminants that are generated during and after construction. Water quality BMPs shall be implemented throughout the	Less Than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			project to capture and treat potential contaminants. • To avoid attracting predators during construction, the project shall be kept clean of debris to the extent possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from site. • Employees shall strictly limit their activities, vehicles, equipment, and construction material to the proposed project footprint, staging areas, and designated routes of travel. • Exclusion fencing should be maintained until the completion of construction activities.	
Wetlands	During construction, the proposed project could inadvertently result in impacts to jurisdictional drainage features.	Potentially Significant	Refer to MM-BIO-5	Less than Significant
Wildlife Movement	The proposed project would have a less than significant impact to regional wildlife movement; however, project activities could disturb or destroy active migratory bird nests including eggs and young which is considered a potentially significant impact and mitigation is required	Potentially Significant	**MM-BIO-6 Nesting Birds**. To the extent possible, construction activities (i.e., earthwork, clearing, and grubbing) shall occur outside of the general bird nesting season for migratory birds, which is March 15 through August 31 for songbirds and January 15 to August 31 for raptors. If construction activities (i.e., earthwork, clearing, and grubbing) must occur during the general bird nesting season for migratory birds and raptors (January 15 and August 31), a qualified biologist shall perform a pre-construction survey of potential nesting habitat to confirm the absence of active nests belonging to migratory birds and raptors afforded	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			protection under the MBTA and CFG Code. The pre-construction survey shall be performed no more than seven days prior to the commencement of construction activities. The results of the pre-construction survey shall be documented by the qualified biologist and submitted to the City prior to construction. If the qualified biologist determines that no active migratory bird or raptor nests occur, the activities shall be allowed to proceed without any further requirements. If the qualified biologist determines that an active migratory bird or raptor nest is present, no impacts within 300 feet (500 feet for raptors) of the active nest shall occur until the young have fledged the nest and the nest is confirmed to no longer be active, or as determined by the qualified biologist. The biological monitor may modify the buffer or propose other recommendations to minimize disturbance to nesting birds. In addition, to the nesting bird survey described above, a golden eagle specialist shall perform a pre-construction survey of potential nesting habitat to confirm the absence of active golden eagle nests. The golden eagle pre-construction survey shall be performed no more than seven days prior to the commencement of construction activities. If nests are observed, the qualified biologist may recommend avoidance and minimization measures, such as setback buffers, depending on the location of the nest and the type of activity occurring in the vicinity/view of the nest. The results of the pre-construction survey shall be documented by the golden eagle	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			specialist and submitted to the City prior to construction.	
Local Policies	Potential impacts to trees protected under local policies would be significant, mitigation is required.	Potentially Significant	**MM-BIO-7 City-protected Trees**. Prior to construction, a tree survey shall be conducted within the development footprint to determine the number of City-protected trees that will be impacted by the project. The Project Applicant shall obtain a Tree Permit in accordance with the City's Tree Preservation Ordinance (Chapter 16.90 of the City's Municipal Code; City 2020) prior to impacting protected trees. The Project Applicant shall replace impacted City-protected trees proposed for removal by planting replacement trees on-site, or off-site if deemed acceptable by the Director. Replacement ratios shall be determined based on requirements described in Section 16.90.070 of the Tree Preservation Ordinance. All replacement trees shall be approved by the City. All City-protected tree removals shall be conducted in the presence of an ISA-certified arborist approved by the City.	Less Than Significant
Conservation Planning	The project does not conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, no impact would occur.	No Impact	No mitigation is necessary.	No Impact
4.4 Cultural Resources				
Historical Resources	The prehistoric resources identified within the area indicate the project site may be sensitive for lithic production sites, rock features, or lithic isolates. Furthermore, several historic sites pertaining to farming,	Less than Significant	No mitigation is necessary.	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	ranching, and quarrying are located near the proposed project site.			
Archaeological Resources	Based on the cultural sensitivity of the area, the proposed project could affect unidentified archaeological resources during ground-disturbing activities.	Potentially Significant	**MM-CUL-1 Archaeological and Native American Construction Monitoring**. Prior to the issuance of grading permits, the project applicant shall prepare an archaeological and Native American monitoring program that shall be reviewed and approved by the City's Community Development Department. The monitoring program shall include the retention of a qualified archaeologist and a Native American (NA) monitor. The archaeological and NA monitors shall attend a pre-construction meeting with the construction manager and be in attendance during ground disturbing activities at the project site, including brushing/grubbing, excavation, grading, trenching, etc. in soils with a potential for cultural material (e.g., not formation material). The archaeological and NA monitors shall have the authority to temporarily halt or redirect grading and other ground-disturbing activity if cultural resources are encountered. If significant cultural material is encountered, the project archaeologist will coordinate with the applicant, representatives of the Consulting Tribe(s), and City staff to develop and implement appropriate avoidance, preservation, or mitigation measures. If significant cultural material is encountered, the project archaeologist will coordinate with the applicant, representatives of the Consulting Tribe(s), and City staff to develop and implement appropriate avoidance, preservation, or mitigation measures.	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Tribal Cultural Resources	Based on the cultural sensitivity of the area, the proposed project could affect unidentified tribal cultural resources during ground-disturbing activities.	Potentially Significant	**MM-TCR-1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities.** A. The project applicant/lead agency shall retain a Native American monitor from (or approved by) the Gabrieleño Band of Mission Indians – Kizh Nation (the "Kizh" or the "Tribe") - the direct lineal descendants of the project location. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project, at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" includes, but is not limited to, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching. B. A copy of the executed monitoring agreement shall be provided to the lead agency prior to the earlier of the commencement of any ground-disturbing activity for the project, or the issuance of any permit necessary to commence a ground-disturbing activity. C. The project applicant/developer shall provide the Tribe with a minimum of 30 days advance written notice of the commencement of any project ground-disturbing activity so that the Tribe has	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			sufficient time to secure and schedule a monitor for the project. D. The project applicant/developer shall hold at least one (1) pre-construction sensitivity/educational meeting prior to the commencement of any ground-disturbing activities, where at a senior member of the Tribe will inform and educate the project's construction and managerial crew and staff members (including any project subcontractors and consultants) about the TCR mitigation measures and compliance obligations, as well as places of significance located on the project site (if any), the appearance of potential TCRs, and other informational and operational guidance to aid in the project's compliance with the TCR mitigation measures. E. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			provided to the project applicant/lead agency upon written request. F. Native American monitoring for the project shall conclude upon the latter of the following: (1) written confirmation from a designated project point of contact to the Tribe that all ground-disturbing activities and all phases that may involve ground-disturbing activities on the project site and at any off-site project location are complete; or (2) written notice by the Tribe to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase (known by the Tribe at that time) at the project site and at any off-site project location possesses the potential to impact TCRs.	
			MM-TCR-2 Discovery of TCRs, Human Remains, and/or Grave Goods A. Upon the discovery of a TCR, all construction activities in the immediate vicinity of the discovery (i.e., not less than the surrounding 50 feet) shall cease. The Tribe shall be immediately informed of the discovery, and a Kizh monitor and/or Kizh archaeologist will promptly report to the location of the discovery to evaluate the TCR and advise the project manager regarding the matter, protocol, and any mitigating requirements. No project construction activities shall resume in the surrounding 50 feet of the discovered TCR unless and until the Tribe has completed its assessment/evaluation/	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			recovery of the discovered TCR and surveyed the surrounding area. B. The Tribe will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate in its sole discretion, and for any purpose the Tribe deems appropriate, including but not limited to, educational, cultural and/or historic purposes. C. If Native American human remains and/or grave goods are discovered or recognized on the project site or at any off-site project location, then all construction activities shall immediately cease. Native American "human remains" are defined to include "an inhumation or cremation, and in any state of decomposition or skeletal completeness." (Pub. Res. Code § 5097.98 (d)(1).) Funerary objects, referred to as "associated grave goods," shall be treated in the same manner and with the same dignity and respect as human remains. (Pub. Res. Code § 5097.98 (a), d)(1) and (2).) D. Any discoveries of human skeletal material or human remains shall be immediately reported to the County Coroner (Health & Safety Code § 7050.5(c); 14 Cal. Code Regs. § 15064.5(e)(1)(B)), and all ground-disturbing project ground-disturbing activities on site and in any other area where the presence of human remains and/or grave goods are suspected to be present, shall Immediately halt and remain	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			halted until the coroner has determined the nature of the remains. (14 Cal. Code Regs. §15064.5(e).) If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed. E. Thereafter, construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or grave goods, if the Tribe determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Tribal monitor and/or archaeologist deems necessary). (14 Cal. Code Regs. § 15064.5(f).) F. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or grave goods. G. Any historic archaeological material that is not Native American in origin (non-TCRs) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.	
			MM-TCR-3 Procedures for Burials, Funerary Remains, and Grave Goods A. Any discovery of human remains and/or grave goods discovered and/or recovered shall be kept confidential to prevent further disturbance. B. As the Most Likely Descendant ("MLD"), the Koo-nas-gna Burial Policy shall be implemented for all discovered Native American human remains and/or grave goods. Tribal Traditions include, but are not limited to, the preparation of the soil for burial, the burial of funerary objects and/or the deceased, and the ceremonial burning of human remains. C. If the discovery of human remains includes four (4) or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created. D. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated "grave goods" (aka, burial goods or funerary objects) are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later, as well as other items	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			made exclusively for burial purposes or to contain human remains. Cremations will either be removed in bulk or by means necessary to ensure complete recovery of all sacred materials. E. In the case where discovered human remains cannot be fully recovered (and documented) on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to divert the project while keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed. F. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects. The site of reburial/repatriation shall be agreed upon by the Tribe and the landowner, and shall be protected in perpetuity.	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			G. Each occurrence of human remains and associated grave goods will be stored using opaque cloth bags. All human remains, grave goods, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items will be retained and shall be reburied within six months of recovery. H. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.	
4.5 Geology and Soils				
Seismic Hazards	The proposed project would have the potential to cause adverse effects related to seismic hazards, Impacts would be potentially significant.	Potentially Significant	**MM-GEO-1 Structural Fault Setback.** To avoid impacts associated with fault rupture, the project applicant shall ensure a setback of 50 feet, consistent with the setback required by the California Alquist-Priolo Earthquake Fault Zoning Act, is maintained between all habitable structures and the surveyed location of the	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			active fault trace. The final position of the 50-foot setback shall be based on finished grade elevations, shown on project plans and construction documents, and shall be subject to review and approval from the City Engineer and/or City Building Official.	
Erosion and Sedimentation	The proposed project would not result in substantial erosion or the loss of topsoil.	Less than Significant	No mitigation is necessary.	Less than Significant
Geologic Instability	The proposed project would not result in substantial effects associated with geologic instability.	Less than Significant	No mitigation is necessary.	Less than Significant
Expansive Soil	The proposed project would not cause substantial risks related to expansive soils.	Less than Significant	No mitigation is necessary.	Less than Significant
Septic Tanks	The proposed project would not require the use of septic tanks.	No Impact	No mitigation is necessary.	Less than Significant
Paleontological Resources	The project is located in an area of paleontological sensitivity; therefore, the proposed project could affect buried paleontological resources during excavation activities.	Potentially Significant	**MM-GEO-2 Paleontological Monitoring.** Prior to construction, the owner/permittee shall retain a qualified paleontological monitor, acceptable to the City. The paleontological monitor shall attend pre-construction meeting(s) with the construction manager and shall be present during all initial cutting, grading, or excavation of previously undisturbed areas. If a fossil is encountered, all operations in the area where the fossil was found shall be suspended immediately, the City shall be notified, and a qualified paleontologist shall be retained by the City to evaluate the significance of the find; salvage, record, clean, and curate significant fossil(s); and document the find in accordance with current professional paleontological standards. Within 30 days of completion of	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			ground-disturbing activities, either a letter signed by the paleontological monitor stating that no fossils were found or, if fossils were found, a report prepared by the qualified paleontologist documenting the mitigation program shall be submitted to the City.	
4.6 Greenhouse Gas Emissions				
Greenhouse Gas Emissions	Implementation of the proposed project would not result in greenhouse gas emissions exceeding, and the impact would be less than significant	Less than Significant	No mitigation is necessary.	Less than Significant
Conflict with Plans or Policies	The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and the impact would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant
4.7 Hazards and Hazardous Materials				
Transport, Use, and Disposal of Hazardous Materials	The proposed project would potentially create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Impacts would be potentially significant.	Potentially Significant	**MM-HAZ-1 Pipeline Maintenance.** The operator of the adjacent oil operations shall conduct pipeline maintenance as required by CalGEM. Pipeline maintenance includes testing on all newly installed, repaired, or modified existing pipelines prior to starting or re-starting operations. Any pipeline having a leak of reportable quantity must successfully pass pressure-testing before returning to service. Additionally, CalGEM-regulated pipelines must be tested on a periodic basis. Active oil or gas pipelines located in high-risk area (high-risk areas include those within 300 feet from any public recreation area, residences, schools,	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			hospitals, or businesses), such as environmentally sensitive, urban, and sensitive areas, require biennial testing after reaching the age of 10 years. Acceptable testing methods include pressure testing, ultrasonic, and smart pigging. Approval from CalGEM is required before using a testing method other than pressure testing or ultrasonic testing to determine wall thickness. CalGEM recommends operators seek input from CalGEM when planning an ultrasonic test of a pipeline located in a high-risk area (NTO 2019-09). Operators may conduct pipeline leak inspection per CCR Title 14, Division 2, Chapter 4 Section 1774.1 and without notification to CalGEM as this activity is not testing. Furthermore, pipelines not located within high-risk areas are to be tested at a minimum per the interval specified by Cal-OSHA. Operators must notify the local CalGEM district office at least two days prior to any required pipeline testing. CalGEM does not require test notification for pipelines not located within high-risk areas, unless these pipelines are tested following a repair due to a reportable leak.	
			MM-HAZ-2 Tank Maintenance. The operator of the adjacent oil operations shall conduct tank maintenance inspections as required by CalGEM, at least once a month on all in-service tanks associated with oil and gas production. Operators shall inspect the tanks for the following:	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			1. Leakage at base, seams, associated piping, tank shell plugs, or any other fitting that could leak. 2. Presence of corrosion or shell distortions. 3. General condition of the foundation, including any signs of settling or erosion that may undermine the foundation. 4. Condition of paint coatings, insulation systems, and tank grounding system components if present. Monthly inspection findings shall be documented either on paper or electronically. The records shall be maintained and easily accessible so that a CalGEM inspector can review them. California requires that the walls or sides of in-service tanks be tested for thickness every five (5) years, unless otherwise approved by the CalGEM State Supervisor of Oil and Gas. Operators must notify CalGEM two days or more prior to conducting required tank testing. Tank wall thickness testing shall be performed by a reputable tank inspection company using ultrasonic thickness-testing equipment to measure the wall thickness in various places. Using the smallest thickness measured from the various readings, the inspector can potentially determine the tank corrosion rate. If the corrosion rate can be determined, inspection time intervals, subject to approval by the CalGEM State Supervisor of Oil and Gas, may be extended, but must still be done at least once every 15 years. The minimum thickness for a tank shell is 0.06 inch. In-service tanks shall be	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			internally inspected and tested to determine bottom plate thickness no less than once every 20 years. A tank is exempt from this requirement if: the tank is not an environmentally sensitive tank, it is not in an urban area, and is not located above subsurface fresh water; or the sub-base of the foundation of the tank has an impermeable barrier designed to prevent downward fluid migration and to allow leaks to drain away from the tank; or the tank has a properly installed, operating and maintained leak detection system. The internal inspection and bottom plate thickness testing is also usually conducted using ultrasonic thickness testing equipment by a reputable tank inspection company. For the bottom plate thickness testing, the inspector will take readings at various places. The smallest thickness measured from the various readings determines if the plate is still usable. The minimum bottom plate thickness shall meet the following criteria: 1. 0.10 inch for tank bottom/foundation design with no means of detection and containment of a bottom leak; 2. 0.05 inch for tank bottom/foundation design with adequate leak detection and containment of a bottom leak; 3. 0.05 inch in conjunction with a reinforced tank bottom lining, greater than 0.05 inch thick. Also refer to MM-HYD-1 below.	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Release of Hazardous Materials	The project has the potential for the release of hazardous materials at the scrapyard and construction debris trenches during project grading and construction activities is considered a potentially significant impact.	Potentially Significant	**MM-HAZ-3 Site/Soil Management Plan.** Prior to issuance of a demolition or grading permit, the project applicant shall prepare a Site/Soil Management Plan (SMP). The SMP shall be developed for use during future grading work at the project site. The SMP shall establish guidelines to address potential areas of hazardous materials impact that could be encountered during demolition and initial grading work, including the following areas of the project site: former and existing aboveground storage tanks, pipeline corridor, scrapyard, and the construction debris trenches. The SMP shall include protocols for the characterization and handling of excavated soil. The SMP shall be prepared and submitted to the City Engineer and/or Building Official for review and approval prior to the issuance of a demolition or grading permit.	Less than Significant
			MM-HAZ-4 Scrapyard Soil Removal. Prior to the issuance of grading permits, the construction contractor shall complete the following activities in the vicinity of the scrapyard: scarify and remove the upper 6 inches of soil near the storage shed, within the scrapyard area (approximately 0.8 acre), resulting in the removal of approximately 645 cubic yards of soil. The removed soil shall be disposed of at a non-hazardous landfill or potentially be placed in future roadways or deep fill areas. Confirmation of soil removal and disposal shall be submitted to the City Engineer and/or Building Official.	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			MM-HAZ-5 Construction Debris Trenches Soil Removal. Prior to the issuance of grading permits, the construction contractor shall remove all construction debris and soil within the construction debris trenches, in compliance with the Site Management Plan identified as mitigation measure HAZ-1. The soil within the trenches shall be excavated to at least native soil. Confirmation soil sampling shall be completed on the underlying native soils to confirm that underlying soil meets residential screening levels. The removed soil shall be disposed of at a non-hazardous landfill or potentially be placed in future roadways or deep fill areas. Confirmation of soil removal, disposal, and sampling results shall be submitted to the City Engineer and/or Building Official.	
			MM-HAZ-6 Removal Action Workplan. Prior to the issuances of grading permits, the project applicant shall provide verification of the site investigation, under DTSC's oversight, has been completed for the project. If the site investigation reveals that site cleanup is needed after the completion of the site investigation, the project applicant shall prepare a Removal Action Workplan, under DTSC oversight. The project applicant shall complete the requirements of the Removal Action Workplan to the satisfaction of the DTSC and shall provide verification to the City that the requirements of the Removal Action Workplan have been completed to the satisfaction of the DTSC.	
			MM-HAZ-7 ACM, LBP, and PCB Investigations. Prior to implementing associated demolition	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			operations, an evaluation of the potential occurrence of ACMs, LBP and/or PCBs shall be conducted for demolition/removal of pertinent on-site structures, including the large storage shed near the scrap yard area, one small shed (associated with a former gas plant) west of the aboveground storage tanks, and one mobile home and applicable power pole transformers. Specifically, the following investigations shall be required: • With respect to ACMs, a survey shall be performed prior to demolition to determine the presence or absence of ACMs at the applicable noted on-site structures proposed for demolition/removal. Suspect materials that will be disturbed by Project activities shall be sampled and analyzed for asbestos content or assumed to be asbestos containing. The survey shall be conducted by a person certified by Cal/OSHA pursuant to regulations implementing subdivision (b) of Section 9021.5 of the California Labor Code, and who has taken and passed a USEPA-approved Building Inspector Course. Evidence of survey completion shall consist of a signed and stamped statement submitted to the City from the person certified to complete the facility survey, indicating that the survey has been completed and that either regulated asbestos is present or absent. If regulated ACMs are present, the statement shall describe the procedures that will be taken to remediate the hazard, including	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			applicable regulations for demolition methods and dust suppression under SCAQMD Rule 1403, and proper handling and disposal under CCR Title 22, Division 4.5. Verification that the specified procedures were followed shall be provided to the City. • With respect to LBP, a survey shall be performed by a California Department of Health Services (DHS) certified lead inspector/risk assessor to determine the presence/absence of LBP at the applicable noted on-site structures proposed for demolition/removal. Evidence of survey completion shall consist of a signed and stamped statement submitted to the City from the person certified to complete the facility survey, indicating that the survey has been completed and that either regulated LBP is present or absent. If regulated LBP is present, all demolition/ removal of lead-containing materials shall comply with applicable regulations for demolition methods and dust suppression. Lead containing materials shall be managed in accordance with applicable regulations including, at a minimum, the hazardous waste disposal requirements (CCR Title 22, Division 4.5); and the State Lead Accreditation, Certification and Work Practice Requirements (CCR Title 17, Division 1, Chapter 8). Verification that the specified procedures were followed shall be provided to the City.	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			• For PCBs, a survey shall be conducted prior to demolition to determine the presence or absence of PCBs in applicable power pole transformers and in structures proposed for demolition and removal. These surveys shall be conducted by qualified/certified personnel, such as federal and/or state-certified inspectors/assessors. Evidence of survey completion shall consist of a signed and stamped statement submitted to the City from the person certified to complete the facility survey, indicating that the survey has been completed and that either regulated PCBs are present or absent. If regulated PCBs are present, all related handling and disposal shall be conducted pursuant to applicable federal (e.g., 40 CFR Part 761), State (e.g., Title 22) and local (e.g., SBCFD) requirements. Verification that the specified procedures were followed shall be provided to the City.	
Hazards to Schools	If present, people at nearby schools could potentially be exposed to emissions of these hazardous materials during demolition and grading activities. Construction-related impacts on nearby schools would be potentially significant, requiring mitigation	Potentially Significant	Refer to **MM-HAZ-3** through **MM-HAZ-7** above.	Less than Significant
Hazardous Materials Sites	The project site was not listed in any of the Standard Environmental Record source databases or any Additional Environmental Record source databases. No impact associated with listed	No Impact	No mitigation is necessary.	No Impact

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	hazardous materials sites would occur as a result of the project.			
Emergency Response and Evacuation Plans	The project may result in significant impacts associated with an emergency response plan, impacts would be potentially significant.	Potentially Significant	Refer to **MM-WLF-1** below.	Less than Significant
4.8 Hydrology and Water Quality				
Water Quality	The proposed project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	Potentially Significant	**MM-HYD-1 Storm Water Pollution Prevention Plan.** Prior to project implementation, a project-specific SWPPP shall be prepared and implemented, in conformance with all applicable requirements of the NPDES Construction General Permit (NPDES No. CAS000002, SWRCB Order 2009-0009-DWQ; as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ) and related City standards regarding the issues of erosion/sedimentation and construction-related hazardous materials. While final BMPs would be determined as part of the noted NPDES/SWPPP process based on site-specific parameters, they are likely to include standard industry measures and guidelines from sources including the City's Erosion Management and Storm Water Management Ordinances and Construction General Permit. While project-specific erosion and sedimentation BMPs would be determined during the SWPPP process based on site characteristics, they would include standard industry measures and guidelines from the City's Erosion Management and Storm Water Management Ordinances and the NPDES Construction General Permit administered by the	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			RWQCB. Typical erosion and sediment control BMPs that may be required in the project SWPPP include: (1) seasonal grading restrictions during the rainy season; (2) preparation and implementation of a CSMP and, if applicable, a REAP to provide enhanced erosion and sediment control measures prior to predicted storm events; (3) use of erosion control/stabilizing measures such as geotextiles, mats, fiber rolls, or soil binders; (4) use of sediment controls to protect the site perimeter and prevent off site sediment transport, including measures such as inlet protection, silt fencing, fiber rolls, gravel bags, temporary sediment basins, street sweeping, stabilized construction access points and sediment stockpiles, and use of properly fitted covers for sediment transport vehicles; (5) compliance with local dust control measures; (6) appropriate BMP performance monitoring and as-needed maintenance; and (7) implementation of additional BMPs as necessary to ensure adequate erosion/sediment control and regulatory conformance. Typical BMPs associated with construction-related hazardous materials that may be required in the project SWPPP include the following: (1) minimizing and properly locating (e.g., away from drainages/storm drains) hazardous material use/storage areas; (2) providing appropriate covers/enclosures, secondary containment (e.g., berms), monitoring/maintenance, and inventory control (e.g., delivery logs/labeling) for hazardous material use/storage areas; (3) restricting paving	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			operations during wet weather and providing appropriate sediment control downstream of paving activities; (4) utilizing properly designed and contained washout areas for materials including concrete, drywall, and paint; (5) properly maintaining all construction equipment and vehicles, and providing appropriate containment for associated fueling and maintenance operations; (6) providing training to applicable construction employees on the proper use, handling, storage, disposal, and notification/cleanup procedures for construction-related hazardous materials; (7) storing appropriate types and quantities of containment and cleanup materials on site; (8) implementing appropriate solid waste containment, disposal, and recycling efforts; and (9) properly locating, maintaining, and containing portable wastewater facilities. While detailed BMPs would be determined as part of the NPDES/SWPPP process based on project-specific parameters, BMPs specific to demolition-related debris generation, they are likely to include the following types of standard industry measures and guidelines from sources including the City's Erosion Management and Storm Water Management Ordinances and Construction General Permit: (1) recycle appropriate (i.e., non-hazardous) construction debris for on- or off-site use whenever feasible; (2) properly contain and dispose of construction debris to avoid contact with storm water; (3) use dust-control measures such as watering to reduce particulate generation for pertinent	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			locations/activities (e.g., concrete removal); and (4) implement appropriate erosion prevention and sediment control measures downstream of all demolition activities.	
Groundwater Supply	The proposed project would not substantially decrease groundwater supplies or interfere with groundwater recharge.	Less than Significant	No mitigation is necessary.	Less than Significant
Drainage	The proposed project could result in impacts associated with increased impervious surfaces, runoff generation, hydromodification, and erosion/sedimentation.	Less than Significant	No mitigation is necessary.	Less than Significant
Flood Hazard Areas	The proposed project would not risk release of pollutants due to project inundation.	Less than Significant	No mitigation is necessary.	Less than Significant
Water Quality Plan	The proposed project would not conflict with or obstruct implementation of a water quality plan or sustainable groundwater management plan.	Less than Significant	No mitigation is necessary.	Less than Significant
4.9 Land Use and Planning				
Community Division	The project does not include widening of existing roads, vacation of existing streets, or other components that would physically divide an existing community, Impacts would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant
Consistency with Environmental Goals of Adopted Land Use Plans	The project would not result in a conflict with or create inconsistencies with land use plans, policies, or regulations, impacts would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.10 Noise				
Increase in Ambient Noise	Proposed project construction would create an increase in temporary ambient noise levels, impacts would be potentially significant.	Potentially Significant	**MM-NOI-1 Construction Noise Management Plan**. A Construction Noise Management Plan that describes the measures included on the construction plans minimize temporary noise at nearby residences shall be prepared by the project applicant and submitted to the City for approval prior to issuance of the grading permit. At a minimum, the following measures shall be included to minimize construction noise: • Construction equipment shall be properly outfitted and maintained with manufacturer-recommended noise-reduction devices. • Diesel equipment shall be operated with closed engine doors and equipped with factory recommended mufflers. • Mobile or fixed "package" equipment (e.g., generators and air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment. • Electrically powered equipment shall be used instead of pneumatic or internal-combustion powered equipment, where feasible. • Unnecessary idling of internal combustion engines (e.g., in excess of 5 minutes) shall be prohibited. • Material stockpiles and mobile equipment staging, parking, and maintenance areas to	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			be located as far as practicable from noise sensitive receptors. • The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. • The project applicant shall notify residences within 500 feet of the project's property line in writing within one week of any construction activity requiring the use of heavy construction equipment. The notification shall describe the activities anticipated, provide dates and hours, and provide contact information with a description of a complaint and response procedure. • The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process for the affected resident shall be established prior to construction commencement to allow for resolution of noise problems that cannot be immediately solved by the site supervisor.	
			MM-NOI-2 Acoustic Barriers. Acoustic barriers shall be constructed along the exterior lot lines with direct line of sight to SR-71 for lots 32 through 36, lot 41, and lots 108 through 129, as numbered on the proposed project tentative map 20317. Walls shall extend a minimum of 6 feet above the lot's finished grade level and shall be constructed of solid material having a minimum STC rating of 46. The walls shall be	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			constructed with no holes or gaps, including between the wall and the ground.	
			MM-NOI-3 Building Wall and Window Acoustic Standards. Residential building exterior walls with direct line of sight to SR-71 constructed on lots 32 through 36, lot 41, and lots 108 through 129, as numbered on the proposed project tentative map 20317, shall incorporate the following standards to reduce interior noise levels to 45 CNEL or less: • Exterior walls shall have a minimum rating of STC 46. A common construction meeting this requirement would be standard 0.875-inch stucco over 0.5-inch shearwall on 2-inch by 6 inch studs with 0.625-inch Type "X" Drywall. • Exterior windows shall have a minimum rating of STC 28. A common window meeting this standard would be a dual glazing window with 0.125-inch glass thickness and a 0.5-inch gap between panes. • The building design shall include a mechanical ventilation system that meets the criteria of the International Building Code (Chapter 12, §1203.2 of the California Building Code) to ensure that windows would be able to remain permanently closed for noise reduction.	
Vibration	The project would not generate excessive ground-borne vibration or ground-borne noise levels. The impact would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Aircraft Noise	The proposed project would not expose people to excessive aircraft noise.	Less than Significant	No mitigation is necessary.	Less than Significant
4.11 Public Services				
Fire Protection	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire facilities. Impacts related to fire protection services would be less than significant	Less than Significant	No mitigation is necessary.	Less than Significant
Police Protection	The proposed project is consistent with population projections identified in the General Plan and is located adjacent to other similar residential development. The extension of police protection services to the proposed development would not result in the need for new or altered police protection services facilities. Impacts would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant
Schools	The proposed project would not result in significant impacts to schools that would require the need for new or expanded school facilities. Impacts would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant
Parks	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered population-based parks. Impacts related to parks would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant
Other Public Facilities	The project would not result in the need for new or altered public facilities, and as such, impacts would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Deterioration of Existing Neighborhood Parks and Recreational Facilities	The 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. Impacts would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant
Construction or Expansion of Recreational Facilities	Project impacts associated with construction or expansion of recreational facilities would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant
4.12 Transportation				
Transportation Plans	Impacts associated with transportation plans from the implementation of the proposed project would be less than significant.	Less than Significant	No mitigation is necessary.	Less than Significant
Vehicle Miles Traveled	The proposed project would not generate substantial vehicle miles traveled.	Potentially Significant	No feasible mitigation available.	Significant and unmitigable
Hazardous Design Features	Proposed project construction would occur within the public right-of-way, which could result in hazardous roadway conditions.	Less than Significant	No mitigation is necessary.	Less than Significant
Emergency Access	Proposed project construction would occur within the public right-of-way, which could result in inadequate emergency access.	Potentially Significant	Refer to **MM-WLF-1** below.	Less than Significant
4.14 Utilities				
Utilities	The proposed project includes the expansion of utility lines, however, the utilities in the areas are more than sufficient to service the project, impacts would be less than significant.	Less than significant	No mitigation is necessary.	Less than significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Water Supply	The projected water supply exceeds projected demand, and the project is consistent with the general plan projections, impacts would be less than significant.	Less than significant	No mitigation is necessary.	Less than significant
Solid Waste Management	The project would comply with regulations and the City's requirements for waste reduction, recycling, and reuse programs, impacts associated with the generation of solid waste would be less than significant.	Less than significant	No mitigation is necessary.	Less than significant
4.15 Wildfire				
Wildland Fire Risk of Loss	Two deficiencies have been identified for the project, including not meeting the 30-foot separation from structure to structure within the project site, as required by the City's Municipal Code, and the two residential lots that do not meet the 150-foot hose pull requirement. As such, the project would result in significant impacts associated with exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires. Impacts are potentially significant.	Potentially significant	**MM-WLF-1 Structure Protection for All Structures.** All structures within the proposed development shall be constructed per the 2019 California Residential Code Section R337 and shall be protected with National Fire Protection Association (NFPA) 13-D automatic fire sprinklers, including attic areas protection in lieu of meeting the City's requirement for 30-foot separation from structure to structure. The proposed structures shall be separated by a minimum of 20 feet. For residential structures on lots 115 and 135, NFPA-13D automatic fire protection sprinklers would be required for attic areas and small space protection.	Less than significant
Emergency Response Plan or Emergency Evacuation Plan	With adherence to City and CVFD requirements for emergency vehicle access, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan; however, the existing separation deficiency for the two project access	Potentially significant	Refer to **MM-WLF-1** above.	Less than significant

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	points would result in a significant impact associated with emergency access.			
Wildfire Pollutants	Wildfire risk impacts associated with slope, prevailing winds, and other factors that would exacerbate wildfire risks and thereby expose project occupants to pollutants concentrations from a wildfire or the uncontrolled spread of a wildfire would be less than significant.	Less than significant	No mitigation is necessary.	Less than significant
Infrastructure	The installation and maintenance of project-associated infrastructure would not exacerbate fire risk that may result in temporary or ongoing impacts to the environment. Impacts would be less than significant.	Less than significant	No mitigation is necessary.	Less than significant
Post-Fire Risks	The project would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes, and impacts would be less than significant.	Less than significant	No mitigation is necessary.	Less than significant

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1.0 INTRODUCTION

This Environmental Impact Report (EIR) for the proposed Shady View Residential Project and associated discretionary actions (collectively referred to throughout this EIR as the "project" or "proposed project") has been prepared on behalf of the City of Chino Hills (City) in compliance with the California Environmental Quality Act (CEQA) Statute and Guidelines (Public Resources Code [PRC], Section 21000 et seq. and California Code of Regulations [CCR], Title 14, Section 15000, et seq.).

This section provides a brief description of the project scope; the purpose of the EIR; the Lead, Responsible, and Trustee Agencies; the scope and content of the Draft EIR; an explanation of how the EIR is organized; and an overview of the EIR process. This EIR contains an analysis of the project described in detail in Chapter 3.0, *Project Description*.

1.1 PROJECT SCOPE

The project analyzed in this EIR is the development of a single-family residential subdivision. The subdivision would consist of 159 single-family residential homes, a community recreation center, private interior streets, debris basins, utility infrastructure, and other associated improvements. Additionally, the project includes approximately 80.8 acres of homeowners' association-maintained open space. The project site contains existing aboveground storage tanks and associated pipelines related to oil exploration activities on adjacent property to the west and northwest. The project would include the removal of the tanks and associated pipeline, and the construction of replacement tanks and pipeline near the western project boundary. Site work and grading is expected to occur west of the proposed residential development to allow for stabilization of the existing earthquake fault and relocation of existing oil storage tanks and existing oil transmission lines. The relocated aboveground oil storage tanks are proposed in the northwestern portion of the project site on a 1.27-acre lot, near the western project boundary and west of the proposed residential structures. The relocated pipelines would connect the new tanks with oil facilities to the west of the project site.

The project site (Assessor's Parcel Number [APN] 1057-261-06) is approximately 130 acres and is in the southeastern portion of the City of Chino Hills (City), at the southern termini of Shady View Drive and Via La Cresta, south of the existing South Trail residential development. (Figures 1-1 and 1-2, *Regional Location* and *USGS Topography*, respectively). The project site is roughly rectangular, with a square cut-out parcel in the northeast portion of the site that is not part of the project site (Figure 1-3, *Aerial Photograph*). The project site is located east of Chino Hills State Park, and west of State Route 71 (SR-71). The City's corporate boundary and the San Bernardino County/Riverside County boundary are adjacent to the east of the project site.

1.2 PURPOSE OF THE EIR

In accordance with CEQA Guidelines Section 15121, the purpose of this Draft EIR is to provide public agency decision-makers and members of the public with detailed information about the potential significant environmental effects of the project, possible ways to minimize its significant effects, and reasonable alternatives that would reduce or avoid identified significant effects. This Draft EIR is informational in nature and is intended for use by decision-makers, Responsible or Trustee Agencies as defined under CEQA, other interested agencies or jurisdictions, and the general public. The Draft EIR includes mitigation measures which, when implemented, would lessen project impacts and provide the

City, the Lead Agency as defined in Article 4 of the CEQA Guidelines (Sections 15050 through 15051), with ways to substantially lessen or avoid significant effects of the project on the environment, whenever feasible.

1.3 LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

1.3.1 Lead Agency

The City is the Lead Agency for the project pursuant to CEQA Guidelines Sections 15050 and 15051. The Lead Agency, as defined by CEQA Guidelines Section 15367, is the public agency that has the principal responsibility for carrying out or approving a project. The City conducted a preliminary review of the project and determined that an EIR was required. The analysis and findings in this document reflect the independent, impartial conclusions of the City.

1.3.2 Responsible and Trustee Agencies

State law requires that EIRs be reviewed by Responsible and Trustee Agencies. Responsible Agencies, as defined by CEQA Guidelines Section 15381, are public agencies that may have discretionary approval authority for a project. Trustee Agencies are defined in CEQA Guidelines Section 15386 as state agencies that have jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California. Implementation of the proposed project may require subsequent actions and/or consultation from Responsible or Trustee Agencies. A brief description of some of the primary Responsible or Trustee Agencies that may have an interest in the project is provided below.

1.3.2.1 U.S. Army Corps of Engineers

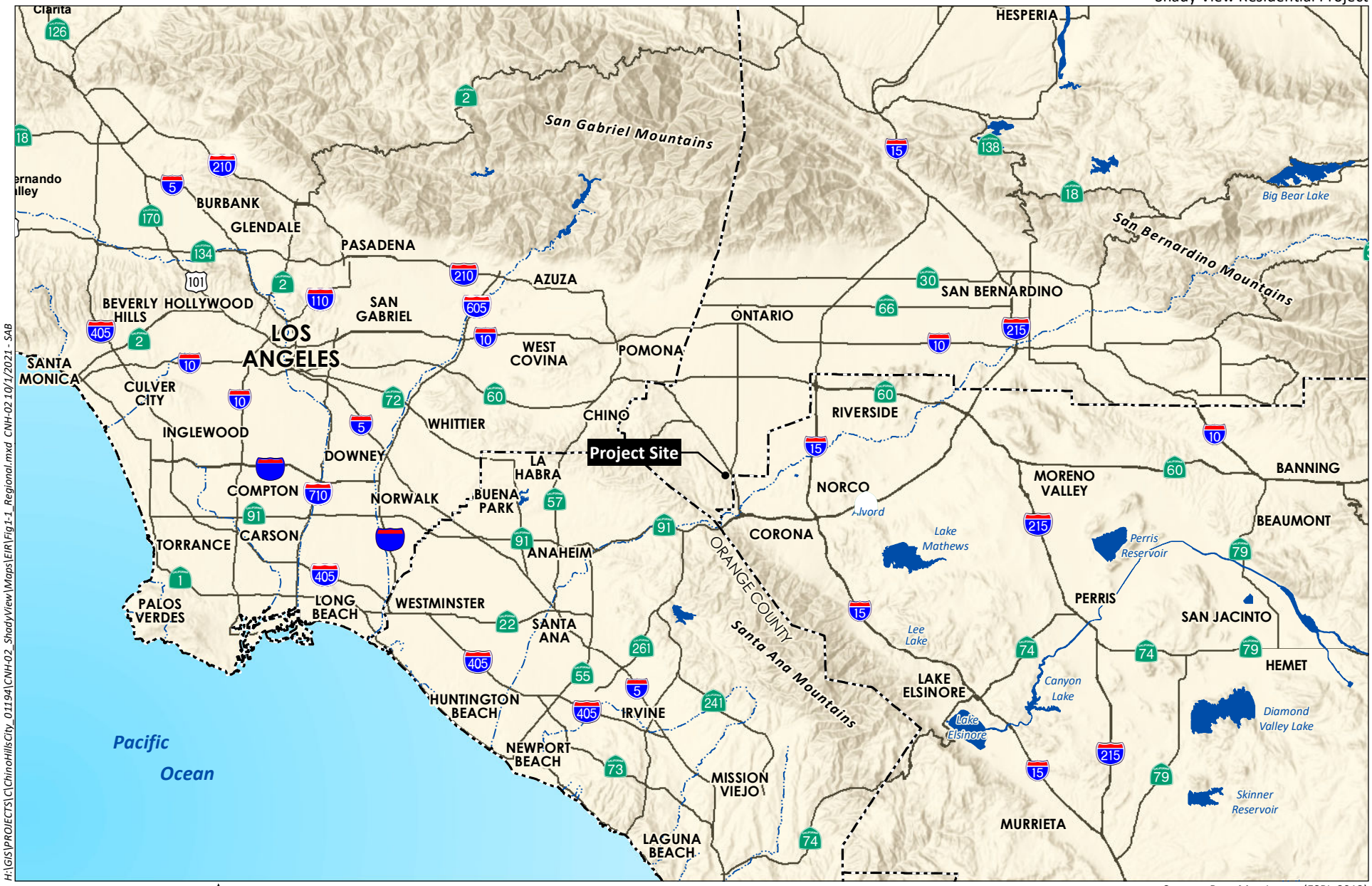
The U.S. Army Corps of Engineers (USACE) has jurisdiction over development in or affecting the navigable waters of the United States, pursuant to two federal laws: the Rivers and Harbors Act of 1889 and the Clean Water Act (CWA), as amended. A “navigable water” is generally defined by a blue line as plotted on a United States Geological Survey (USGS) quadrangle map. Projects that include potential dredge or fill impacts to waters of the United States are subject to Section 404 of the CWA. Impacts to waters of the United States (defined as direct fill or indirect effects of fill) greater than one-half acre require an individual permit. All permits issued by the USACE are subject to consultation and/or review by the U.S. Fish and Wildlife Service (USFWS) and the U.S. Environmental Protection Agency (USEPA).

1.3.2.2 U.S. Fish and Wildlife Service

Acting under the federal Endangered Species Act (FESA), the USFWS is responsible for ensuring that any action authorized, funded, or carried out by a federal agency (such as the USACE) is not likely to jeopardize the continued existence of listed species or modify their critical habitat. Accordingly, the USFWS will provide input to the USACE as part of the CWA Section 404 process.

1.3.2.3 California Department of Fish and Wildlife

California Department of Fish Wildlife (CDFW) is California’s Trustee Agency for fish and wildlife resources. The CDFW has the authority to reach an agreement with an agency or private party proposing to alter the bed, banks, or floor of any watercourse/stream, pursuant to Section 1600 et seq. of the California Fish and Game Code. The CDFW generally evaluates information gathered during the



Source: Base Map Layers (ESRI, 2013)

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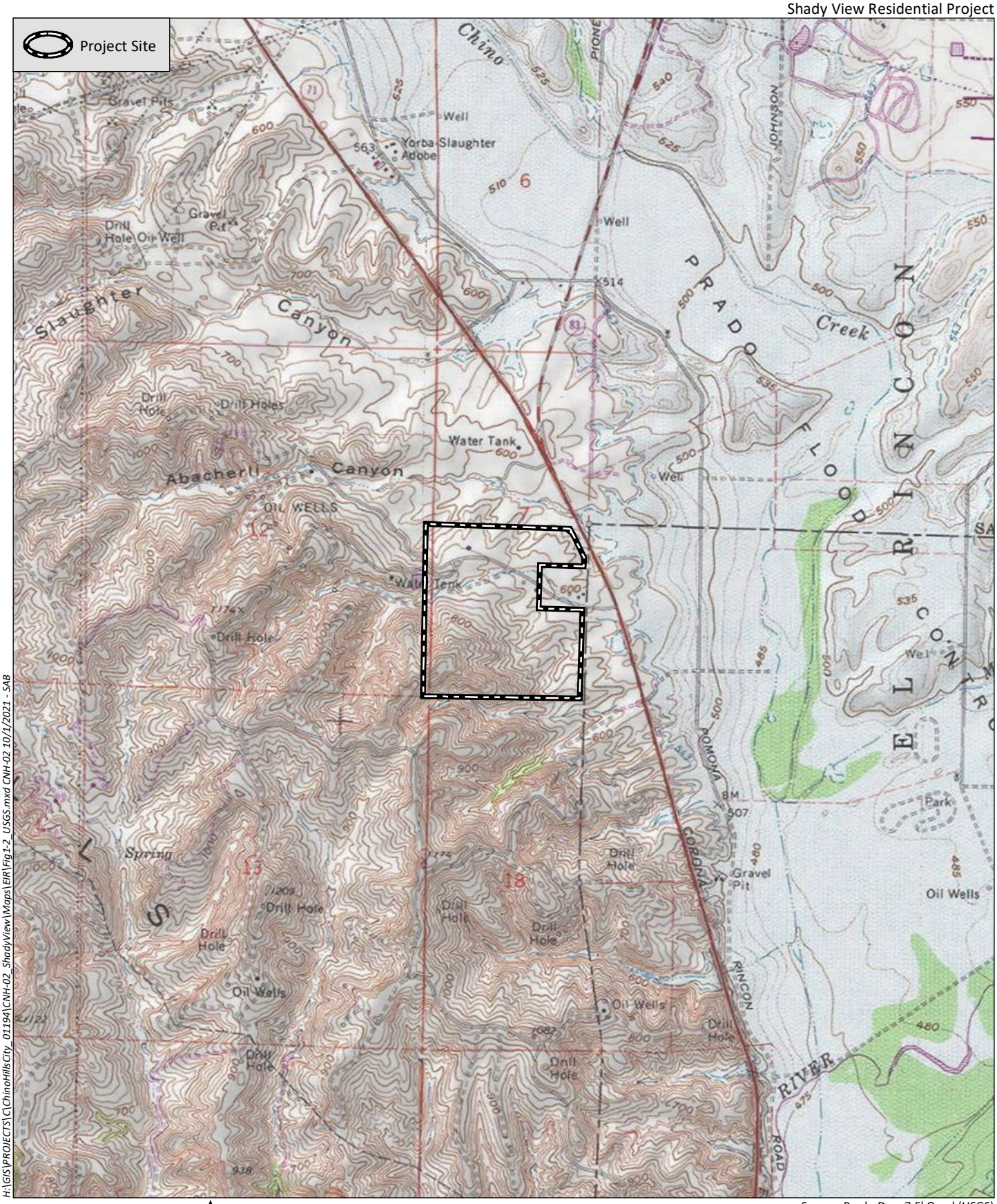
HELIX Environmental Planning

Regional Location

Figure 1-1



0 2,000 Feet

Source: Prado Dam 7.5' Quad (USGS)

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HELIX Environmental Planning

USGS Topography

Figure 1-2

Shady View Residential Project

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0 400 Feet

Source: Aerial (NAIP, 2018)

HELIX Environmental Planning

Aerial Photograph

Figure 1-3

preparation of the environmental documentation and attempts to satisfy their permit concerns in these documents. Where state listed threatened or endangered species occur on a project site, the CDFW would be responsible for the "take" authorization of any species protected under the California Endangered Species Act (CESA).

1.3.2.4 Santa Ana Regional Water Quality Control Board

The Santa Ana Regional Water Quality Control Board has the authority to regulate the discharge of dredged or fill material under section 401 of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act (Porter-Cologne). Dischargers that obtain a federal permit or license that authorizes impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, must obtain certification from the Regional Water Quality Control Board to ensure that the discharge does not violate state water quality standards or any other appropriate requirement of State law.

1.3.2.5 California Department of Conservation Geologic Energy Management Division

The California Department of Conservation Geologic Energy Management Division (CalGEM) is the agency responsible for protecting public health safety, and the environment in its oversight of the oil, natural gas, and geothermal industries. CalGEM regulates all oil and gas production equipment between the wellhead, where oil or gas leaves the ground, and the sales meter, where ownership or custody changes. CalGEM's jurisdiction extends to tanks, pumps, valves, compressors, safety systems, separators, manifolds, and pipelines associated with oil and gas production and injection operations. The decommissioning and removal of the three existing aboveground storage tanks. rerouting of pipelines, and construction of new tanks would be conducted in accordance with applicable environmental regulations and the guidelines and requirements of CalGEM.

1.3.2.6 California Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) is tasked with protecting Californians against threat from hazardous waste and restore properties affected by environmental contamination to productive use. The DTSC would oversee demolition and cleanup of the existing oil storage tanks and associated pipelines at the project site.

1.3.2.7 South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) is the air pollution agency responsible for regulating stationary sources of air pollution in the South Coast Air Basin. The SCAQMD would be responsible for issuing a Permit to Construct/Permit to Operate for the new tanks.

1.4 SCOPE AND CONTENT OF THE EIR

In accordance with CEQA Guidelines Section 15128, an EIR shall contain a brief statement indicating reasons that various possible significant effects of a project were determined not to be significant and therefore were not discussed in detail in the Draft EIR. The scope and content of this EIR was determined as a result of initial project review, preparation of an Initial Study, as well as consideration of comments received in response to the Notice of Preparation (NOP), and two scoping meetings. An Initial Study was prepared for the project and a NOP was distributed for public comment to the State

Clearinghouse, Governor's Office of Planning and Research, responsible agencies, and other interested parties on June 28, 2021, for a 30-day review period. The scoping meetings for the project were held on July 8, 2021 at the McCoy Equestrian Center located at 14280 Peyton Drive in the City of Chino Hills. The Initial Study, NOP, scoping meeting materials, and NOP comment letters are included in Appendix A of this Draft EIR. The Initial Study provides a detailed discussion of the potential environmental impact areas and the reasons that each environmental area is or is not analyzed further in this Draft EIR. The Draft EIR addresses in detail potentially significant environmental impacts associated with the following issue areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Public Services (including Recreation)
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

The project would not result in potentially significant impacts with respect to Agriculture and Forestry Resources, Energy, Mineral Resources, and Population and Housing as described in the project Initial Study and summarized in Section 6.1, *Effects Found Not to be Significant*, of this Draft EIR.

The NOP and scoping meeting notice, scoping meeting sign-in sheet, and comment letters received in response to the NOP are contained in Appendix A of this EIR. Verbal and written comments received during the scoping process have been taken into consideration during the preparation of this EIR. An outline of the issues noted during the scoping process is contained in the *Areas of Controversy/Issues to be Resolved* discussion in the Executive Summary section. The environmental conditions evaluated as the baseline in this EIR are those that existed at the time the NOP was circulated as described in Chapter 2.0, *Environmental Setting*.

The EIR includes mandatory contents of EIRs as required pursuant to CEQA Guidelines Sections 15120 through 15132. A cumulative impacts analysis is presented for each specific environmental issue area in Chapter 5.0, *Cumulative Impacts*. Chapter 6.0*, Other Mandatory Discussion Areas*, discusses potential growth-inducing impacts, effects found not to be significant, and unavoidable significant environmental impacts/significant irreversible environmental changes. Chapter 7.0, *Alternatives*, includes a discussion of alternatives that could avoid or reduce potentially significant environmental effects associated with implementation of the project.

1.5 ORGANIZATION OF THE EIR

As stated above, the content and format of this EIR are in accordance with the most recent guidelines and amendments to CEQA and the State CEQA Guidelines. Technical studies have been summarized within individual environmental issue sections and have been included in the appendices to this EIR.

This EIR has been organized in the following manner:

- **Executive Summary** (CEQA Guidelines Section 15123) provides a summary of the EIR analysis, a brief description of the project, and alternatives that would reduce or avoid significant impacts;

and includes a summary table identifying significant impacts, proposed mitigation measures, and the significance of the impact after mitigation. A discussion of areas of controversy known to the City, including those issues identified by other agencies and the public is also provided.

- **Chapter 1.0, Introduction,** provides a brief description of the project and an overview of the purpose and intended uses of the EIR, as well as its scope, content, and format. It also provides a discussion of the CEQA environmental review process, including public involvement.

- **Chapter 2.0, Environmental Setting** (CEQA Guidelines Section 15125), provides a description of the project's regional and local setting, as well as existing physical characteristics within the project area. The setting discussion also includes background information of the project site and identifies the relevant planning documents and existing land use and zoning designations for the project area.

- **Chapter 3.0, Project Description** (CEQA Guidelines Section 15124), provides a detailed description of the proposed project, including project objectives, project characteristics, sustainability features, and project construction schedule. In addition, a discussion of discretionary actions required for project implementation is included in this chapter.

- **Chapter 4.0, Environmental Analysis** (CEQA Guidelines Section 15126), constitutes the main body of the EIR and includes the detailed impact analyses for each environmental issue identified in the NOP as potentially resulting in significant environmental impacts (refer to Section 1.6 above). For each environmental issue, Chapter 4.0 includes a discussion of existing conditions, the regulatory framework, the thresholds identified for the determination of significant impact, and an evaluation of the impacts associated with implementation of the project. Where the impact analysis demonstrates the potential for the project to result in a significant impact on the environment, mitigation measures are provided that would avoid or reduce the significant impact. Where mitigation measures are required, a statement regarding the significance of the impact after mitigation is provided.

- **Chapter 5.0, Cumulative Impacts** (CEQA Guidelines Section 15130), provides a detailed discussion of the proposed project's cumulative impacts. Per CEQA Guidelines Section 15065(a)(3), a project's impacts are "cumulatively considerable" when the incremental effects of an individual project are considerable when viewed in connection with the effect of past projects, the effects of other current projects, and the effects of other recently approved or pending projects in the area.

- **Chapter 6.0, Other Mandatory Discussion Areas,** includes a discussion of the effects found not to be significant, growth inducement, and unavoidable significant impacts/significant irreversible changes.

    - **Effects Found Not to Be Significant** identifies the issues determined in the initial scoping and environmental review process to be not significant for the project, and briefly summarizes the basis for these determinations. For the proposed project, it was determined that environmental issues associated with agriculture and forestry resources, energy, mineral resources, and population and housing, would not be significant.

- **Growth Inducement** (CEQA Guidelines Section 15126.2(e)) evaluates the potential influence the project may have on economic or population growth or the construction of additional housing within the project area, as well as in the region, either directly or indirectly.

- **Unavoidable Significant Impacts/Significant Irreversible Environmental Changes** (CEQA Guidelines Sections 15126.2(c) and 15126.2(d)) provides a summary of the significant unavoidable impacts of the proposed project as detailed in Chapter 4.0. This chapter also describes the potentially significant irreversible changes that may be expected and addresses the use of nonrenewable resources and energy use anticipated during implementation of the proposed project.

- **Chapter 7.0, Project Alternatives** (CEQA Guidelines Section 15126.6), provides a description and evaluation of alternatives to the proposed project. This section addresses the mandatory "no project" alternative, as well as development alternatives that would potentially reduce or avoid the proposed project's significant impacts.

- **Chapter 8.0, References Cited,** lists the reference materials cited in the EIR.

- **Chapter 9.0, Individuals Consulted/List of Preparers** (CEQA Guidelines Section 15129), identifies the individuals contacted during preparation of the EIR and lists the individuals who contributed to the EIR.

1.6 ENVIRONMENTAL REVIEW PROCESS

1.6.1 Draft EIR

The Draft EIR and related technical studies are available for review by the public and public agencies for 45 days to provide comments "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated" (State CEQA Guidelines Section 15204). The public review period will be from May 27 to July 11, 2022.

Comments on the Draft EIR can be mailed to:

Ryan Gackstetter, Senior Planner
City of Chino Hills Community Development Department
14000 City Center Drive
Chino Hills, CA 91709

Or provided via email to rgackstetter@chinohills.org.

The Draft EIR and all supporting technical studies and documents are available for review at the City of Chino Hills, Community Development Department, 14000 City Center Drive, Chino Hills, California, 91709, as well as at the James S. Thalman Chino Hills Branch Library located at 14020 City Center Drive in the City of Chino Hills. An electronic copy of the Draft EIR and the technical analyses are posted on the City's website at: https://www.chinohills.org/1779/Shady-View-Trumark-Homes.

1.6.2 Final EIR

Following the end of the public review period, the City, as lead agency, will provide written responses to comments received on the Draft EIR per CEQA Guidelines Section 15088. Comments and responses will be considered in the review of the EIR. Responses to the comments received during public review, a Mitigation Monitoring and Reporting Program (MMRP), Findings of Fact, and (if required) a Statement of Overriding Considerations for impacts identified in the EIR as significant and unavoidable will be prepared and compiled as part of the EIR finalization process. The culmination of this process is a public hearing where the Planning Commission (unless appealed to the City Council) will determine whether to certify the Final EIR, which includes the MMRP, Findings of Fact, and Statement of Overriding Considerations (if required), as being complete and in compliance with CEQA. Subsequent to certification of the EIR, agencies with permitting authority over all or portions of the project may use the EIR to evaluate environmental effects of the project, as they pertain to the approval or denial of applicable permits.

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2.0 ENVIRONMENTAL SETTING

This chapter provides a description of existing site conditions for the project. The existing setting addresses the project site and provides an overview of the local and regional environmental setting pursuant to CEQA Guidelines Section 15152.

2.1 PROJECT LOCATION

The City is located in the Chino Valley, in the southwestern corner of San Bernardino County. The City is bordered by Los Angeles County on the north and west, by Orange County on the south and west, and by Riverside County on the south and east. The City is located south of SR-60, north of SR-91, and generally west of SR-71. A small portion of the City is located on the east side of SR-71.

The project site (APN 1057-261-06) is approximately 130 acres and is in the southeastern portion of the City, at the southern termini of Shady View Drive and Via La Cresta, south of the existing South Trail residential development. The project site is roughly rectangular, with a square cut-out parcel in the northeast portion of the site that is not part of the project site (see Figure 1-3). The project site is located east of Chino Hills State Park, and west of SR-71. The City's corporate boundary and the San Bernardino County/Riverside County boundary are adjacent to the east of the project site. Refer to Figures 1-1 and 1-2 for regional and site location of the project and Figure 1-3 for an aerial photograph of the project site.

2.2 EXISTING SITE CONDITIONS

2.2.1 Existing Uses and Development

The project site is mostly vacant, but contains several uses concentrated in the east central portion of the site, near an adjacent off-site residential property (the square-shaped cut-out parcel that is not part of the site; see Figure 1-3). These uses, which are located on the project site, include three existing aboveground oil storage tanks, oil pipelines, scrapyard and storage area, split wood storage, soil piles, two trenches containing construction debris, and access roads. The three tanks include an emergency oil/water tank, an oil/water wash tank, and an oil stock tank (Figure 2-1, *Existing Oil Facilities on the Project Site*). The emergency tank is not currently in operation. Each of the existing three tanks on site have a 1,000-oil-barrel capacity. The three tanks are owned by Optima Conservation Resources Exploration, LLC and are associated with oil exploration activities on adjacent property to the west and northwest (Figure 2-2, *Existing Oil Operations*). The adjacent oil operations are part of a facility that consists of two land leases (the Abacherli and Langstaff leases) and produces 5 to 25 barrels of oil and 3 to 8 barrels of water per day. The Abacherli lease is located west and northwest of the project site, and the Langstaff lease is located approximately one mile southwest of the project site. The oil operations on the Abacherli lease include twelve actively producing wells. Various pipelines (approximately 4 inches in diameter) collect extracted crude oil from the Abacherli lease facilities on adjacent property to the west and pipe them to the three tanks on the project site. These pipelines traverse the central main canyon that transects the site from west to east. The pipelines are on the ground surface, or in some cases, just below ground surface (see Figure 2-1). A concrete slab with beehives is located on the northwestern portion of the project site. Beehives are owned and operated as a family business on property owned by the seller's family. Hives shall be relocated to another property owned by the family in the vicinity of the project site.

The project site is designated Low Density Residential and Agriculture/Ranches in the City's General Plan (City 2015a and 2015b; Figure 2-3, *General Plan Land Use Designations*) and is zoned Low Density Residential (R-S) and Agriculture/Ranches (R-A *40-acre minimum lot size) (Figure 2-4, *Zoning Designations*).

2.2.2 Landform, Vegetation, Hydrological, and Geological Conditions

Topographically, the site consists of a large hillside in the southwest portion of the site, and a series of low rolling canyons and ridges in the northeast portion of the site. A major active drainage runs west to east through the upper-middle portion of the site. Smaller canyons between low ridges trend west to east in the southern portion of the proposed development area. Elevations at the project site range from approximately 580 feet amsl in the northeast portion of the property to approximately 1,000 feet amsl in the southwest portion of the property. A Prominent Ridgeline extends approximately 300 feet onto the project site, in the southwestern corner of the site. The Chino Fault transects the central and western portions of the project site. An Earthquake Fault Zone has been delineated on the project site by the State of California in accordance with the Alquist-Priolo Earthquake Fault Zoning Act.

In late October and early November 2020, the Blue Ridge wildfire burned in the hills to the west and south of the project site. In the western portion of the site, a backfire was initiated by local fire officials as a containment method for the wildfire on the adjacent lands. The portion of the site that burned is outside of the area proposed for residential development.

Vegetation on the project site consists primarily of disturbed areas, non-native species, burned habitat, and California sagebrush scrub (see Figure 1-3). The project site consists primarily of burned habitat in the southern and western portion of the site, due to the Blue Ridge wildfire. The remainder of the project site that did not burn consists of native habitat, including California sagebrush scrub, coast live oak woodland, and mule fat thickets, in addition to existing developed areas, disturbed habitat, pepper tree grove, and upland mustards.

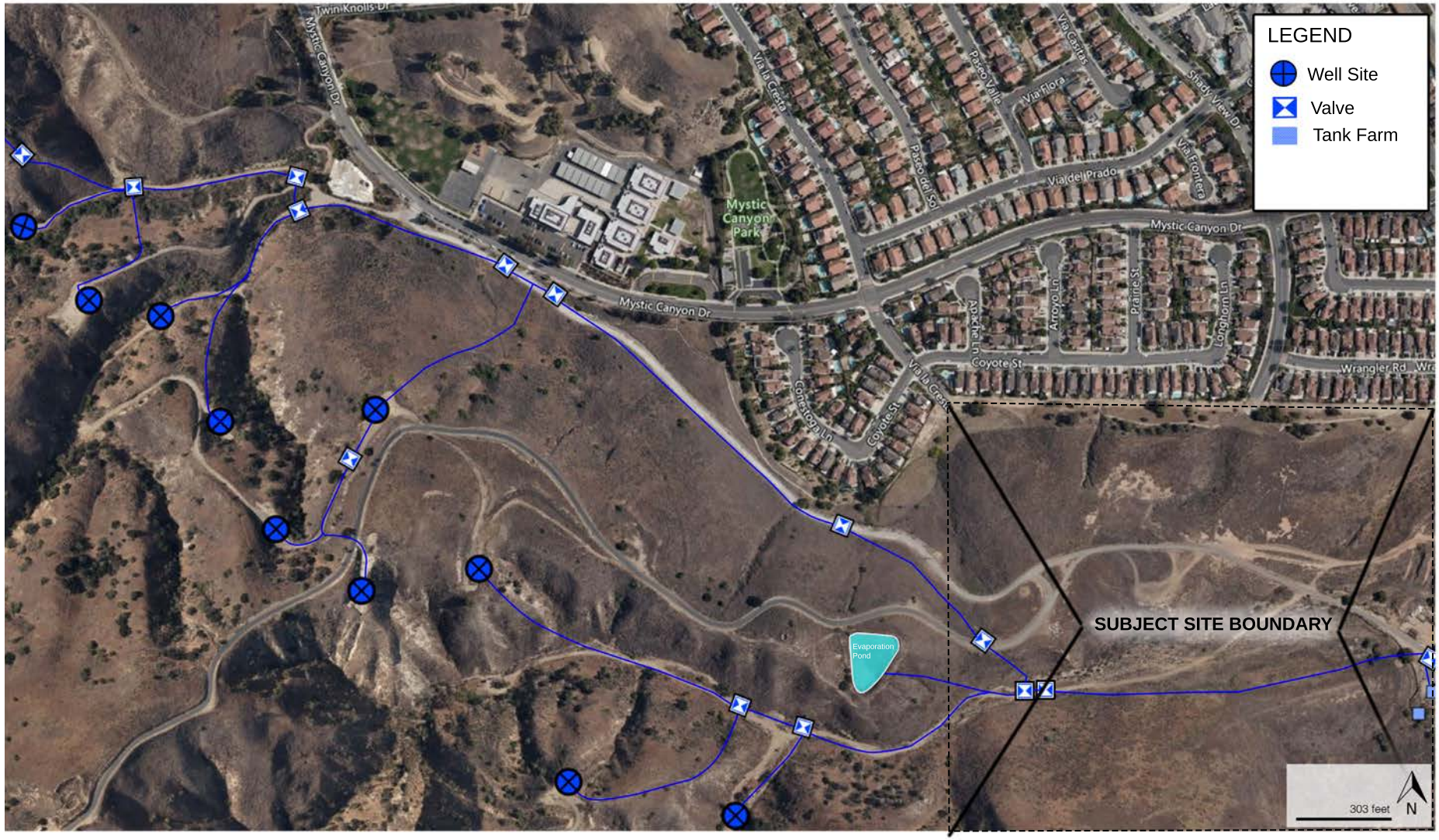
The project area supports three drainage features complexes (Drainages Complexes A, B, and C) consisting of 12 drainage features which are found throughout the project area. Drainage Complex A generally flows west to east across the site, Drainage Complex B flows south to north in the northern portion of the site, Drainage Complex C flows west to east in the southeastern portion of the site. Drainage Complex A consists of the main Drainage A and three small tributaries (Drainages A1, A1.1, and A2). The series of canyons in the northern portion of the project site support six small drainage features (Drainages B1, B2, B2, B2.1, B3, B4, and B5). Another drainage complex, Drainage Complex C, was delineated in the southwest corner of the project site. Drainage Complex C consists of the main Drainage C and two small tributaries (Drainages C1 and C2). All drainages on the project site ultimately drain into the Santa Ana River, located to the east of the site.

Mapped soils on the project site mostly consist of Soper gravelly loam (15 to 30 percent slopes and 30 to 50 percent slopes. The Soper soil series consists of well-drained residuum weathered from sandstone. Other mapped soils on the study area include Alo clay (30 to 50 percent slopes), Fontana clay loam (30 to 50 percent slopes), Garretson very fine sandy loam (2 to 9 percent slopes), and Gaviota-rock outcrop complex.

HELIX Environmental Planning

Existing Oil Facilities on the Project Site

Figure 2-1



EXISTING OIL OPERATIONS MAP
Abacherli Wells

Source: Trumark Homes

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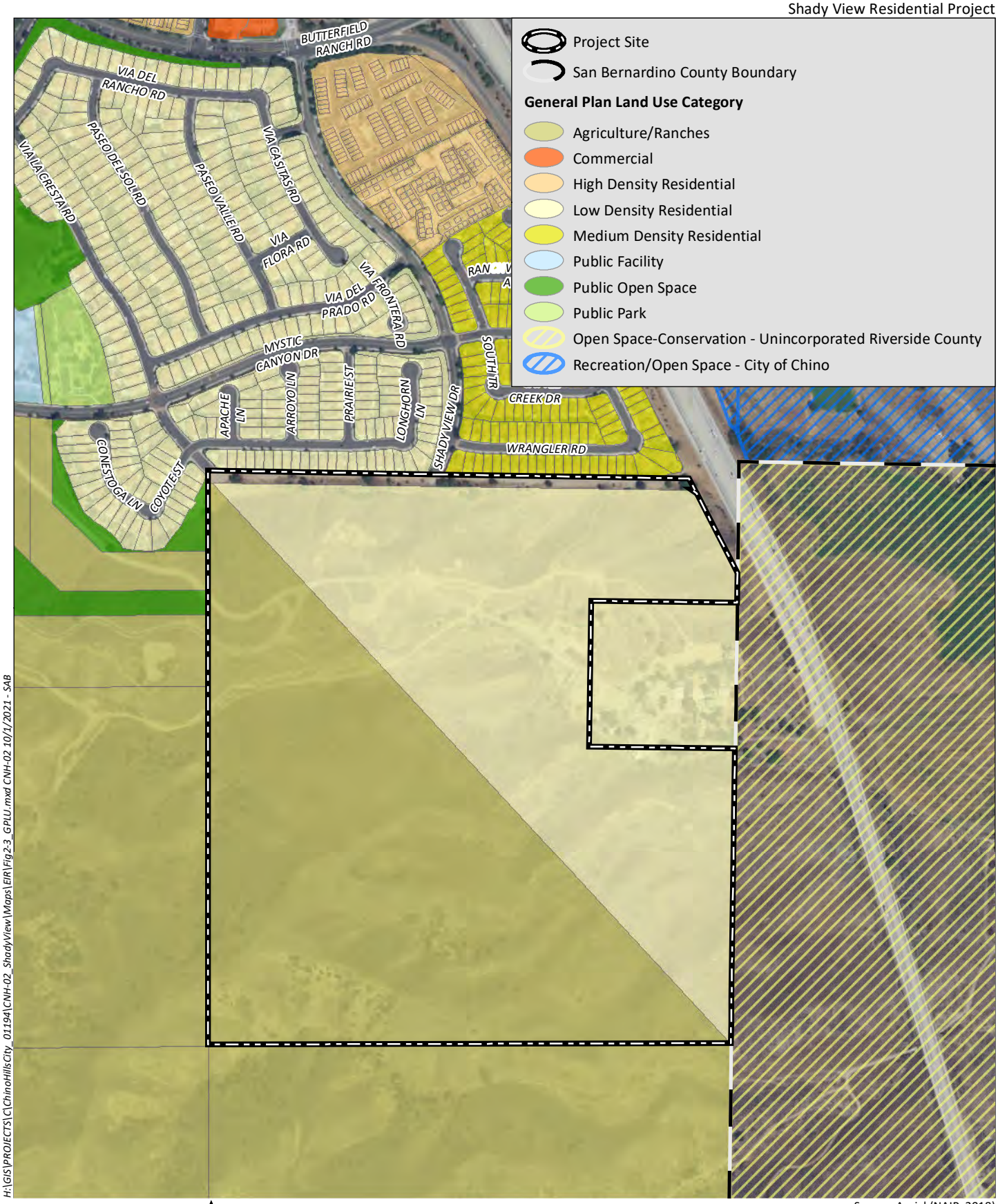
HELIX Environmental Planning

Existing Oil Operations

Figure 2-2



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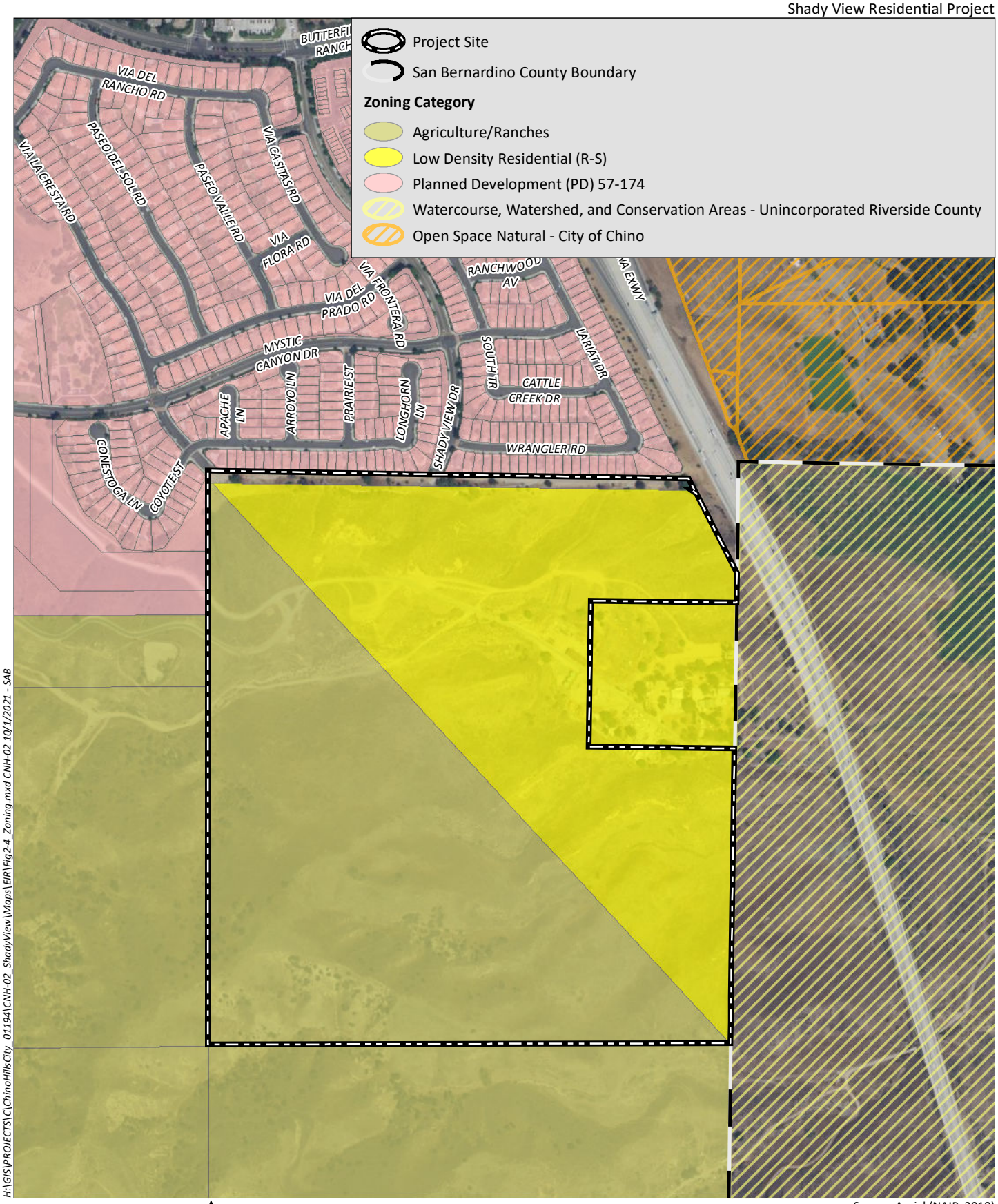
Source: Aerial (NAIP, 2018)

HELIX Environmental Planning

General Plan Land Use Designations

Figure 2-3



Source: Aerial (NAIP, 2018)

Zoning

Figure 2-4

2.3 SURROUNDING LAND USES

Uses to the north include existing single-family residential uses with a General Plan Land Use designation of Low Density Residential and Medium Density Residential and zoned Planned Development (PD) 57-174 (single-family homes). Hills, with approximate peak elevations ranging from 1,050 to 1,200 feet above mean sea level (amsl) and approximate base elevations ranging from 700 to 860 feet amsl, are located west of the project site. These hills, consisting of vacant land and scattered oil wells, have Agriculture/Ranches and Public Open Space land use designations, and are zoned PD 57-174 (custom lots and open space lots) and Agriculture/Ranches (R-A *40-acre minimum lot size). Oil facilities to the west include well sites that connect with the existing on-site tanks (refer to Figure 2-2), as well as the West Mahala lease, which is not related to the facilities on the project site. Chino Hills State Park is located west of the project site, beyond the adjacent vacant land and oil uses, approximately 1.7 miles from the project boundary. Vacant land consisting of hills with elevations ranging from approximately 560 to 1,140 feet amsl are located to the south of the project site. These hills to the south have a land use designation of Agriculture/Ranches and are zoned Agriculture/Ranches (R-A *40-acre minimum lot size). To the east (within the square cut-out parcel) is one single-family home consisting of several buildings and a wireless communications facility on land designated Low Density Residential and zoned Low Density Residential (R-S). There is a strip of vacant land to the east of the project site and the adjacent single-family residential structure and wireless communications facility, between the project site boundary and SR-71. This strip of land is outside of the City of Chino Hills and is in unincorporated Riverside County. Riverside County designates this parcel as Open Space-Conservation (OS-C) land uses, with Watercourse, Watershed, and Conservation Areas (W-1) zoning. Table 2-1, *Project Site and Surrounding Land Uses* summarizes the existing project site and surrounding land uses, and the corresponding General Plan land use and zoning designations. Figures 2-3 and 2.4, respectively, illustrate the existing and designated land uses and zoning of the project site and surrounding areas.

Table 2-1
PROJECT SITE AND SURROUNDING LAND USES

Location	Land Use	General Plan Designation	Zoning
Project Site	Vacant land, oil tanks and associated piping, equipment storage, and split wood storage	Low Density Residential, Agriculture/Ranches	Low Density Residential (R-S), Agriculture/Ranches
North	Single-Family Residential	Low Density Residential, Medium Density Residential	Planned Development (PD) 57-174
West	Vacant land consisting of hills, scattered oil wells (including 12 wells connected to on-site tanks and the separate West Mahala lease)[1]	Agriculture/Ranches, Public Open Space	PD 57-174, Agriculture/Ranches
South	Vacant land	Agriculture/Ranches	Agriculture/Ranch
East	Single-Family Residential (one unit), wireless communication facility, SR-71, strip of vacant land[2]	Low Density Residential	Low Density Residential (R-S)

Source: City of Chino Hills 2015a; City of Chino Hills 2015b

[1] Chino Hills State Park is located west of the project site, beyond the adjacent vacant land and oil uses, approximately 1.7 miles from the project boundary.

[2] The strip of vacant land between the project site's eastern boundary and SR-71 is outside of Chino Hills and is in unincorporated Riverside County. Riverside County designates this parcel as Open Space-Conservation (OS-C) land uses, with Watercourse, Watershed, and Conservation Areas (W-1) zoning.

2.4 PLANNING CONTEXT

The following plans contain policies, goals, and objectives that are applicable to the proposed project. A detailed discussion of these plans is provided in Section 4.9, *Land Use*.

2.4.1 SCAG Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments (SCAG) is the federally designated Metropolitan Planning Organization (MPO) with responsibilities pertaining to regional planning issues for the following six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. SCAG is a joint powers agency and its mandated responsibilities include developing plans and policies addressing the region's population growth, transportation programs, air quality, housing, land use, sustainability, and economic development.

As part of its planning obligations, SCAG prepares the Regional Transportation Plan/Sustainable Communities Strategy (RTP/STS), the most recent of which was the 2020 RTP/SCS (adopted September 2020) for the 2020 – 2045 planning period. The RTP/SCS is a major planning document for the regional transportation and land use network. It balances the region's future mobility and housing needs with economic, environmental, and public health goals. This long-range Plan, required by the state of California and the federal government, is updated by SCAG every four years as demographic, economic and policy circumstances change. The 2020 RTP/SCS includes goals that pertain to economic development, mobility, accessibility, travel safety, productivity of the transportation system, protection of the environment and health through improved air quality, energy efficiency, and land use and growth patterns that complement the State and region's transportation investments, and security of the regional transportation system.

2.4.2 City of Chino Hills General Plan

The adopted Chino Hills General Plan is a long-term planning document that guides growth and development in Chino Hills by establishing goals, policies, and actions that reflect the City's vision for the future, with a planning horizon of 2035. Through the General Plan, Chino Hills defines a path that recognizes the City's many assets, including its high quality of life, beautiful surrounding hillsides, and excellent location adjacent to SR-71. The General Plan includes eight elements that comply with general plan guidelines established by the California Government Code (Section 65302). The Land Use Element designated all lands within the City for specific uses such as housing, commercial, industrial, and open space uses. The Land Use Element also provides development regulations for each land use category and overall land use policies for the City. Other elements of the General Plan include Circulation; Housing; Conservation; Parks, Recreation, and Open Space; Noise; Safety; and Economic Development.

The project site is designated Low Density Residential and Agriculture/Ranches in the General Plan (refer to Figure 2-3). The Land Use Element of the General Plan describes these two designations as follows:

> Low Density Residential. This land use designation includes area proposed for development with conventional single-family detached housing. Development at this density requires full urban levels of service and public improvements. On large parcels, development will be concentrated in more developable areas with large contiguous areas left as open space. The Low Density Residential designation has a 6 dwelling unit per acre maximum.

Agriculture/Ranches. The Agriculture/Ranches land use designation permits residential development on very large lots, five acres in size or more. To protect environmental and visual resources, clustering of development is encouraged. This designation also permits agriculture as a primary use subject to a site development permit. The Agriculture/Ranches land use designation has a 0.2 dwelling unit per acre maximum.

2.4.3 Zoning

The project site is zoned Low Density Residential and Agriculture/Ranch (R-A *40-acre minimum lot size; (refer to Figure 2-4). The Low Density Residential (R-S) zone district is a single-family zone which permits detached residences at a density of up to six dwelling units per gross acre. Development at this density requires full urban levels of service and public improvements.

The Agriculture/Ranch zone district provides for the preservation of large lot residential uses with related agricultural operations. The minimum lot size is five acres, with a maximum density of 0.2 units per acre. In the southeastern region of the City, which includes the project site, the minimum lot size within the Agriculture/Ranch zoning district is increased to 40 acres due to the topographic, access, and infrastructure constraints of the area. Permitted accessory uses in the Agriculture/Ranch zone district include equestrian facilities, agricultural uses, and cattle grazing.

Seven overlay districts have been applied to particular areas of the City where supplemental policies relative to special land uses and environmental or safety conditions have been established. These overlay districts include Biotic Resources, Geologic Hazard, Fire Hazard, Small Lot, Scenic Resources, Flood Hazard Areas, and Equestrian and Large Animal. The project site is located within the Biotic Resources, Geologic Hazard, Fire Hazard, and Scenic Resources Overlay Districts.

The Biotic Resources Overlay District applies to areas of the City that have been identified by a state or federal agency as habitat for plants or animals officially listed as threatened, endangered, or sensitive by the state of California and/or the federal government. Chapter 16.28 of the Municipal Code details the requirements of the Biotic Resources Overlay District. Proposed development within the Biotic Resources Overlay District requires appropriate surveys of biological resources to assess the potential for special-status species or habitat to occur.

The Fire Hazard Overlay District is established to mitigate against the threat of wildfire. Chapter 16.22 of the Municipal Code sets forth standards which would provide additional opportunity for firefighting vehicles to have access into wildland interface areas and to prevent structures from becoming a barrier between firefighting requirement/personnel and wildland areas.

The Geologic Hazard Overlay District applies to potentially active seismic faults and areas where landslides, liquefaction hazards, or other geologic hazards are known or suspected to occur. The Chino Fault has been determined by the State of California to be an active fault, and an Earthquake Fault Zone was established around the Chino Fault in May 2003 (City 2015a). The Chino Fault transects the central and western portions of the project site and an Earthquake Fault Zone has been delineated on the project site by the State of California in accordance with the Alquist-Priolo Earthquake Fault Zoning Act. Chapter 16.24 of the Municipal Code establishes requirements for geologic reports for all land use applications and development permits proposed within the Geologic Hazard Overlay District and contains development standards for development proposed within the overlay district.

The Scenic Resources Overlay District provides development standards that will protect, preserve, and enhance the aesthetic resources of Chino Hills, including Exceptionally Prominent Ridgelines, Prominent Ridgelines, Prominent Knolls, and Associated Primary View Points. Design considerations can be incorporated into development projects to allow the preservation of unique natural resources, roadside views, and scenic corridors. The Scenic Resources Overlay District is currently defined by the Municipal Code (Chapter 16.30, *Scenic Resources Overlay District*) as:

a) Areas within two hundred (200) feet on both sides of the ultimate road right-of-way of state and city-designated scenic highways, including those designated by the state as candidates for a scenic highway designation.

b) Prominent ridgelines, view windows, and viewsheds as defined and mapped in the Municipal Code.

Chapter 16.30 of the Municipal Code contains development standards for land use within the Scenic Resources Overlay District, including standards related to site design and building placement, access drives, landscaping, parking and storage areas, undergrounding of utilities, and grading.

2.4.4 Air Quality Management Plan

The South Coast Air Quality Management District (SCAQMD) is responsible for ensuring that air quality in the South Coast Air Basin (Basin) conforms with federal and State air pollution standards. The SCAQMD is also responsible for monitoring ambient air pollution levels throughout the Basin and for developing and implementing attainment strategies to ensure that future emissions will be within federal and State standards. The SCAQMD's Air Quality Management Plan (AQMP) presents strategies for achieving the air quality planning goals set forth in the Federal and California Clean Air Acts (CCAA), including a comprehensive list of pollution control measures aimed at reducing emissions.

2.4.5 Water Quality Control Plan for the Santa Ana River Basin

The Regional Water Quality Control Board (RWQCB) prepared the Water Quality Control Plan for the Basin Plan (Basin Plan), which establishes water quality standards for the ground and surface waters of the region. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain water quality standards. The Basin Plan also defines beneficial uses and water quality objectives for ocean waters, enclosed bays and estuaries, inland surface waters, and groundwaters in the basin. Water quality objectives seek to protect the most sensitive of the beneficial uses designated for a specific water body.

3.0 PROJECT DESCRIPTION

This chapter of the EIR provides a statement of the project goals and objectives, describes the specific characteristics of the project, outlines project sustainability features, discusses project construction, and identifies the discretionary actions required to implement the project. This chapter has been prepared pursuant to Section 15124 of the State CEQA Guidelines.

3.1 PROJECT OBJECTIVES

The project has the following objectives:

- Develop a project that supports a balance of land uses, open spaces, and infrastructure.
- Provide additional high-quality housing that serves the local community and is compatible and complementary with land uses and architectural fabric of the surrounding community.
- Provide adequate parking and integrated pedestrian and bicycle pathways to serve the residents and guests of the proposed development and provide connectivity to the surrounding community.
- Protect an existing Prominent Ridgeline and increase the total amount of private, and protected open space by integrating the development with the hillside conditions.
- Minimize the impact on the natural environment by developing a project that complies with regional water quality standards and greenhouse gas emissions reduction targets through the provision of a number of energy-reduction measures, such as energy-efficient lighting and appliances, water-efficient appliances and plumbing fixtures, water-efficient landscaping and irrigation, and the on-site generation of renewable solar energy.
- Develop a project that endeavors to minimize risks from naturally occurring hazards by respecting and mitigating fire and seismic hazards through appropriate incorporation of structural protection and fuel modification zones for fire hazards and through the provision of necessary structural setbacks from the existing on-site fault.
- Create an efficient and safe circulation and transportation system through the provision of roadways that meet City and Chino Valley Fire District safety and access standards, which accommodates the community's traffic demands and provides local connections to public streets.
- Provide a sufficient density of development consistent with project site zoning that supports the need for housing and associated infrastructure improvements.
- Provide a network of habitat and recreational opportunities through the preservation of 45 acres of natural open space on the southwest portion of the site and the provision of open space areas throughout the development that also provide separation between neighborhoods, while encouraging walkable linkages and connectivity through land use siting, open space, and pedestrian pathways.

- Plan and develop the project as a cohesive community within the City with unifying architectural and landscape design themes, utilizing variety in the design of structures within this context.

- Provide a variety of home configurations for both single and two-story homes.

3.2 PROJECT CHARACTERISTICS

3.2.1 Development Summary

The project proposes the development of a single-family residential subdivision on the approximately 130-acre project site. The proposed subdivision would consist of 159 single-family residential homes on approximately 32.3 acres, a community recreation center, private interior streets, debris basins, utility infrastructure, and other associated improvements (Figure 3-1, *Site Plan*). Additionally, the project includes approximately 80.8 acres of homeowners' association-maintained open space. Site work and grading is expected to occur west of the proposed residential development to allow for stabilization of the existing earthquake fault and relocation of existing oil storage tanks and existing oil transmission lines. The relocated aboveground oil storage tanks are proposed in the northwestern portion of the project site on a 1.27-acre lot, near the western project boundary and west of the proposed residential structures (see Figure 3-1 and Figure 3-2, *Proposed Tank Site*). The relocated pipelines would connect the new tanks with oil facilities to the west of the project site.

The project also includes approximately 0.84 acre of off-site areas located adjacent to the project boundary that would require disturbance for improvements during project construction (refer to Figure 3-1). The proposed project is designed to be consistent with the City of Chino Hills General Plan and Chino Hills Zoning Code. The existing General Plan land use designation is split between two residential land uses, Agriculture Ranch and Low Density Residential. In addition, the zoning for the property is split between two residential zoning districts, R-S Low Density Residential and R-A Agriculture/Ranches. The location of the split occurs at the same location for both land use and zoning (refer to Figures 2-3 and 2-4). As proposed, all residential development would occur in the Low-Density Residential land use designated, R-S zoned portion of the site.

3.2.2 Project Components

3.2.2.1 Residential Development

The proposed residential development would provide 159 single-family residential lots on approximately 32.2 acres in the northern and eastern portions of the project site. The R-S zoning requires that all residential lots be a minimum of 7,200 square feet with 50-foot minimum width and a maximum density of 6 dwelling units per acre. The proposed project meets these standards with lot sizes ranging from a minimum of 7,215 square feet up to a maximum of 14,613 square feet. The average lot size is approximately 8,808 square feet with a median proposed lot size of 8,243 square feet. The proposed project has a density of 2.74 dwelling units per acre for the portion of the site designated with R-S zoning, and an overall density of 1.2 dwelling units per acre for the entire project site. No homes would be constructed within 50 feet of the Earthquake Fault Zone.

The project proposes the development of six different single-family residential unit types, with dwelling square footage ranging from 2,381 square feet up to a maximum size of 3,888 square feet. Table 3-1,

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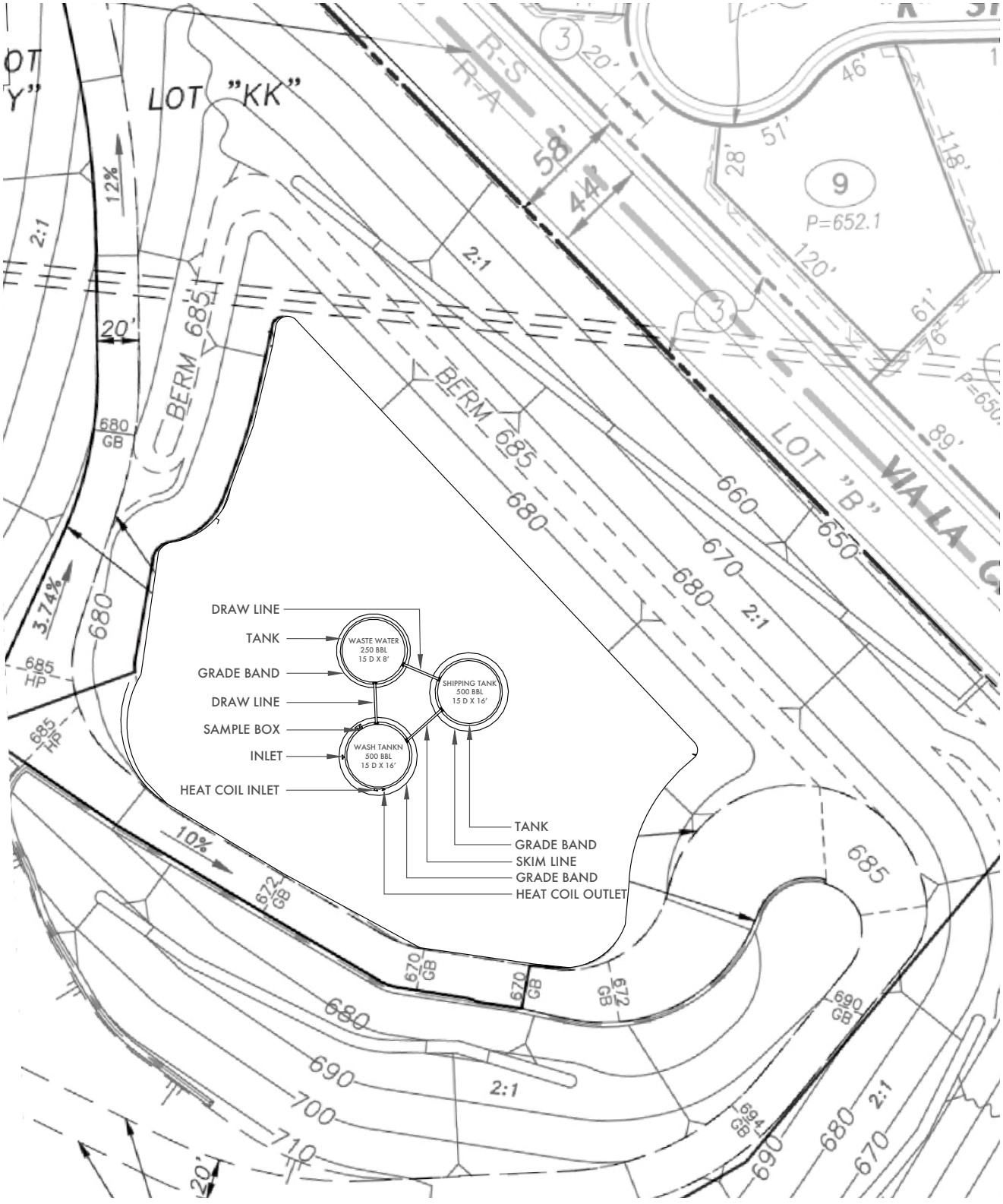
Source: Hunsaker and Associates 2021

HELIX Environmental Planning

Site Plan

Figure 3-1



Source: Palmer Tank and Construction Inc., 2021

HELIX Environmental Planning

Proposed Tank Site

Figure 3-2

Residential Dwelling Unit Floor Plan Summary, provides details regarding each of the six unit types and their associated features. The project proposes 56 single-story homes and 103 two-story homes.

Table 3-1
RESIDENTIAL DWELLING UNIT FLOOR PLAN SUMMARY

Plan	Number of Units	Bedrooms/Bathrooms	Square Footage	Stories	Parking
1	26	3 bedroom/3 bathroom with optional 4th bedroom	2,381	single	2 garage, 2 driveway
2	16	3 bedroom, 3.5 bathroom	2,880	single	2 garage, 2 driveway
3	14	3 bedroom, 3.5 bathroom	3,005	single [1]	2 garage, 2 driveway
4	34	4 bedroom, 3.5 bathroom with optional 5th bedroom	3,279	two	3 garage, 2 driveway
5	34	4 bedroom, 3.5 bathroom with optional 5th bedroom	3,496	two	3 garage, 2 driveway
6	35	5 bedroom 4.5 bathroom with optional 6th bedroom	3,888	two	3 garage, 2 driveway

[1] Loft with bedroom.

3.2.2.2 Oil Tank Removal and Construction

The project would require the removal of three existing aboveground oil storage tanks located on an approximately 4,000 square-foot portion of the site, near the east central boundary of the project site and the construction of three new aboveground oil storage tanks to be located near the northwestern corner of the project site. Associated pipeline and other ancillary equipment would also be removed from its current location on the project site and relocated with the tanks. The decommissioning and removal of the existing tanks and the rerouting of pipelines and valves to the new proposed tanks would be conducted in accordance with applicable environmental regulations and the guidelines and requirements of the California Department of Toxic Substances Control (DTSC) and the California Department of Conservation Geologic Energy Management Division (CalGEM). Applicable environmental regulations would include testing (and mitigation, if required) for asbestos; obtaining a replacement/demolition permit from South Coast Air Quality Management District; and disposal of all materials and drained fluids per applicable regulations. Following decommission and removal of the existing tanks, the project would construct residential uses and a manufactured slope in the immediate vicinity of the existing tank site.

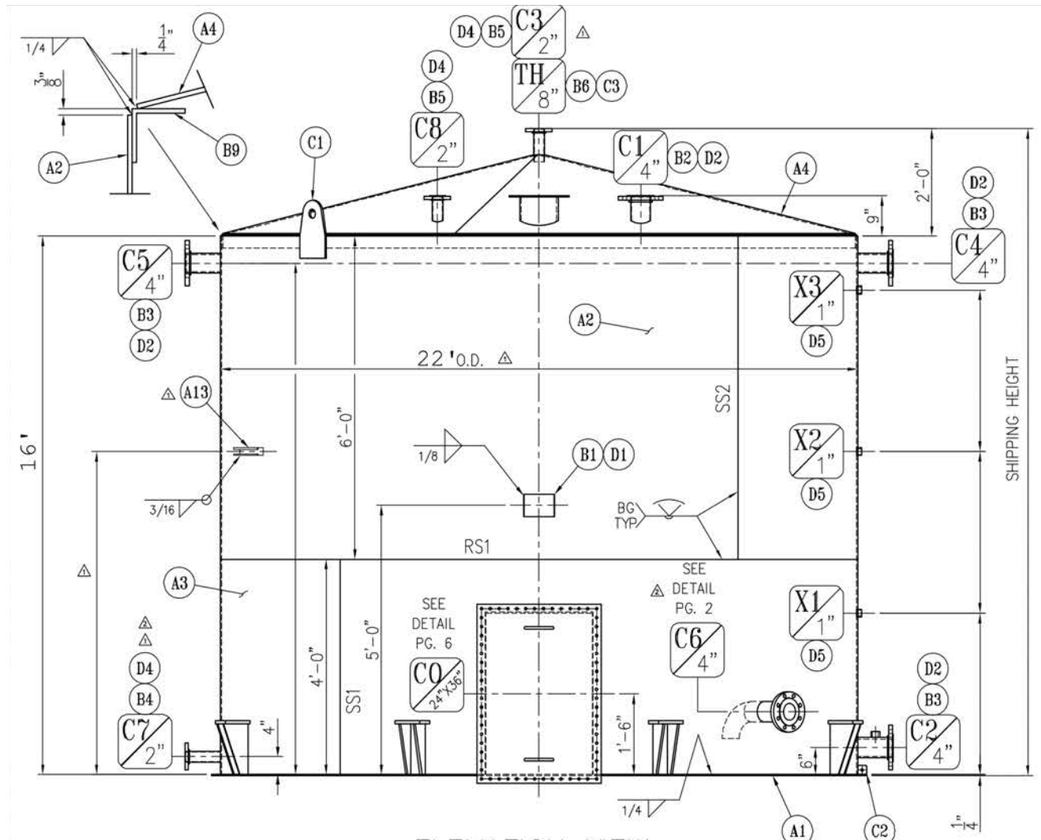
The three aboveground oil storage tanks are proposed in the northwestern portion of the project site on a 1.27-acre lot, near the western project boundary and west of the proposed residential structures (see Figure 3-2). The tank site is located at an elevation of 670 feet amsl and would consist of an elevated pad surrounded by manufactured slopes and a berm. The tanks would be separated from the proposed residences by the extension of Via La Cresta, an ascending slope, and a berm. The top of the tank site slope adjacent to the proposed extension of Via La Cresta would be at an elevation of 680 feet, approximately 30 feet above the adjacent road grade of 650 feet, with the berm extending an additional five feet above the slope top (at an elevation of 685 feet amsl). The southern portion of the tank site would be graded up to the tank access road, with a manufactured slope of approximately 40 feet between the tank site (at 670 feet amsl) and the highest elevation of the tank access road as it crosses the project boundary (approximately 710 feet amsl). The proposed tanks would be constructed of steel. The three tanks consist of one 250 oil-barrel-capacity tank and two 500 oil-barrel-capacity tanks. The

largest, or 500-oil-barrel-capacity, tank would be 18 feet in height, with a diameter of 12 feet (Figure 3-3, *Proposed Tank Details*). Based on the tank site elevation of 670 feet amsl, the slope and surrounding berm at elevations of up 685 feet amsl, and maximum tank heights of 18 feet, small portions of the top of the tanks may be visible, but the bulk of the tanks would be obstructed from view by the adjacent slope and the berm surrounding the tank site; landscaping installed on the surrounding slope and berm would provide further visual screening. Elevational differences between the tank site and adjacent residential uses would also serve to obstruct tank views for some residences. The new tank battery capacity is smaller than the existing tanks, which consist of three 1,000-oil-barrel-capacity tanks, mainly due to the reduced oil production from the existing wells, many of which have been abandoned and/or shut down or have lower production rates. The existing tank site that would be removed as part of the project (the three tanks and the surrounding tank containment) measures approximately 40 feet by 100 feet. Ancillary operational equipment adjacent to the existing tank farm would also be removed.

Construction of the new proposed tanks and associated pipelines would follow all applicable environmental regulations and CalGEM guidelines. A leak detection system is required for all new tanks. A Permit to Construct/Permit to Operate would be obtained from SCAQMD, and construction design plans would be submitted to the City for review and approval prior to the start of construction. Construction of the tank site would include surveying, preparing, and grading the tank site for proper access and drainage. Tank foundations would be designed and constructed consistent with CalGEM requirements for leak detection. Pipelines would be installed consistent with CalGEM requirements. No odors have been noted in association with the current aboveground tanks. The older tanks and pipes are being replaced by new and more efficient tanks and pipes, which would be designed and constructed in accordance with best available control technology (BACT). In addition, the new tanks are anticipated to have similar operations as existing tanks.

Oil leases continue in perpetuity as long as oil is being produced and payments are being paid to the lease holder, which is currently Optima Conservation Resources Exploration (Optima). The new tank farm is intended to stay as long as the lease is in place. Optima would continue to operate and manage the tank farm, wells and all the ancillary pipes/equipment. Optima would inherit the physical tanks and equipment inside the newly built tank farm and the underlying land will be owned by the Home Owner's Association. The oil lease would continue to be held by Optima. Construction of the tank site would include construction of new access routes to the tank site that would connect with existing routes at the western property line (Figure 3-4, *Tank Access Routes*). The new tank access route would have two access points at the western property boundary, approximately 200 feet apart from each other at the property line, that would connect the tank site with adjacent property to the west. Additionally, emergency and fire access would be provided to the tank site via an access road that connects the tank site to the proposed extension of Via La Cresta in the northwest corner of the project site.

Construction of the new facility would follow all applicable environmental regulations and CalGEM guidelines. A Permit to Construct/Permit to Operate would be obtained from the SCAQMD, and construction design plans would be submitted to the City of Chino Hills for approval prior to the beginning of construction. After surveying, preparing, and grading the new facility site for proper access and drainage, the tank foundations would be designed by a California-licensed professional Structural Engineer and constructed consistent with CalGEM requirements for leak detection. Pipelines would be installed consistent with CalGEM requirements. The design would consist of:



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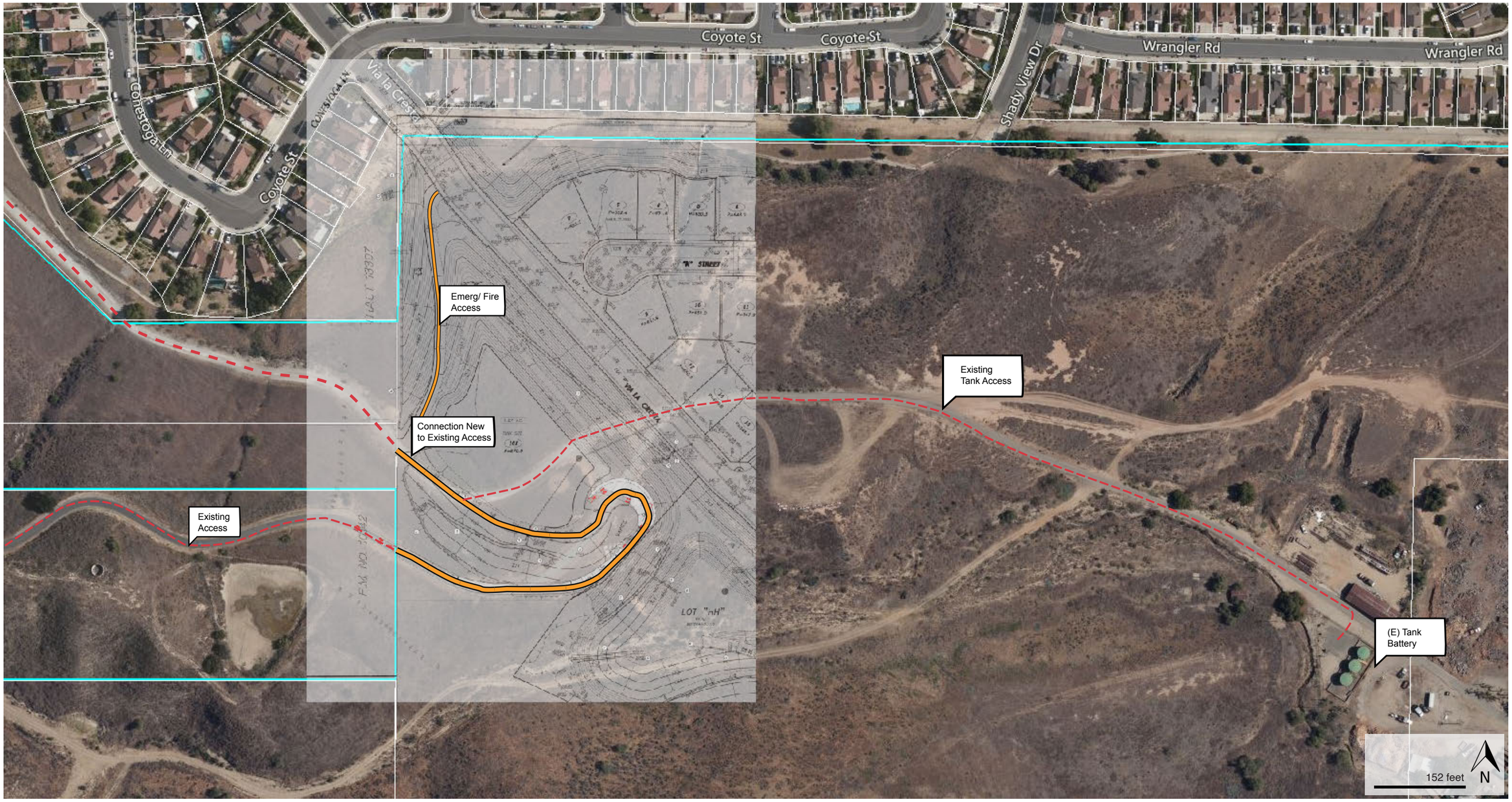
Source: TRUMARK HOMES



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Source: TRUMARK HOMES

HELIX Environmental Planning

Tank Access Routes

Figure 3-4

- Tanks designed and fabricated either per American Petroleum Institute (API) 12B Specifications for bolted steel tanks (except the plate and sheet material may be of a grade, which exceeds the requirements), or per API 12F Specifications for pre-welded steel tanks;

- Tank foundations designed as follows: 1-6" Grade Beam with 3/4 "crushed gravel on level and compacted grade with liner and leak detection (or other acceptable design criteria as per CalGEM regulations) and a Concrete or steel ring wall built on level location; and

- Pipeline design that complies with CalGEM regulations.

3.2.2.3 Amenities

The private community recreation center would be located on an approximately 1-acre parcel within the residential area. It would be a private center maintained by the homeowners' association, available to residents only. The community recreation center would include an outdoor 1,500-square-foot, resort-style swimming pool, pool deck, pool building, a play structure, a barbeque area, and a parking lot. The project includes a pocket park in the northeast portion of the development and a bocce ball court and a seating area in the southern portion of the proposed development. The pocket park would be approximately 0.17 acre, and would include turf and benches for seating. The project would include six additional landscaped lots with grass areas for recreational use (see Figure 3-1).

3.2.2.4 Design and Architecture

The proposed project includes five distinct architectural themes: Spanish Heritage, Rancho Adobe, Farm Heritage, French Country, and Italianate. These architectural themes would be available across floor plan types, as shown in Table 3-2, *Architectural Themes*, and Figure 3-5 [a-e], *Project Elevations*). Additional colors, materials, and reversed plans for each architectural style would provide more visual variation throughout the proposed residential development. The project would be constructed with primarily stucco facades with wood and brick accents. Roofing material would consist of concrete tile.

Table 3-2
ARCHITECTURAL THEMES

Plan	Spanish Heritage	Rancho Adobe	Farm Heritage	French Country	Italianate
1	X	X	X	N/A	N/A
2	X	X	X	N/A	N/A
3	X	X	X	N/A	N/A
4	X	N/A	N/A	X	X
5	X	N/A	N/A	X	X
6	X	N/A	N/A	X	X

X = available; N/A = not available

3.2.2.5 Open Space and Landscaping

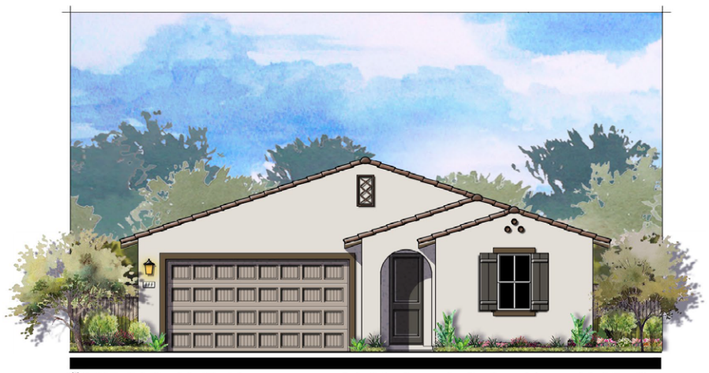
The project would include a total of approximately 80.8 acres of open space. The 80.8 acres consist of open space areas within the residential portion of the site, manufactured and restored open space areas, natural open space, and debris basins. The project would include eight landscaped open space lots (including a pocket park and a bocce ball court), two landscape buffer areas, and two slope access areas within the residential development area, totaling 1.48 acres of open space. Manufactured and

restored open space areas would consist of manufactured slopes, two landscape lots with slope access, two landscape buffer areas, and slope access and would cover approximately 27 acres. These manufactured and restored natural open space areas would be located along the northern and eastern property boundaries, around the proposed tank location, and adjacent to the southwest of the existing fault line in the central portion of the project site. Undisturbed natural open space areas would be maintained in the southwest portion of the project site, covering approximately 45.4 acres. This natural open space area would include unimproved walking/hiking trails and would be preserved via an open space easement or deed restriction. The debris basins, located on approximately 6.9 acres would provide open space, but unlike the other open space components, would not be considered natural or undisturbed open space. As required by Chino Hills Municipal Code Section 16.08.070 and summarized in Table 15.1 therein, the slope analysis prepared for the project determined that the project would be required to provide 56 percent (72.3 acres) of the project area as open space on-site, of which approximately 72 percent (51.83 acres) must be natural open space (either undisturbed or manufactured/restored). The project would comply with the City's open space requirements, as it would provide approximately 80.8 acres of total open space on-site (i.e., over 62 percent of the total site area), of which approximately 72.4 acres would be either undisturbed or manufactured/restored natural open space, or approximately 90 percent of the total open space area on-site.

3.2.2.6 Access, Circulation, and Parking

The project would include the extension of Via La Cresta and Shady View Drive from their existing termini in the South Trail community to the north. Via La Cresta would be extended in a southeast direction into the project site and Shady View Drive would extend to the southwest to intersect the extension of Via La Cresta (Figure 3-6, *Connection with Existing Streets*). Via La Cresta and Shady View Drive would provide the two access points into the proposed development. The extension of these roadways would be private, and the proposed development would not include gated access. The project includes the construction of 11 internal private streets to provide access throughout the development (see Figure 3-1).

Parking for the project would be provided consistent with the requirements of Chino Hills Municipal Code Section 16.34.060. For single-family dwelling units up to 3,100 square feet in R-S zoning districts, 4 parking spaces are required per unit, with 2 of the 4 spaces required to be in a garage. For single-family dwelling units of 3,101 to 6,000 square feet, 5 parking spaces are required, with 3 of the spaces required to be in the garage. The project proposes 56 units that are up to 3,100 square feet, and 103 units that are greater than 3,100 square feet but less than 6,000 square feet. Thus, the parking requirement for the project totals 739 parking spaces and the project provides 739 parking spaces, consistent with the requirements identified in the Municipal Code, as shown in Table 3-3, *Project Parking*. On street parking within the proposed development would occur consistent with City Engineering standards, as required by Chino Hills Municipal Code Section 16.34.070. On-street parking would be restricted along some project roadways to provide fire lane access. These areas would be marked with "No Parking – Fire Lane" signs consistent with CVFD standards. Proposed locations for restricted on street parking to provide a fire lane include the southwestern side of the Via La Cresta extension, between Shady View Drive and B Street, the western side of D Street between Via La Cresta and C Street, and the cul-de-sac portions of C Street, E-G Streets, and I-K Streets.



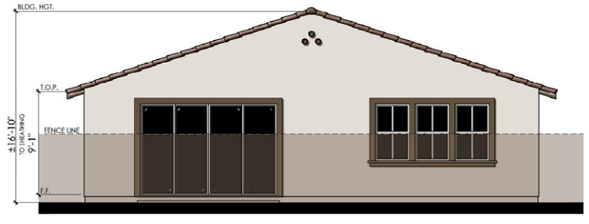
Refer to landscape drawings for wall, tree, and shrub locations

FRONT

RIGHT

MATERIALS LEGEND SPANISH HERITAGE
(WHERE OCCURS)

FRONT DOOR:	FIBERGLASS
GARAGE DOOR:	METAL SECTIONAL
ROOF:	CONCRETE "S" TILE
ROOF EXTENSIONS:	SHED W/ KNEE BRACE
FASCIA:	2x6 WOOD
BARGE:	TIGHT
GABLE END:	SIMULATED CLAY TILE
WALL:	STUCCO
WINDOWS:	VINYL W/ GRIDS
SHUTTERS:	SIMULATED WOOD
POT SHELF	STUCCO
TRIM:	STUCCO OVER RIGID FOAM



REAR

LEFT

COLOR SCHEME 1

PLAN 1 "A"

SPANISH HERITAGE ELEVATION

0 2 4 8 12

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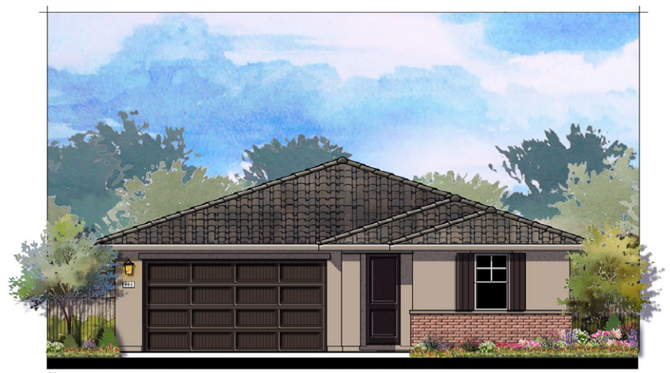
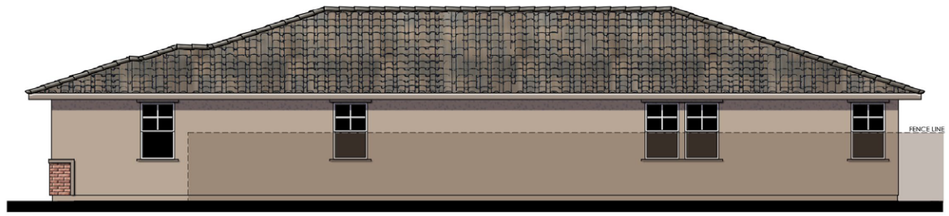
Source: Kevin L. Crook Architects, Inc., 2020



Refer to landscape drawings for wall, tree, and shrub locations

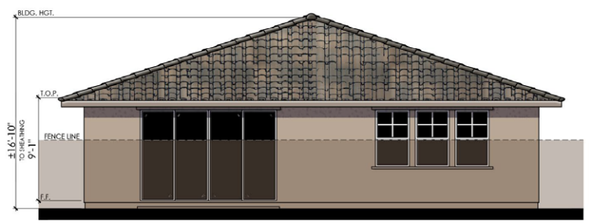
FRONT



RIGHT

MATERIALS LEGEND RANCHO ADOBE
(WHERE OCCURS)

FRONT DOOR:	FIBERGLASS
GARAGE DOOR:	METAL SECTIONAL
ROOF:	CONCRETE "S" TILE
ROOF EXTENSIONS:	SHED W/ KNEE BRACE
FASCIA:	2x6 WOOD
BARGE:	2x6 WOOD
WALL:	STUCCO
WINDOWS:	VINYL W/ GRIDS
SHUTTERS:	SIMULATED WOOD
TRIM:	STUCCO OVER RIGID FOAM
VENEER:	BRICK



REAR

LEFT

COLOR SCHEME 4

PLAN 1 "B"

RANCHO ADOBE ELEVATION

0 2 4 8 12

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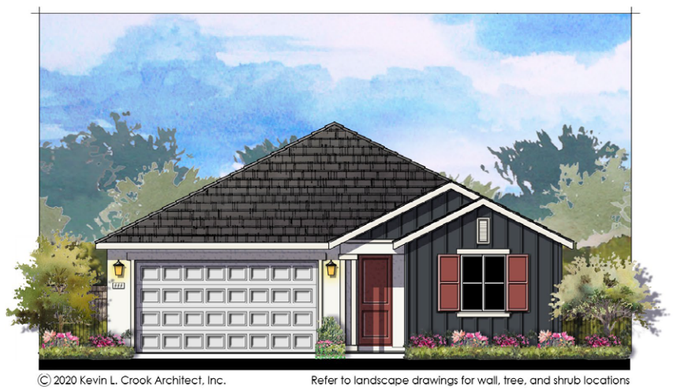
Source: Kevin L. Crook Architects, Inc., 2020



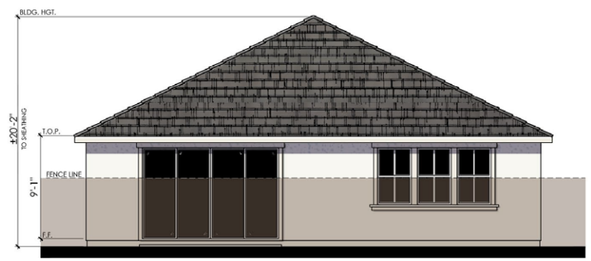
Refer to landscape drawings for wall, tree, and shrub locations

FRONT

RIGHT

MATERIALS LEGEND Farm Heritage
(WHERE OCCURS)

FRONT DOOR:	FIBERGLASS
GARAGE DOOR:	METAL SECTIONAL
ROOF:	CONCRETE FLAT TILE
ROOF EXTENSIONS:	SHED W/ KNEE BRACE
FASCIA:	2x6 WOOD
BARGE:	2x6 WOOD
GABLE END:	BOARD & BATTEN
WALL:	STUCCO/ BOARD & BATTEN
WINDOWS:	VINYL W/ GRIDS
SHUTTERS:	SIMULATED WOOD
TRIM:	WOOD/ STUCCO O/ RIGID FOAM
PORCH:	WOOD POST AND BEAM



REAR

LEFT

COLOR SCHEME 7

PLAN 1 "C"

FARM HERITAGE ELEVATION

0 2 4 8 12

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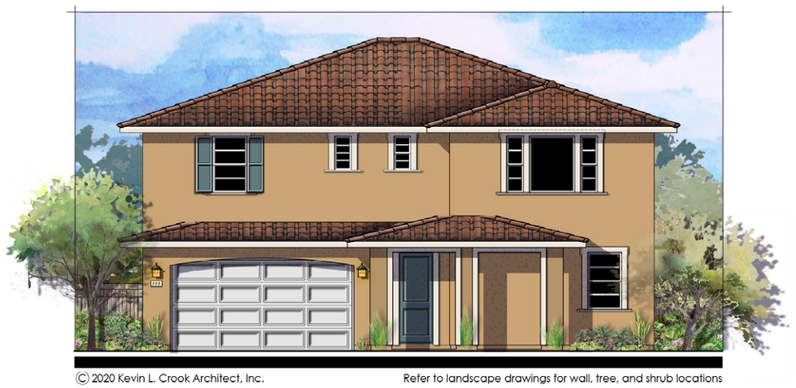
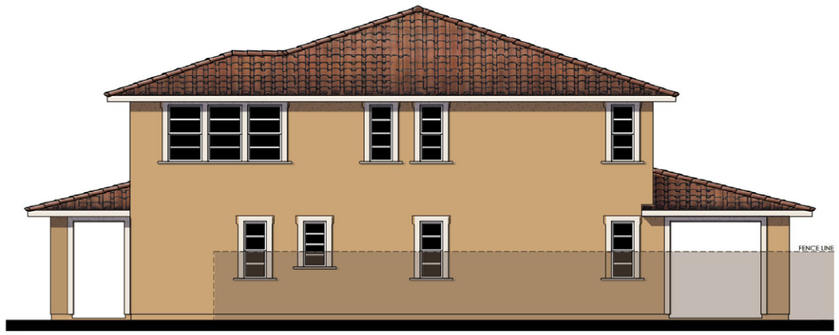
Source: Kevin L. Crook Architects, Inc., 2020



Refer to landscape drawings for wall, tree, and shrub locations

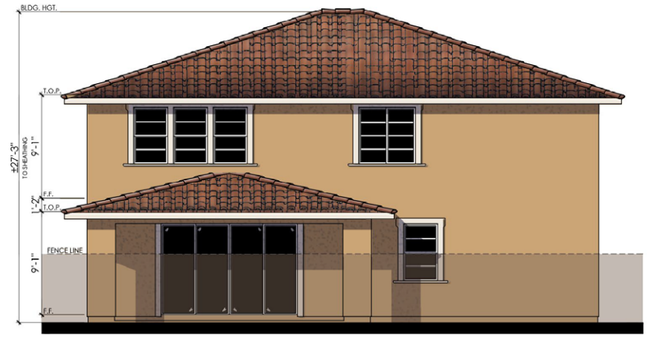
FRONT



RIGHT

MATERIALS LEGEND ITALIANATE
(WHERE OCCURS)

FRONT DOOR:	FIBERGLASS
GARAGE DOOR:	METAL SECTIONAL
ROOF:	CONCRETE "S" TILE
FASCIA:	2x6 WOOD
BARGE:	2x6 WOOD
WALL:	STUCCO
WINDOWS:	VINYL W/ GRIDS
SHUTTERS:	SIMULATED WOOD
POT SHELF:	STUCCO/ WOOD
TRIM:	STUCCO OVER RIGID FOAM



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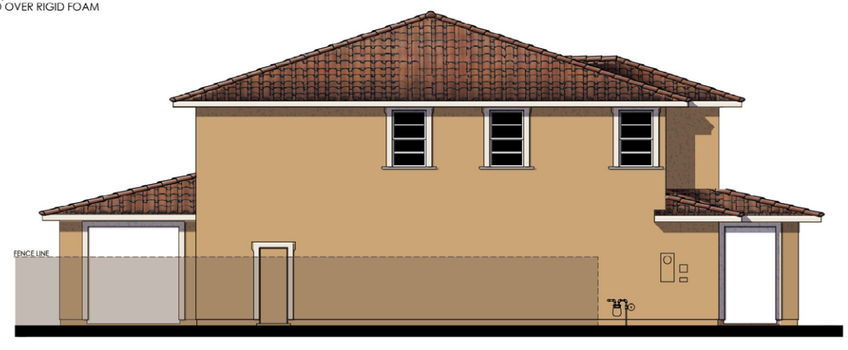


LEFT

COLOR SCHEME 13

PLAN 4 "E"

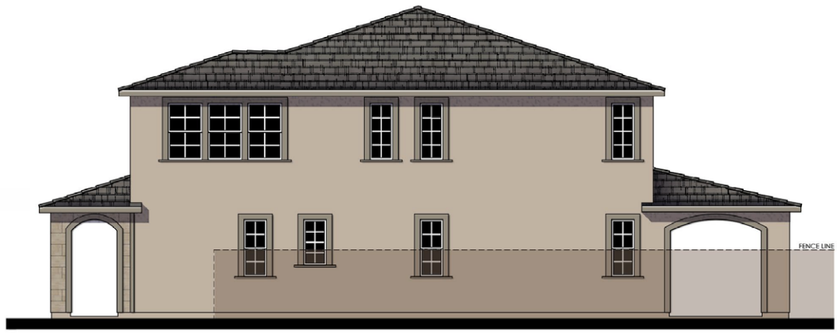
ITALIANATE ELEVATION

0 2 4 8 12

Source: Kevin L. Crook Architects, Inc., 2020

Refer to landscape drawings for wall, tree, and shrub locations

FRONT

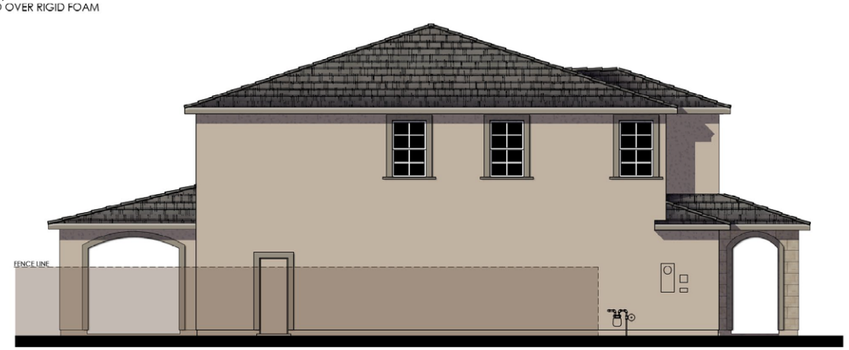


RIGHT

MATERIALS LEGEND (WHERE OCCURS) FRENCH COUNTRY

FRONT DOOR:	FIBERGLASS
GARAGE DOOR:	METAL SECTIONAL
ROOF:	CONCRETE FLAT TILE
ROOF EXTENSIONS:	SHED W/ KNEE BRACE
FASCIA:	2x6 WOOD
BARGE:	2x6 WOOD
WALL:	STUCCO/ STONE
WINDOWS:	VINYL W/ GRIDS
SHUTTERS:	SIMULATED WOOD
POT SHELF:	STUCCO/ STONE
TRIM:	STUCCO OVER RIGID FOAM
VENEER:	STONE

REAR



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COLOR SCHEME 16

PLAN 4 "F"

FRENCH COUNTRY ELEVATION

0 2 4 8 12

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Source: Kevin L. Crook Architects, Inc., 2020

Project Site
Plan Lines

Connection at Via La Cresta

APACHE LN
ARROYO LN
VIA LA CRESTA RD
COYOTE ST
CONESTOGA LN

Connection at Shady View Drive

PRAIRIE ST
COYOTE ST
LONGHORN LN
SHADY VIEW DR
WRANGLER RD
SOUTH TR

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0 100 Feet

Source: Aerial (NAIP, 2016)

HELIX Environmental Planning

Connection with Existing Streets

Figure 3-6

Table 3-3
PROJECT PARKING[1]

Plan	Square Footage per Unit	Number of Units	Required Parking per Unit[2]	Total Required Parking	Provided Parking (Garage)	Provided Parking (Driveway)	Total Provided Parking
1	2,381	26	4	104	2	2	104
2	2,880	16	4	64	2	2	64
3	3,005	14	4	56	2	2	56
4	3,300	34	5	170	3	2	170
5	3,496	34	5	170	3	2	170
6	3,888	35	5	175	3	2	175
			Total	**739**			**739**

[1] This table summarizes the parking provided onsite for the residential properties and excludes street parking and parking provided for the community recreation center.

[2] For units up to 3,100 square feet, four spaces are required, with two of the spaces in the garage; for units 3,100 square feet to 6,000 square feet, five spaces are required, with three of the spaces in the garage.

3.2.2.7 Utilities

Utility infrastructure would be extended to the site. Currently, there is sewer, water, storm drainage, electric power, natural gas, and telecommunications infrastructure in the South Trail community adjacent to the north. Utility infrastructure to the site would be extended from these locations to service the proposed project. Electric power, natural gas, and telecommunications services would be private and would be extended to the project site by the utility service providers, connecting to the existing distribution systems for each utility. Storm drain and sewer facilities would be private and would be maintained by the homeowners' association. Water systems would be public but would be maintained by the homeowners' association.

The project includes the construction of on-site storm drainage system, including a curb and gutter system and four debris basins to collect storm water runoff and contain the debris from natural areas. One of the debris basins would provide stormwater detention volume in addition to debris volume. The proposed debris basins cover approximately 6.9 acres on four lots, and are proposed southwest of the residential areas, the extension of Via La Cresta, and Private Street "D" (refer to Figure 3-1). Each basin has a storm drain inlet pipe that would ultimately outlet through one of the proposed development's two storm drain outlet areas. One outlet area is located at the northeastern corner of the site and the other outlet is located along the eastern project boundary. Both of the two outlet areas would contain a modular wetland system or equivalent for biotreatment prior to discharging to the storm drain system. The project includes the use of biotreatment and hydromodification control Best Management Practices (BMPs) during the long-term operation of the development. The project would incorporate preventative Low Impact Development (LID) site design practices to avoid, minimize and/or control post-development runoff, erosion potential, and pollutant generation. Source control BMPs would be implemented to avoid or minimize the introduction of pollutants into storm drains and natural drainages. These measures are discussed in more detail in Section 4.8, *Hydrology and Water Quality*. The proposed biotreatment BMPs would operate in concert with the LID site design and source control BMPs. Runoff from each on-site drainage area would be conveyed as gutter flow prior to discharging to project catch basins and the proposed storm drain system. Runoff is then conveyed to the modular wetland systems, where runoff would be conveyed through a pre-treatment chamber. This chamber would remove debris, fine particles, oil and grease, and other materials. Runoff is then conveyed to the

biofiltration portion of the BMP, consisting of proprietary filtration media and select vegetation that work together to further remove runoff pollutions via filtration and plant/microbial uptake. This runoff is then discharged to the storm drain system. Flow throughout the project site would be collected by a system of on-site storm drainage infrastructure that has been sized for the 100-year storm. With implementation of project design and BMPs, peak stormwater flows for the proposed project are reduced by 123.6 cubic feet per second for the 100-year storm event as compared to the existing condition.

3.2.2.8 Walls and Fencing

The project would include a mechanically stabilized earth (MSE) wall in some locations, adjacent to manufactured slopes (Figure 3-7, *Wall Plan*). The eastern property boundary would include an MSE along its length, ranging from 2 feet to 35 feet in height. The MSE would be constructed at the northeastern corner of the property, at a height of 15 feet, and proceed along the eastern boundary, with a maximum height of 30 feet, until the cut-out parcel portion of the eastern boundary. Another MSE would be installed along the portion of the project boundary located south of the cut-out parcel that is not a part of the project site. This MSE would range from 18 to 20 feet in height. An additional MSE with a 35-foot maximum height runs along the eastern project boundary, south of the cut-out parcel, along most of the project boundary length to near the southern project boundary. A small MSE wall is proposed along a short portion of the northern project boundary, between the extensions of Via La Cresta and Shady View Drive. This MSE would have a maximum height of 13 feet.

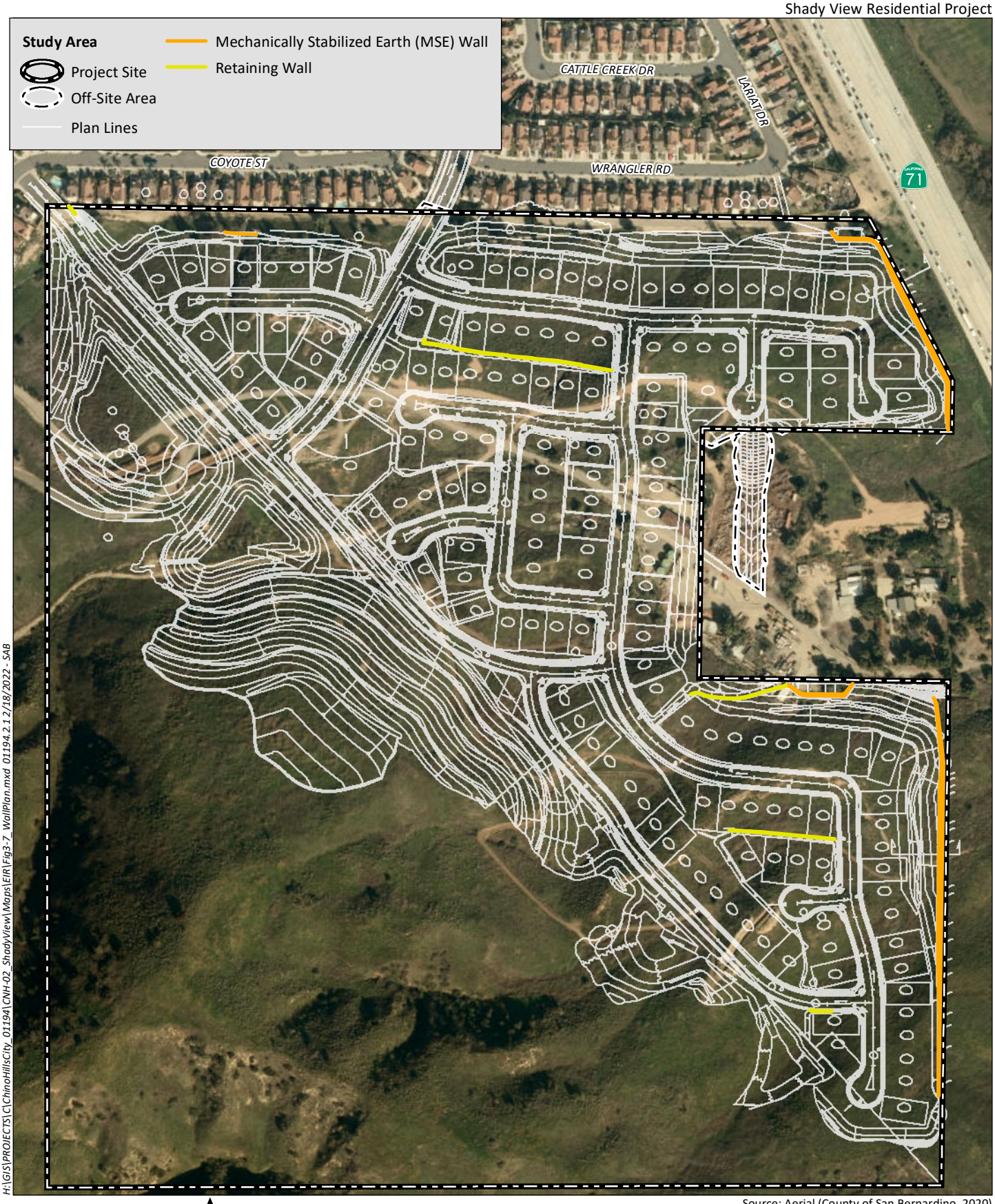
A 6-foot maximum-height retaining wall is proposed in the southern portion of the site, adjacent to the proposed 18-20 feet MSE wall, along the project boundary located south of the cut-out parcel that is not a part of the project site (refer to Figure 3-7, *Wall Plan*). A 6-foot maximum-height retaining wall is also proposed along the northeast side of the extension of Via La Cresta, just south of the project boundary.

Residences along the northern and eastern project boundaries would have precision block walls with glass panels at the rear property lines. Side yards for those properties and property boundaries for other residences would be demarcated by 6-foot vinyl fencing or 6-foot single-sided splitface block walls. The debris basin lots would be surrounded by 6-foot tubular steel fencing. The pool area at the recreation center would be surrounded by a 6-foot-tall pool fence.

3.3 SUSTAINABILITY FEATURES

The proposed project would be designed to achieve 2022 Title 24 energy standards or the code in place at the time building permit applications are submitted, at a minimum, through implementation of energy-reduction measures, such as energy-efficient lighting and appliances, water-efficient appliances and plumbing fixtures, water-efficient landscaping and irrigation, and the on-site generation of renewable solar energy. The project would incorporate the following sustainability features:

- Photovoltaics (PVs) would be provided on each residential unit to reduce impacts to the electrical grid.
- All residential units would be fitted with electrical vehicle (EV)-capable infrastructure.
- Lumber for the proposed project would be sourced from sustainable forestry operations, making wood a crop that is harvested versus resulting in deforestation.



Source: Aerial (County of San Bernardino, 2020)

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Wall Plan

Figure 3-7

- Low-flow water fixtures, tankless water heaters, high-performance Energy Star, energy-efficient appliances and materials would be utilized.

- Landscape for the project would be climate appropriate and designed for low water consumption. Only drought-tolerant, low water use, and non-invasive plant landscape would be planted.

- Highly efficient irrigation and ocean friendly storm water treatment would be installed.

- Smart technology would be used for irrigation controls to reduce water usage.

3.4 PROJECT CONSTRUCTION

Construction of the proposed project is expected to commence in the third quarter of 2022 and would occur for approximately two years. Project construction activities would consist of demolition of existing oil tanks and associated piping; removal of split wood and beehive uses; site preparation; grading; installation of underground utilities, debris basins, and internal private streets; tank construction; building construction; and architectural coatings. Construction activities would occur in the following phases: (1) clearing and site grading; (2) horizontal building foundation; (3) vertical building construction; and (4) paving and concrete work and landscape installation.

Typical construction equipment for the proposed project would include concrete/industrial saws, dozers, tractors/loaders/backhoes, graders, excavators, cranes, forklifts, welders, cement and mortar mixers, pavers and paving equipment, rollers, and air compressors.

Grading would include approximately 2,107,000 cubic yards of cut and approximately 2,114,000 cubic yards of fill. Lot and utility spoils would be utilized to balance the site, and no import or export associated with grading is expected to occur. It is expected that some soil near the existing oil tanks would be classified as non-hazardous petroleum-impacted soil and would require export off site. The maximum estimated export is 19,000 cubic yards of non-hazardous petroleum-impacted soil, which assumes 15 feet depth of excavation and removal at all areas of potentially impacted soil; however, it is not expected that the maximum estimated soil removal would actually be required. For preliminary grading calculations, it is anticipated that approximately half of the 19,000 cubic yards (approximately 9,500 cubic yards) would require removal and the remaining 9,500 cubic yards would not to require removal but would remain on site. Non-hazardous, petroleum-impacted soil would be removed from the site and disposed of at an off-site landfill. The removal of approximately 9,500 cubic yards is included in the overall balance of soils on the project site.

Construction activities would occur between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between 8:00 a.m. and 6:00 p.m. on Saturdays consistent with CHMC Section 8.08.020. The total number of construction workers present at the site during construction activities would vary, depending on which phase on construction is occurring, but a maximum of 150 workers are expected during vertical building construction.

All construction vehicles and equipment would be staged within the disturbed portions of the project site boundaries. The project site can be accessed from Shady View Drive and Via La Cresta. The majority of construction traffic would access the site via Shady View Drive.

3.5 DISCRETIONARY ACTIONS

This EIR is intended to provide documentation pursuant to CEQA to cover all local, regional, and state permits and/or approvals which may be needed to implement the project. The anticipated discretionary approvals are identified in Table 3-4, *Anticipated Discretionary Actions*, below. Implementation of the proposed project would result in permanent impacts to approximately 0.89 acre of California Department of Fish and Wildlife (CDFW) jurisdiction. Impacts to CDFW jurisdiction will require a Section 1602 Stream Alteration Agreement from the CDFW. Implementation of the proposed project would result in permanent impacts to approximately 0.21 acre of United States Army Corps of Engineers (USACE)/Regional Water Quality Control Board (RWQCB) non-wetland waters of the U.S. Impacts to USACE/RWQCB jurisdiction will require a Section 404 permit from USACE and a Section 401 certification from RWQCB. This list is not meant to be exhaustive or final; other approvals may be identified during the implementation process.

Table 3-4
ANTICIPATED DISCRETIONARY ACTIONS

Action/Approval/Permit	Agency
Certification of EIR	City of Chino Hills
Tentative Tract Map	City of Chino Hills
Residential Design Review	City of Chino Hills
Conditional Use Permit for relocation of oil facilities	City of Chino Hills
Clean Water Action Section 404 Permit	USACE
Clean Water Act Section 401 Water Quality Certification	RWQCB
Fish and Game Code Section 1602 Streambed Alteration Agreement	CDFW
NPDES Construction Activities Storm Water General Permit	RWQCB

4.0 ENVIRONMENTAL ANALYSIS

Sections 4.1 through 4.15 analyze the potential environmental impacts that may occur as a result of implementation of the proposed project. The environmental issues analyzed in the following sections include those that were identified by the City as potentially significant during the Initial Study and NOP scoping process. There are 15 environmental issues addressed in the following sections. A brief discussion of additional impacts that were determined not to be potentially significant is included in Section 6.1, *Effects Found Not to be Significant*, of this EIR. The environmental topics addressed in this chapter include the following:

4.1 Aesthetics
4.2 Air Quality
4.3 Biological Resources
4.4 Cultural Resources
4.5 Geology and Soils
4.6 Greenhouse Gas Emissions
4.7 Hazards and Hazardous Materials
4.8 Hydrology and Water Quality
4.9 Land Use
4.10 Noise
4.11 Public Services (including Recreation)
4.12 Transportation
4.13 Tribal Cultural Resources
4.14 Utilities
4.15 Wildfire

Each section is formatted to include a description of the existing conditions and regulatory context; a description of methodology and assumptions used in the analysis, if applicable; the criteria for determining the significance for each impact; an evaluation of potential impacts; mitigation measures, if applicable; and a conclusion of significance.

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4.1 AESTHETICS

This section of the EIR describes the existing visual setting of the project site and vicinity within the context of the surrounding community, identifies applicable guidelines and regulations related to aesthetics, and evaluates potential aesthetic impacts related to implementation of the project.

4.1.1 Existing Conditions

4.1.1.1 Landforms

The project site is located in the Chino Hills, along the western edge of the San Bernardino Valley. The San Bernardino Valley is in a western mountain and foothill area of San Bernardino County. The San Gabriel, San Bernardino, and San Jacinto Mountains form the northern, eastern, and southern sides of the valley, respectively. The City is generally characterized by its open spaces, canyons, hills, and ridgelines (City 2015c). Open space accounts for 45 percent of the City's total area and defines the visual character of the City.

The site is characterized predominantly by open natural hill areas (including a designated Prominent Ridgeline, see discussion below) with an immediately adjacent residential development to the north. Topographically, the site consists of a large hillside in the southwest portion of the site, and a series of low rolling canyons and ridges in the northeast portion of the site. A major active drainage runs west to east through the upper middle-portion of the site. Smaller canyons between low ridges trend west to east in the southern portion of the proposed development area. Elevations at the project site range from approximately 580 feet above mean sea level (amsl) in the northeast portion of the property to approximately 1,070 feet amsl in the southwest portion of the property. Chino Creek, the Santa Ana River, and Prado Dam and its associated flood control basin are located in proximity to the east and south.

4.1.1.2 Visual Setting and Site Characteristics

The project site is mostly vacant, with some disturbance, including access roads and several uses concentrated near an adjacent off-site residential property (the square cut-out parcel that is not part of the site) on the northern half of the site (Figure 4.1-1, *Site Photographs*). These uses, which are located on the project site, include three existing aboveground oil storage tanks, oil pipelines, equipment storage, split wood storage, soil piles, and access roads. A concrete slab with beehives is located on the northwestern portion of the project site. The southern portion of the site does not contain uses or access roads, and is undeveloped.

In late October and early November 2020, the Blue Ridge wildfire burned in the hills to the west and south of the project site. In the western portion of the site, a backfire was initiated by local fire officials as a containment method for the wildfire on the adjacent lands. Vegetation on the project site consists primarily of disturbed areas, non-native species, burned habitat, and California sagebrush scrub (see Figure 1-3; aerial photograph is from 2018 predates the Blue Ridge fire and thus, does not show burned habitat). The project site consists primarily of burned habitat in the southern and western portion of the site, due to the Blue Ridge wildfire. The remaining native areas that did not burn are mostly California sagebrush scrub and disturbed California sagebrush scrub. A large portion of the project site, in the central and northern areas, consist of disturbed areas and non-native species.

4.1.1.3 Surrounding Land Uses

Surrounding land uses include single-family residential uses to the north, vacant hills with scattered oil wells and the West Mahala oil lease to the west, and vacant land consisting of hills to the south. To the east of the project site (within the square cut-out parcel; refer to Figure 1-3) is one single-family home and a strip of vacant land between the project site boundary and SR-71. A more detailed description of the visual environment of the surrounding land uses is provided below.

North of the Project Site

The area to the north of the project site consists of a single-family residential development. The residential development consists of one- and two-story, detached, single-family units situated along the development's interior roadways, including a number of cul-de-sacs. The main thoroughfares through the development, such as Shady View Drive and Mystic Canyon Drive, include landscaped parkways, lined with vegetation and trees. The development is surrounded by walls and fencing, with a combination of concrete block walls and various fencing. For the units along the residential development's southern border, which is adjacent to the proposed project's northern boundary, all units are two-story, with a combination of block wall and fencing lining the development's southern boundary.

South of the Project Site

Land to the south of the project site consists of a large swath of vacant, undeveloped hills. Elevations among the hills to the south of the project site range from approximately 600 to 700 feet amsl at the base of the hills to approximately 900 to 1,160 feet amsl at the peaks of the hills. A sand and gravel operation is located approximately 1.5 miles south of the southern project boundary, adjacent to SR-71. A residential development is located approximately 2.3 mile south of the southern project boundary, south of the Santa Ana River.

East of the Project Site

To the east of the project site (within the square cut-out parcel; refer to Figure 1-3) is one single-family home consisting of several buildings and a wireless communications facility. The wireless communications facility has a water-tower appearance, and is approximately 80 feet in height. The parcel includes a number of buildings and storage structures, including multiple storage sheds and outbuildings that appear to be for storage. The southeastern portion of the square cut-out parcel contains automobile and scrap storage, with a number of shipping containers present on the property. In the northwestern portion of the cut-out parcel, there are various wood piles. A number of ornamental trees surround the main residential structures on the cut-out parcel.

There is a strip of vacant land to the east of the project site (and east of the cut-out parcel containing the single-family residential structure and wireless communications facility), between the eastern project site boundary and SR-71. This strip of land is vacant and undeveloped, and contains vegetation and disturbed vegetation.

SR-71 is located east of the project site, beyond the adjacent cut-out parcel and strip of vacant land. SR-71 is a state highway, approximately 15 miles in length, that traverses through Riverside, San Bernardino, and Los Angeles counties between Interstate 10 and SR-91. In the project vicinity, SR-71 consists of two general purpose lanes in each direction, with an additional northbound lane for HOV.

Project site, looking south from Via La Cresta

Disturbed terrace near northern project boundary, looking east

Northern portion of project site and furthest south hill, looking southeast

Project site, looking west towards foothill from drainage path

Project site from drainage in southeast portion of site, looking southwest

Project site in southeastern portion, looking east

Northern portion project site from top of foothill in southwestern portion of the site, looking north/northeast

Northwest portion of the project site from top of foothill in southwestern quadrant of the project site

Northwest portion of the project site from top of foothill, in southeastern quadrant of the project site

Ridgeline and southeastern portion of the project site, looking east

Ridgeline and southeastern portion of the project site (background left) from foothill knoll, looking east

Site Photographs, Project Site Overview

Figure 4.1-1a

Cast iron pipe portion of pipeline infrastructure

Cast iron pipe portion of pipeline infrastructure

Cast iron pipes associated with pipeline infrastructure

Existing aboveground oil storage tanks

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Site Photographs, Oil Infrastructure

Figure 4.1-1b

Concrete slab and trough

Barn, concrete slabs and associated features

Storage

Gas scrubber tank

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Site Photographs, Existing Uses

Figure 4.1-1c

SR-71 is heavily traveled and has an annual average daily traffic count of approximately 75,000 average daily trips at the San Bernardino County/Riverside County line (Caltrans 2022), which is the segment of SR-71 adjacent to the east of the project site.

West of the Project Site

Land to the west of the project site consists of vacant hills with scattered oil wells and the West Mahala oil lease. The hills are undeveloped, with the exception of access roads along ridgelines and small pads developed with oil infrastructure scattered throughout. The hills to the west of the project site are similar in scale to those existing on the southern portion of the site and to the south of the site. The ridgelines of the hills are generally at elevations of approximately 900 to 1,100 feet amsl, with the base of the hills ranging at elevations from approximately 600 to 800 feet amsl. Several drainages and associated vegetation are present through these hills. Chino Hills State Park is located west of the project site, beyond the adjacent hills with scattered oil uses, at a distance of approximately 1.7 miles from the western project boundary.

4.1.1.4 Scenic Resources

The City has designated Prominent and Exceptionally Prominent Ridgelines and Knolls within the City as scenic resources, and the designated ridgelines and knolls are included in the City's Scenic Resources Overlay District (Figure 4.1-2, *City of Chino Hills Ridgelines and Knolls Map)*. According to City Municipal Code Section 16.08.030, these scenic resources are important as they are generally visible at important gateways into the City, from its major transportation corridors/thoroughfares (SR-71, SR-142, arterials, and collector streets). The designated knolls in the City are located in the central and northern portions of the City. The majority of the Prominent and Exceptionally Prominent Ridgelines are located in the western and southeastern potions of the City, generally surrounding Chino Hills State Park and along the City's western side. A Prominent Ridgeline (as designated by the City's Municipal Code) extends approximately 300 feet onto the project site, in the southwestern corner of the site (Figure 4.1-3, *Prominent Ridgeline on the Project Site*). The portion of the Prominent Ridgeline on the project site is at elevations of approximately 1,050 feet amsl to 1,070 feet amsl.

4.1.1.5 Public Views

Protected public views of the project site would include those from major transportation corridor SR-71. While not directly adjacent to the project site, SR-71 is located to the east of the site, and runs generally parallel to the project's eastern boundary, with a small strip of land and the cut-out parcel located between the project site and SR-71. At the northeastern corner of the project site, SR-71 is at a distance of approximately 100 feet from the project boundary, for an approximately 500-foot distance generally parallel to the project boundary. This is the closest portion of SR-71 to the project site. Further south, along the eastern project boundary, SR-71 is located at distances varying from 100 to 800 feet from the project boundary, with a strip of property that is not part of the project located between the project site and SR-71. SR-71 is nearly adjacent to the project boundary for a distance of approximately 0.5 mile, but is not visible for the entire distance to all motorists, due to intervening topography and vegetation in some areas. Overall visibility varies based on direction of travel for motorists and the motorists' location on SR-71; however, large portions of the project site, especially the hills in the southern and western portions of the site, are visible to motorists travelling in both directions on SR-71. Assuming a speed of 60 miles per hour (mph), and completely unobstructed views of the site, motorists view duration of the project site from SR-71 would be 30 seconds. If traffic on SR-71 were slower, views of the project site for

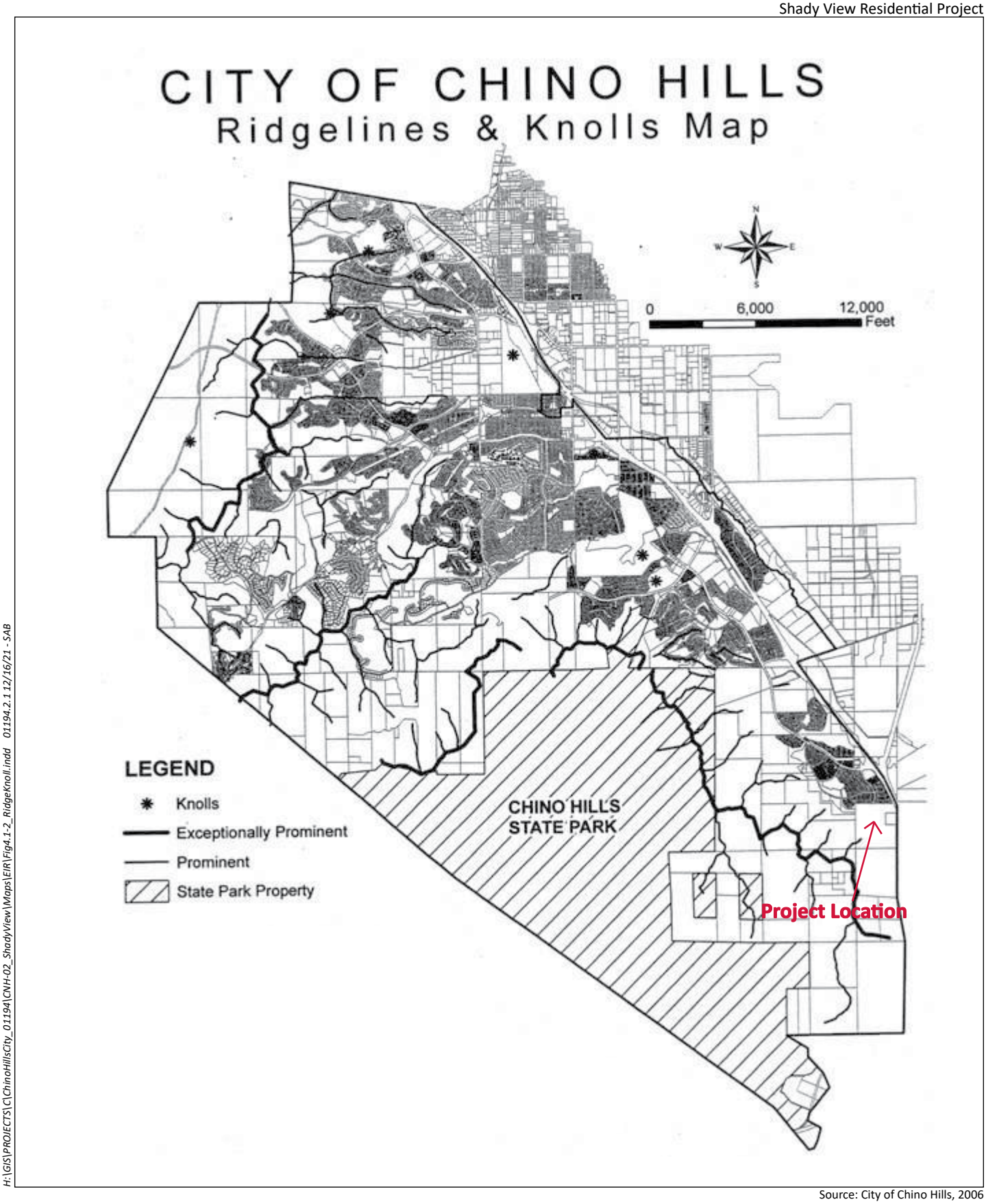
motorists would be longer. Assuming a speed of 20 mph and completely unobstructed views of the site, motorists' view duration of the project site would be 90 seconds. As discussed above, the site would not be completely visible to motorists along the entire length of the project site, due to differences in travel direction views and intervening vegetation and topography, so the view durations described would be the maximum view durations expected to occur.

The southwestern portion of the project site, which contains hills (including a Prominent Ridgeline) at elevations up to approximately 1,080 feet amsl are visible from several other roadways within the South Trail community to the north. The portion of the Prominent Ridgeline located on the project site is at elevations ranging from approximately 1,080 feet amsl at the western project boundary to approximately 956 feet amsl at the eastern end of the Prominent Ridgeline. In regards to protected views, the only public views that are protected are views of designated ridgelines and knolls. Views of the onsite Prominent Ridgeline are available from several north/south oriented roadways in the southern portion of the South Trail community to the north of the project site and partial views of the onsite Prominent Ridgeline are available from other roadways in the South Trail community and from Mystic Canyon Park. The roadways that provide public views of the project site generally include the north/south running roadways in the southern portion of the adjacent single-family residential development to the north of the project site. Many of the roadways that are oriented west/east and the majority of the roadways in the northern portion of the residential development do not have views of the project site, due to intervening residences and trees that block the views. However, partially obstructed views are available from many of the roadways within the residential development. Viewers along these roadways would generally not have unobstructed or large views of the project site, due to the existing topography and intervening structures, but small glimpses of the project site, particularly the hill in southwestern portion of the project site, would be visible from other public roadways within the residential development, between houses. Additionally, the southwestern portion of the project site is visible from Mystic Canyon Park, located approximately 0.15 mile north of the project site, within the residential development to the north of the project. Views of the southwestern portion of the project site are partially obstructed from Mystic Canyon Park by single-family residential units, trees, and street lights that are located between the park and the project site.

As land uses directly to the south consist of vacant hills in private ownership, there would be no public views of the project site available from existing land uses to the south. The site would be visible from land to the west; however, the land to the west is vacant with scattered oil uses. The site would be visible to workers associated with the scattered oil uses, but no public views would be available from the land directly adjacent to the west. Views of the project site from Chino State Park would be limited and likely indiscernible, due to the park's distance from the project site (approximately 1.7 miles) and the intervening topography.

4.1.1.6 Private Views

Although the City Municipal Code does not identify private views as a scenic resource, private views of the project site would include those from the adjacent single-family residential development to the north of the project site. The project site would generally be visible to viewers along Shady View Drive and Via La Cresta, and from the single-family residences along the southern border of the existing residential development. All residences along the southern border of the existing residential development are two-story units. These residences are at elevations ranging from approximately 590 feet amsl to approximately 620 feet amsl. The project site contains a series of low rolling canyons and ridges in the northeast portion of the site, which results in elevation variations along the northern



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Source: City of Chino Hills, 2006

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City of Chino Hills Ridgelines and Knolls

Figure 4.1-2

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Prominent Ridgeline on the Project Site

Figure 4.1-3

property between the project site and the adjacent residences to the north. In some areas along the northern project site boundary, ridges within 125 feet of the property boundary are at elevations up to approximately 660 feet amsl. These topographical variations along the northern portion of the site obstruct much of the views of the project site from the residential development to the north, although depending on distances from the property boundary and the portions of the project site being viewed, views of the project site vary.

4.1.2 Regulatory Setting

4.1.2.1 State

California Scenic Highway Program

The California Scenic Highway Program was created by legislature in 1963 (Streets and Highway Code Section 260 et seq.) and managed by the Caltrans. Its purpose is to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. A state scenic highway is any designated freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. A scenic designation is determined by the local jurisdiction after consideration and evaluation of how much of the natural landscape a passing motorist sees and the extent to which visual intrusions (e.g., buildings, unsightly land uses, noise barriers) impact the "scenic corridor." There are no designated state scenic highways in or adjacent to Chino Hills.

4.1.2.2 Local

Chino Hills General Plan

The General Plan emphasizes the preservation and enhancement of the natural features in the City which contribute to scenic qualities, including the hillside setting and diverse topographic forms. The Land Use Element supports the preservation of natural features through designating appropriate land uses to preserve certain features or areas that contribute to the scenic character of the setting, or allowing development at densities that would also contribute to the preservation of these areas. The Conservation Element identifies the natural resources within the City that contribute to the City's aesthetics. The Conservation Element identifies the City's natural setting as a major contributor to the City's rural character. The natural setting consists of natural open spaces, ridgelines, canyons, wildlife corridors, and existing woodlands and native and heritage trees. The General Plan also notes that no scenic highways have been designated within the City and there are no candidates for the scenic highway land use designation. The General Plan contains goals, policies, and actions to support protection of the City's natural setting, including the following, which are applicable to the proposed project in relation to aesthetics:

- *Goal LU-1:* Protect Chino Hills' Natural Environment
- *Policy LU-1.1:* Preserve Chino Hills' rural character by limiting intrusion of development into natural open spaces.
- *Action LU-1.1.2:* Discourage new development from obstructing public views of extremely prominent ridgelines, prominent ridgelines, knolls, significant open space, or important visual resources as identified in the Municipal Code.

- *Action LU-1.1.3:* Ensure that new development conforms to the unique and natural setting of each area and site, retaining the character of existing landforms and preserving significant native vegetation.

- *Action LU-1.1.4:* Continue to require ridgelines and natural slopes to be dedicated and maintained as open space as required by the Municipal Code.

- *Action LU-1.1.5:* Maintain open space requirements for new development based on the slope of the land as required by the Municipal Code; and require that a percentage of required open space be left in its natural state.

- *Action LU-1.1.6:* Cluster development where appropriate to minimize grading, and roadway and driveway intrusions into sensitive habitat areas, open spaces, and Chino Hills State Park. Prohibit development in areas adjacent to Chino Hills State Park (for example, ridgelines), which would result in urban runoff to the watershed of the Park.

- *Action LU-1.1.9:* Promote preservation of natural features such as streams, rock outcroppings, and unique vegetation clusters.

- *Action LU-1.1.10:* Use dedicated open space, as opposed to built barriers, as a buffer between development areas, wherever possible.

- *Action LU-1.1.11:* Require contour grading, and encourage grading techniques that simulate the varied gradients and rounded contours of natural landforms.

- *Action LU-1.1.12:* Design roads and driveways for hillside residential development that conforms to existing topography and that minimizes grading and retaining walls.

- *Policy LU-1.2:* Preserve and enhance the aesthetics resources of Chino Hills, including the City's unique natural resources, roadside views, and scenic resources.

- *Action LU-1.2.1:* Continue to protect City-designated extremely prominent ridgelines, prominent ridgelines, and knolls from intrusion by development.

- *Action LU-1.2.2:* Require buildings to be designed and to utilize materials and colors to blend with the natural terrain in hillside areas and adjacent to public open spaces, extremely prominent ridgelines, prominent ridgelines, knolls, or important visual resources as identified in the Municipal Code.

- *Action LU-1.2.3:* In conjunction with project development, contour disturbed areas that are to be retained as open space to blend with natural slopes, and revegetate the open space with native plants.

- *Action LU-1.2.4:* Minimize the visual bulk of new development through implementation of the City residential and non-residential design guidelines.

- *Action LU-1.2.6:* Dedicate and maintain landscaped areas as required by the City.

- *Action LU-2.2.1:* To protect environmental and visual resources within Agriculture/Ranches and Rural Residential properties, residential lots may be clustered and minimum lot size reduced provided the overall residential density of the property is not increased.
- *Policy LU 4-1:* Promote high quality development.
- *Action LU 4.1.3:* Screen negative views through site planning, architectural, and landscaping devices.
- *Action LU 4.1.3:* Implement policies that require residential development to be designed at a scale that is in harmony with surrounding uses and the environment.
- *Policy LU-4.2:* Utilize extensive landscaping to beautify Chino Hills' urbanized areas.
- *Action LU-4.2.2:* Require landscaping to be continuously maintained in good condition.
- *Action LU-4.2.3:* Promote landscape materials that consist of drought-resistant plant varieties complementary to the area.
- *Goal CN-1:* Preserve Chino Hills' Rural Character
- *Policy CN-1.1:* Preserve and protect Chino Hills' rural and natural scenic qualities.
- *Action CN-1.1.1:* Protect identified extremely prominent ridgelines, prominent ridgelines, and knolls.
- *Action CN-1.1.2:* Preserve the character of natural open spaces by integrating existing natural features into new development.
- *Action CN-1.1.5:* In canyon areas committed to development, emphasize the retention of natural topographic features, and require low visual profiles and dense vegetation for buildings.
- *Action CN-1.1.6:* Encourage natural contour grading.
- *Action CN-1.1.8:* Preserve existing significant trees where feasible, and extensively plant new trees consistent with City tree policies.
- *Action CN-1.2.4*: Require City approval to remove trees that in the opinion of the city function as an important part of the City's or a neighborhood's aesthetics character.

The project's consistency with these goals, policies, and actions are discussed in Section 4.9, Land Use.

Chino Hills Development Code

Municipal Code Chapter 16.08, *General Design Regulations*, implements regulations to protect and enhance the unique visual resources of the City, including the community's hillside setting, diverse topographic forms, and scenic qualities. The general hillside design regulations in this chapter are to be used in conjunction with grading regulations contained in Chapter 16.50 and in the City's Landscape Manual.

Municipal Code Chapter 16.30, *Scenic Resources Overlay District,* establishes the Scenic Resources Overlay District and provides development standards that will protect, preserve, and enhance the aesthetic resources of Chino Hills, including Exceptionally Prominent Ridgelines, Prominent Ridgelines, Prominent Knolls, and Associated Primary View Points. Design considerations can be incorporated into development projects to allow the preservation of unique natural resources, roadside views, and scenic corridors. The Scenic Resources Overlay District is currently defined by the Municipal Code (Chapter 16.30, *Scenic Resources Overlay District*) as:

a) Areas within two hundred (200) feet on both sides of the ultimate road right-of-way of state and city-designated scenic highways, including those designated by the state as candidates for a scenic highway designation.

b) Prominent ridgelines, view windows, and viewsheds as defined and mapped in Municipal Code Section 16.08.

Chapter 16.30 of the Municipal Code contains development standards for land use within the Scenic Resources Overlay District, including standards related to site design and building placement, access drives, landscaping, parking and storage areas, undergrounding of utilities, and grading.

Municipal Code Chapter 16.50, *Grading Regulations,* establishes grading standards and guidelines that minimize impacts to the natural landform. These standards and guidelines preserve the hillside setting and diverse topographic forms that contribute to the City's scenic qualities.

Municipal Code Chapter 16.90, *Tree Preservation,* contains provisions to maintain, preserve, and protect certain species of trees and certain mature trees within the City and to act as a guide when replacement or relocation of certain trees is determined necessary. Trees protected by this Municipal Code Chapter include native trees and heritage trees. Native trees include California Sycamore, California Live Oak, California Black Walnut, Coastal Scrub Oak that has a four-inch diameter or greater at breast height (DBH or four feet, six inches above the finish grade). Heritage trees include any species of single- or multi-trunk tree having a cumulative diameter of 44 inches or greater at DBH, and of significant age, health, and quality to be deemed valuable to the aesthetics of the community by a City-certified arborist. Invasive trees, as defined by the California Invasive Plant Council, as excluded from the City's Heritage Tree designation. Native and Heritage Trees are afforded protection through the Municipal Code due their role in providing natural aesthetic value and their contribution to the City's character.

4.1.3 Significance Thresholds

According to Appendix G of the CEQA Guidelines a significant visual impact would occur if implementation of the proposed project would result in any of the following:

1. Would the project have a substantial adverse effect on a scenic vista?

2. In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings in non-urbanized areas (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?

4.1.4 Impact Analysis

4.1.4.1 Scenic Vistas

Threshold 1: Would the project have a substantial adverse effect on a scenic vista?

The City's Municipal Code identifies scenic resources in the City which are included in the City's Scenic Resources Overlay District. As defined in the Municipal Code and discussed in more detail in Section 4.1.2.2, the Scenic Resources Overlay District consists of areas within 200 feet of state and city-designated scenic highways (none of which currently occur within the City), and Prominent Ridgelines, view windows, and viewsheds as defined and mapped in the Municipal Code. According to Figure 15-1 of the Development Code, *City of Chino Hills Ridgelines & Knolls Map* (see Figure 4.1-2) a Prominent Ridgeline extends onto the project site in the southwestern portion of the site (see Figure 4.1-3) and as such, the project site is located within the City's Scenic Resources Overlay District. The Prominent Ridgeline that extends onto the project site is part of a series of ridgelines that extend throughout the southeastern portion of the City. Many of these ridgelines are located within an area near the northern and eastern boundaries of Chino Hills State Park, and are generally located south of Soquel Canyon Parkway and west of Butterfield Ranch Road. Additional Exceptionally Prominent and Prominent Ridgelines are located further north, but would be too far from the project site to be impacted as a result of the proposed project.

The Prominent Ridgeline onsite is located within the portion of the site designated for natural open space. No development, grading, or other construction activities would occur within this portion of the project site, and the Prominent Ridgeline would remain unaltered as a result of the project. Thus, the project would not result in a substantial effect associated with modification to the onsite Prominent Ridgeline or the City's Scenic Resources Overlay District.

Land uses to the west and the south of the project site, which consist of vacant hills with scattered oil uses and vacant land, respectively, would not lose access to views of the onsite Prominent Ridgeline or other Prominent and Exceptionally Prominent Ridgelines, as the project would not be located between those uses and the ridgelines, and there are no established land uses to the west or the south of the project site. The project would result in the placement of residential units between the single-family residence located east of the project site and the onsite Prominent Ridgeline. Additionally, the project includes manufactured slopes along the boundaries between the project and the adjacent residence to the east, with an 18- to 20-foot mechanically stabilized earth (MSE) wall and a 6-foot retaining wall along portions of the southern boundary of the cut-out parcel. Manufactured slopes on the scale of 30 to 40 feet are proposed as part of the project along the boundaries between the adjacent cut-out parcel to the east and the project site. The existing single-family residence located east of the project site is at an elevation of approximately 600 feet amsl, with proposed residential lots boundaries at approximately 640 feet amsl, and the onsite Prominent Ridgeline located at an elevation of approximately 1,070 feet amsl. The construction of the project may result in some obstruction of views of the onsite Prominent Ridgeline and other Prominent and Exceptionally Prominent ridgelines that are outside of the project boundaries for the existing single-family residence; however, given the number of ornamental trees surrounding the existing residence, the residence is likely already experiencing partially blocked views of these resources. Additionally, blockage or partial blockage of Prominent and Exceptionally Prominent Ridgelines for one residence would not be considered a significant project impact. Furthermore, impacts to private views are not considered significant impacts under CEQA. Therefore, impacts associated with

substantial effects on a scenic vista would be less than significant for land uses to the west, south, and east of the project site.

Views of the project site from the South Trail community to the north tend to be limited and obstructed for most public areas within the development; however, views of the onsite Prominent Ridgeline are available from several north/south oriented roadways in the southern portion of the development and partial views of the onsite Prominent Ridgeline are available from other roadways in the development and from Mystic Canyon Park. These views of the Prominent Ridgeline also include residential development and associated ornamental trees and other urban features, between the viewer and the ridgeline, with the existing single-family residences and trees providing both full and partial obstructions of views of the Prominent Ridgeline in some areas. The project does not propose changes to the Prominent Ridgeline; however, intervening project elements and elevation differences may result in additional obstruction of the Prominent Ridgeline as viewed from the public areas to the north, including roadways and Mystic Canyon Park. The addition of residential uses in the viewshed would be a continuation of existing residential development that already obstructs or partially obstructs views or is located in the foreground of views of the Prominent Ridgeline for public views to the north of the project site. Additionally, area roadways, while they do provide some views of the Prominent Ridgeline, are generally not considered as prime locations for viewing scenic vistas, as users are focused on operating vehicles rather than consuming views. Views of the Prominent Ridgeline from Mystic Canyon Park are already largely obstructed by trees surrounding the park and intervening residences and street lights. The project includes the construction of three aboveground storage tanks in the northwestern portion of the project site. The tank site is located at an elevation of 670 amsl and would consist of an elevated pad surrounded by manufactured slopes and a berm. The top of the tank site slope adjacent to the proposed extension of Via La Cresta would be at an elevation of 680 feet, approximately 30 feet above the adjacent road grade of 650 feet, with the berm extending an additional five feet above the slope top (at an elevation of 685 feet amsl). The southern portion of the tank site would be graded up to the tank access road, with a manufactured slope of approximately 40 feet between the tank site (at 670 feet amsl) and the highest elevation of the tank access road as it crosses the western project boundary (approximately 710 feet amsl). The largest of the tanks would be 18 feet in height, with a diameter of 12 feet. Based on the tank site elevation of 670 feet amsl, the slope and surrounding berm at elevations of up 685 feet amsl, and maximum tank heights of 18 feet, small portions of the top of the tanks may be visible, but the bulk of the tanks would be obstructed from view by the adjacent slope and the berm surrounding the tank site; landscaping installed on the surrounding slope and berm would provide further visual screening. While the proposed tank site would potentially result in partial obstruction of views of the Prominent Ridgeline for these same public areas to the north, given the existing partial obstructions of the Prominent Ridgeline and intervening development that already exists, and given that area roadways are not considered ideal public viewing for viewsheds, as discussed above, impacts would be less than significant. Additionally, views from Mystic Canyon Park are already largely obstructed by existing trees, residences, and street lights, as discussed above, and the addition of the tank site would not substantially alter views of the Prominent Ridgeline from Mystic Canyon Park. For these reasons, implementation of the project would not result in significant impacts associated with the onsite Prominent Ridgeline and public views from the north of the project site.

The Prominent Ridgeline is visible to motorists on SR-71 and the ridgeline would remain in its present, undeveloped state following project implementation. However, the project would result in grading and construction on the project site, including the placement of an up to 30-foot high MSE wall along the eastern project boundary, north of the cut-out parcel and an up to 35-foot-high MSE wall along the eastern project boundary, south of the cut-out parcel. For motorists traveling on SR-71, who are

traveling at highway speeds, the project may result in partial or total obstruction of views of the onsite Prominent Ridgeline; however, motorists traveling at highway speeds are generally not focused on or consuming scenic views. Offsite Prominent and Exceptionally Prominent Ridgelines that connect with the onsite Prominent Ridgeline may also be partially visible to motorists traveling on SR-71 adjacent to the project site. However, views of these offsite ridgelines from SR-71 adjacent to the project site would be very limited, based on the topography differences between SR-71 and the adjacent land, and the presence of the onsite Prominent Ridgeline, which blocks views of hills and ridgelines further west and south. Given the audience, and the limited duration of views of the project site, the loss of or change in views of the onsite Prominent Ridgeline and offsite Prominent or Exceptionally Prominent Ridgelines to motorists on SR-71 for expected durations of 30 seconds (or slightly longer depending on traffic speeds) would be a less than significant impact.

In summary, the project would not result in alterations or modifications to the onsite Prominent Ridgeline. Further, the project would not result in significant impacts associated with substantially altering scenic vistas for public views to the west, south, east, and north of the project site. The construction of the proposed project would not result in significant impacts associated with obstructing views of Exceptionally Prominent or Prominent Ridgelines, and impacts would be less than significant.

4.1.4.2 Visual Character and Quality

Threshold 2: In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage point)? If the project is in an urbanized area, would the project conflict with an applicable zoning and other regulations governing scenic quality?

Visual Changes to the Project Site

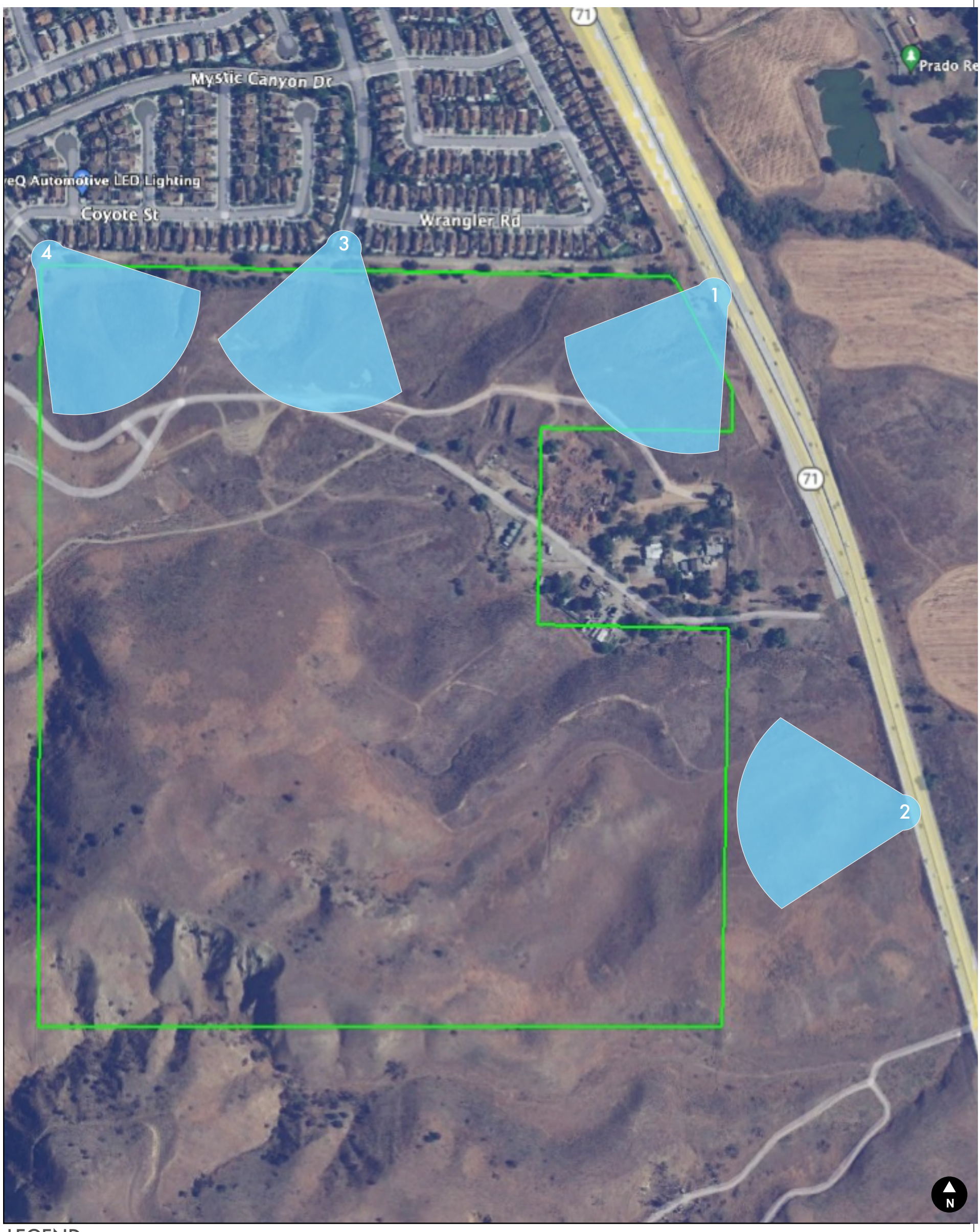
The project site is mostly vacant, but contains several minor uses, including three existing aboveground oil storage tanks, oil pipelines, scrapyard and storage area, split wood storage, soil piles, two trenches containing construction debris, and access roads. These existing uses would be removed for development of the project. Implementation of the project would result in large-scale grading and development over much of the project site, with the creation of manufactured slopes and MSE walls to support the development of 159 single-family residential homes, a community recreation center, private interior streets, the tank site, debris basins, utility infrastructure, and other associated improvements. The project would also include the development of a tank site on a 1.27-acre lot, near the western project boundary, west of the proposed residential structures, to replace the three existing tanks that would be removed for the project. Approximately 45 acres of natural area would be maintained in the southwest portion of the site.

Photo simulations of the project from four off-site locations have been prepared (Figure 4.1-4, *Photo Simulation Location Map*). These simulations contain photographs of the existing condition and a photo simulation of the views of the project site from each of the identified view locations. Figure 4.1-5a, *Photo Simulation View 1*, contains views of the project site from SR-71, near the northeastern corner of the project site. As shown in Figure 4.1-5a, the views from SR-71 near the northeastern portion of the project site would include views of a MSE wall, with a landscaped manufactured slope beyond the MSE wall, and portions of several single-family residences visible on the project site, at a higher elevation than the viewer at SR-71. The existing wireless communications facility would also be visible.

Figure 4.1-5b, *Photo Simulation View 2*, is a view of the project site, looking west from SR-71. As shown in Figure 4.1-5b, the proposed project would be visible between the existing vacant land in the foreground and the hillsides that are part of the project site in the background. Views of the project from this location are further removed from SR-71, as compared to Figure 4.1.5a, with vacant land located between SR-71 and the project site, but a MSE wall, landscaped manufactured slopes, and single-family residences would be visible. Residences would be partially obstructed by tree canopies. Figure 4.1-5c, *Photo Simulation View 3*, shows views into the project site, looking south from the terminus of Shady View Drive. As shown in Figure 4.1-5c, views of the project from this location would include a continuation of Shady View Drive, including the roadway, sidewalks, and associated landscaping, with single-family residences along adjacent internal project roads visible on both sides of the roadway. Views from this location into the remainder of the project site are limited, based on the increasing slope of the roadway as it enters the project site. Figure 4.1-5d, *Photo Simulation View 4*, shows views of the project site looking southeast from the terminus of Via La Cresta. Views of the project site from the terminus of Via La Cresta would include a continuation of the roadway, sidewalks, and landscaping along the roadway. Limited portions of a single-family residence and associated yard may be visible through landscaped screening. Views of the project site from the four locations are further discussed in the context of proposed visual changes to the project site, below.

Landform Alteration

Grading would include approximately 2,107,000 cubic yards of cut and approximately 2,114,000 cubic yards of fill. Manufactured slopes would occur along the northern and eastern project boundaries, small areas of the western boundary in the northwestern portion of the site and near the southern boundary in the southeastern portion of the site, a large area southwest of Via La Cresta and Private Street “D”, and surrounding the tank site (Figure 4.1-6, *Manufactured Slopes, Debris Basins, and Landscaped Areas*). The manufactured slopes along and near the project boundaries range in height from approximately 10 feet in height in small areas along the northern boundary to up to approximately 60 feet in height in a small area along the eastern project boundary (south of the cut-out parcel). Figures 4.1-5a and 4.1-5b illustrate views of the manufactured slopes, associated residences, and landscaping along the eastern project boundary (near the northeast corner of the project site and south of the cut-out parcel, respectively). For the areas along the northern project boundary that would be adjacent to the existing South Trail community to the north, manufactured slopes range from 10 feet in height just west of Shady View Drive, to up to approximately 50 feet in height in the northeastern corner of the property. Southwest of Via La Cresta, a large manufactured slope, with heights up to approximately 180 feet would be constructed. This slope would be terraced, with four levels at slopes of 2:1, and the highest portions of the manufactured slopes at 3:1 and 5:1. Views of the project site from SR-71 would not include visible portions of the large manufactured slope, due to the elevational differences between SR-71 and the project site, as well as the intervening MSE walls and residences that would be constructed as part of the project (refer to Figures 4.1-5a and 4.1-5b). Additionally, as shown in Figures 4.1-5c and 4.1-5d, views into the project site from the termini of Shady View Drive and Via La Cresta do not provide views of the large manufactured slope. The tank site would consist of an elevated pad surrounded by manufactured slopes and a berm. The tank site slope adjacent to the proposed extension of Via La Cresta would be approximately 30 feet above road grade, with the berm extending an additional five feet above the slope top. The southern portion of the tank site would be graded up to the tank access road, with a manufactured slope of approximately 40 feet between the tank site and the tank access road.



LEGEND

1 View Looking Southwest from SR-71

2 View Looking West From SR-71

3 View Looking South From Terminus of Shady View Dr.

4 View Looking Southeast From Terminus of Via La Cresta

4 View Looking Southeast From Terminus of Via La Cresta

Property Boundary

Image Location & Direction

Source: 3D Render Quick 2021

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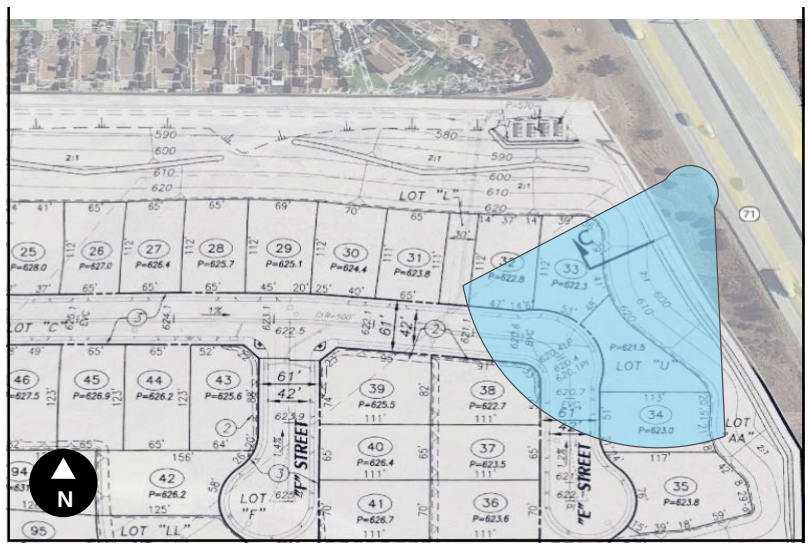
HELIX Environmental Planning

Photo Simulation Location Map

Figure 4.1-4

View #1 Looking Southwest from SR-71

Latitude 33°55'25.80"N
Longitude 117°39'20.12"W
Compass Bearing: 210°



EXISTING CONDITION

PHOTO SIMULATION

Source: 3D Render Quick 2021

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HELIX Environmental Planning

Photo Simulation View 1

Figure 4.1-5a

View #2 Looking West from SR-71

Latitude 33°55'25.80"N
Longitude 117°39'20.12"W
Compass Bearing: 270°

EXISTING CONDITION

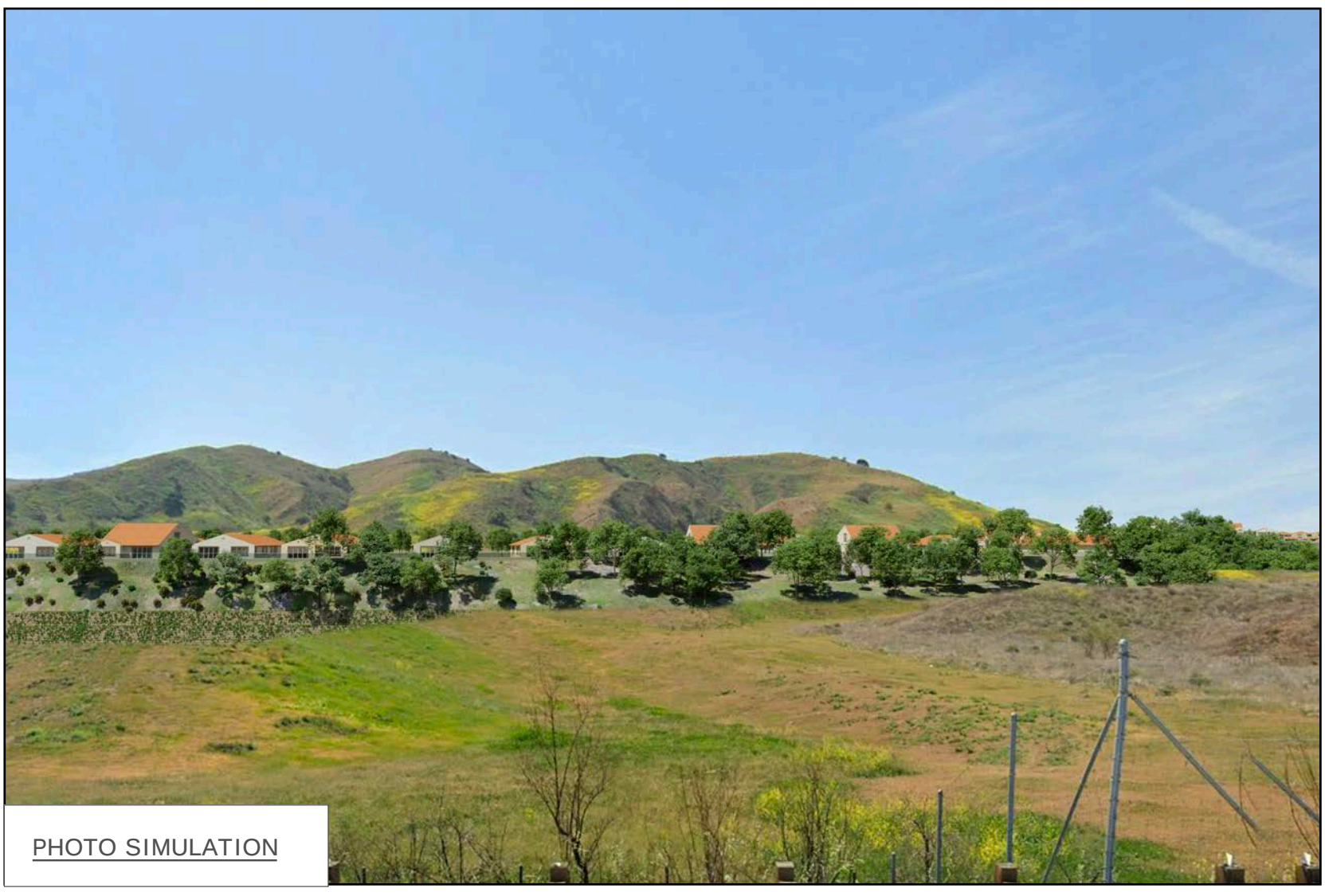

PHOTO SIMULATION

Source: 3D Render Quick 2021

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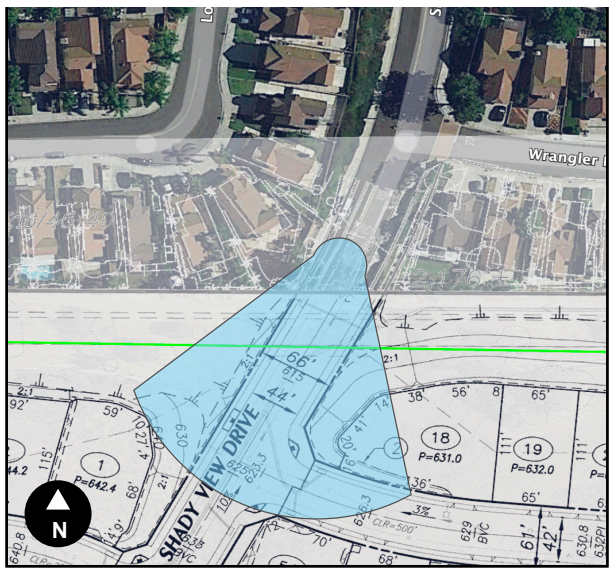
HELIX Environmental Planning

Photo Simulation View 2

Figure 4.1-5b

View #3 Looking South @ Terminus of Shady View Dr.

Latitude 33°55'29.12"N
Longitude 117°39'35.20"W
Compass Bearing: 210°



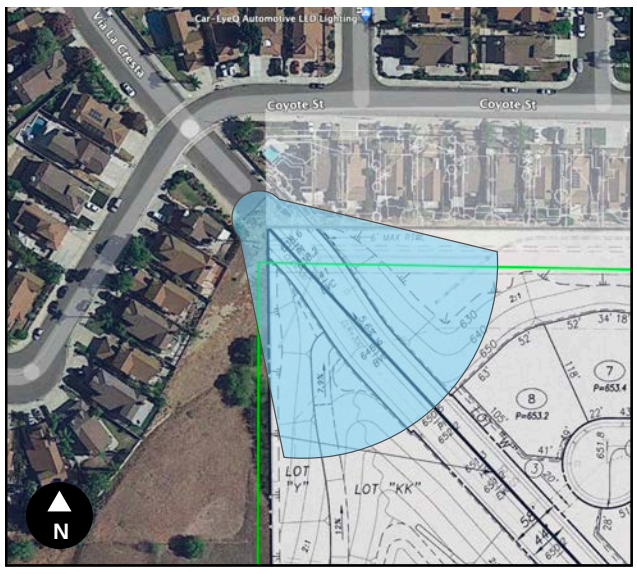
EXISTING CONDITION

PHOTO SIMULATION

Source: 3D Render Quick 2021

View #4 Looking Southeast @ Terminus of Via La Cresta

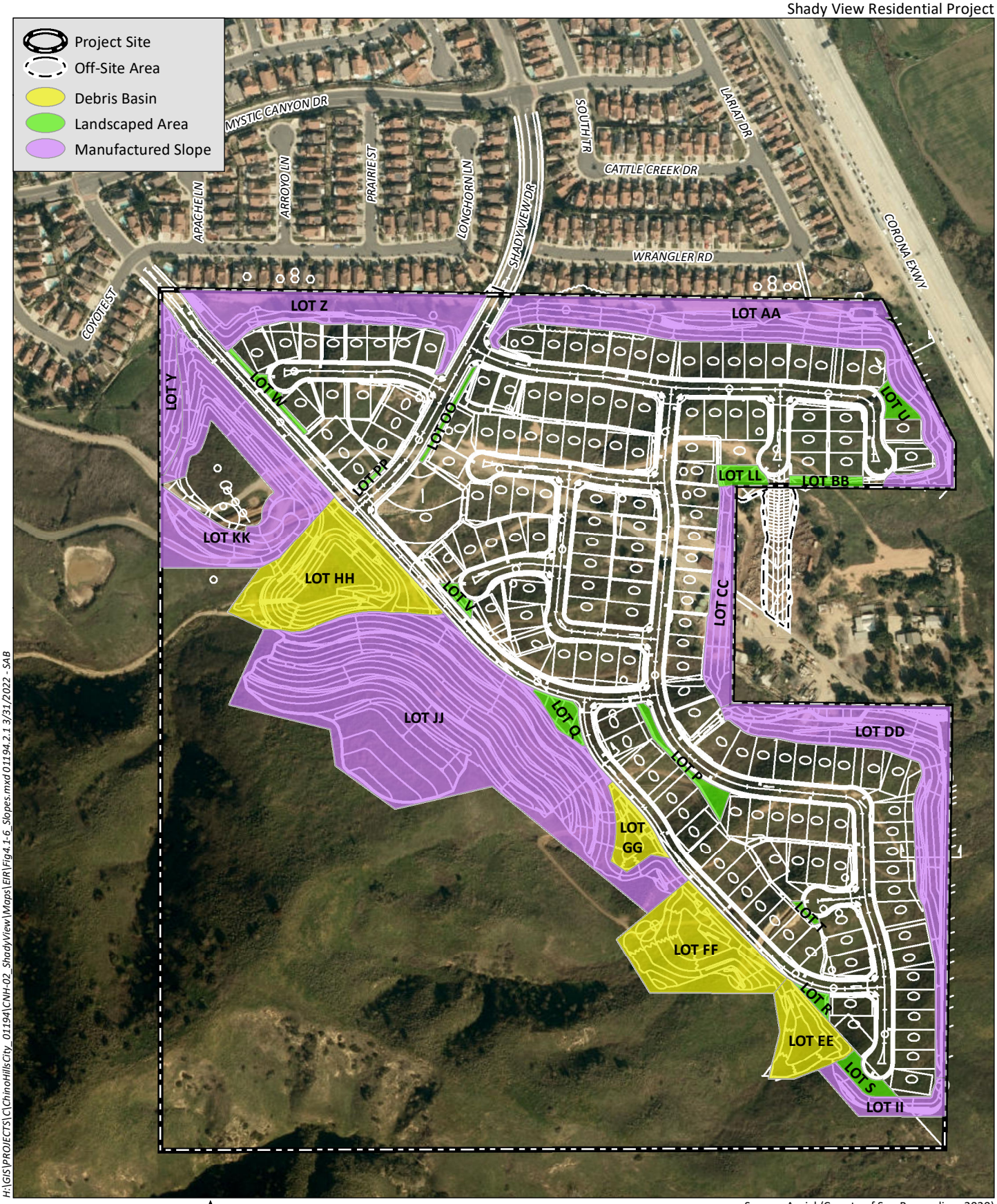
Latitude 33°55'29.44"N
Longitude 117°39'47.67"W
Compass Bearing: 135°



EXISTING CONDITION

PHOTO SIMULATION

Source: 3D Render Quick 2021



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0 400 Feet

Source: Aerial (County of San Bernardino, 2020)

Manufactured Slopes, Debris Basins, and Landscaped Areas

HELIX Environmental Planning

Figure 4.1-6

The project would include the placement of MSE wall in some locations, adjacent to manufactured slopes. The eastern property boundary would include an MSE along its length, ranging from 2 feet to 35 feet in height. An MSE would be constructed at the northeastern corner of the property, at a height of 15 feet, and proceed along the eastern boundary, with a maximum height of 30 feet, until the cut-out parcel portion of the eastern boundary. Figure 4.1-5a shows a visual simulation of the MSE proposed near the northeastern corner of the project site. Another MSE would be installed along the portion of the project boundary located south of the cut-out parcel that is not a part of the project site. This MSE would range from 18 to 20 feet in height. An additional MSE with a 35-foot maximum height runs along the eastern project boundary, south of the cut-out parcel, along most of the project boundary length to near the southern project boundary. Figure 4.1-5b includes a visual simulation along this portion of the project boundary and includes the MSE. A small MSE wall is proposed along a short portion of the northern project boundary, between the extensions of Via La Cresta and Shady View Drive. This MSE would have a maximum height of 13 feet. A 6-foot maximum-height retaining wall is proposed in the southern portion of the site, adjacent to the proposed 18-20 feet MSE wall, along the project boundary located south of the cut-out parcel that is not a part of the project site. A 6-foot maximum-height retaining wall is also proposed along the northeast side of the extension of Via La Cresta, just south of the project boundary.

The project includes the construction of four debris basins covering approximately 6.9 acres. These basins are part of the project's proposed Water Quality Management Plan (refer to Section 4.8, *Hydrology and Water Quality*) and are proposed southwest of the proposed residential portion of the project, southwest of the extension of Via La Cresta and Private Street "D". The basin bottoms would be at or below grade of adjacent properties, but would include berms ranging from five to fifteen feet in height between the basin bottom and the adjacent roadways (the extension of Via La Cresta and Private Street "D"). The debris basin lots would be surrounded by 6-foot tubular steel fencing.

Architectural Styles

The proposed project includes five distinct architectural themes: Spanish Heritage, Rancho Adobe, Farm Heritage, French Country, and Italianate (refer to Figure 3-5 [a-e], *Project Elevations*). These architectural themes would be available across floor plan types, as description in Chapter 3.0, *Project Description*. Additional colors, materials, and reversed plans for each architectural style would provide more visual variation throughout the proposed residential development. The project would be constructed with primarily stucco facades with wood and brick accents. Roofing material would consist of concrete tile.

Residences along the northern and eastern project boundaries would have precision block walls with glass panels at the rear property lines. Side yards for those properties and property boundaries for other residences would be demarcated by 6-foot vinyl fencing or 6-foot single-sided splitface block walls. The pool area at the recreation center would be surrounded by a 6-foot-tall pool fence.

Open Space and Landscaping

The project would include a total of approximately 80.8 acres of open space, consisting of a combination of open space areas within the residential portion of the site, manufactured and restored open space areas, natural open space, and debris basins (refer to Figure 4.1-6). The project would include eight landscaped open space lots (including a pocket park and a bocce ball court), two landscape buffer areas, and two slope access areas within the residential development area, totaling 1.48 acres of open space.

Manufactured and restored open space areas would consist of manufactured slopes, two landscape lots with slope access, two landscape buffer areas, and slope access and would cover approximately 27 acres. These manufactured and restored natural open space areas would be located along the northern and eastern property boundaries, around the proposed tank location, and adjacent to the southwest of the existing fault line in the central portion of the project site. Undisturbed natural open space areas would be maintained in the southwest portion of the project site, covering approximately 45 acres. The debris basins, located on approximately 6.9 acres would provide open space, but unlike the other open space components, would not be considered natural or undisturbed open space.

The project includes landscaping of manufactured slopes, common areas, and streetscapes (refer to Figures 4.1-5a through 4.1-5d for examples of landscaped manufactured slopes and streetscapes). Landscaping of manufactured slopes would include ground cover with 15-gallon trees on slopes. Along the northern property boundary, a Fuel Modification Zone is required and would include landscaping that is removed or thinned out according to the Fire Protection Plan (refer to Section 4.15, *Wildfire* of this EIR for more details regarding the Fuel Modification Zone) and hydroseeded with irrigated native vegetation. Beyond the required Fuel Modification Zone, manufactured slopes along the northern boundary would be landscaped with groundcover, shrubs, and 15-gallon trees. Along the eastern property boundary, proposed landscaping includes 24-inch box screening trees, groundcover, shrubs, and 15-gallon trees on slopes. For the manufactured slopes southwest of the extension of Via La Cresta and Private Street "D", landscaping would include the placement of 24-inch box trees at the base of slopes, with ground cover, shrubs and 15-gallon trees on slopes. Streetscapes would include 24-inch box trees, shrubs, and ground cover. The recreation center would include trees and ground cover surrounding the site, and internally around the pool and outdoor recreation areas.

Public Views

As discussed in Section 4.1.1.5 above, protected public views of the project site are limited to views from SR-71. Other adjacent land uses do not provide protected public views. Land uses to the west and the south of the project site consist of vacant hills with scattered oil uses and vacant land, respectively. The existing single-family residence located east of the project site would have views of the project site, but no public view is available from this property. Views of the project site from the South Trail community to the north tend to be limited and obstructed for most public areas within the development; however, views of the project site are available from several north/south oriented roadways in the southern portion of the community and partial views are available from other roadways in the community and from Mystic Canyon Park. Figures 4.1-5c and 4.1-5d provide photo simulations of views into the project site from the termini of Shady View Drive and Via La Cresta, respectively. Views into the project site from these locations are limited to the continuation of the roadways, sidewalks, landscaping, and single-family residences on adjacent internal roadways. Portions of the project site are visible to motorists on SR-71; however, these views are limited in duration for motorists and partially obstructed by topography and intervening vegetation. Figures 4.1-5a and 4.1-5b provide photo simulations of views of the project site from two locations along SR-71. Views of the project site near the northeastern corner of project are nearer to viewers on SR-71 (refer to Figure 4.1-5a), as compared to views of the project site further south on SR-71 (refer to Figure 4.1-5b). However, at both locations, views of the project site include views of MSE wall, landscaped manufactured slopes, and single-family residences. While development of the project would result in significant visual changes at the project site, given the limited public views of the project site, the obstructed nature of most of the public views, and in consideration of the types of viewers (motorists on SR_71), impacts associated with changes to the visual character of the project site from public views would be less than significant.

Private Views

Although, public views into the site are limited, there are number of private views that would be substantially changed by project implementation. The CEQA threshold listed above and City Municipal Code previously referenced specifically to aesthetic impacts from public views. However, information regarding private views from the adjacent property to the north is provided for informational purposes. The private views that would be substantially changed by project implementation are primarily associated with the homes that directly edge the project property on the northern boundary; including approximately 21 homes on the south side of Wrangler Road, and approximately 22 homes of the south side of Coyote Street. Additional homes on the south side of Coyote Street, southwest of Via La Cresta, although not directly adjacent to the project boundary, have direct views to the project site from the rear of their properties. Private views would be altered for other residences in the area as well, but the focus is on the residences directly adjacent or with direct views of the project site, which would be most directly impacted. Views from the southern side of these properties would include the manufactured slopes of varying heights, but generally ranging from 10 feet just west of Shady View Drive, to up to approximately 50 feet in the northeastern corner of the property, with MSEs in some portions of the manufactured slopes. Along the northern property boundary, a Fuel Modification Zone[1] is required for the project, which would include removed or thinned vegetation, hydroseeded with native vegetation as recommended by the Fire Protection Plan. Further up the manufactured slopes, beyond the Fuel Modification Zone, landscaping would include ground cover and 15-gallon trees. Portions of the precision block with glass panel at the edge of the rear yard of residences along the project's northern boundary may be partially visible beyond the slope landscaping trees; however, residential units and other project components would not be visible to the residences adjacent the northern property boundary due to the elevational difference and the setbacks of the residences at the top of the slopes. For the homes on the south side of Coyote Street, southwest of Via La Cresta, views of the project site would be limited to the manufactured slope along the western project boundary, surrounding the proposed tank site. The largest tank at the tank site would be 18 feet in height, with a diameter of 22 feet. Due to the elevation difference between the finished tank site (670 feet amsl) and the existing residences on the south side of Coyote Street, southwest of Via La Cresta (which are at elevations of approximately 640-650 feet amsl), and the proposed berm that would surround the tank site (685 feet amsl), views into the project site, including the tanks at the tank site, would be generally obstructed for these residences. These residences would have a substantial change in views from their properties, from the current generally undeveloped nature of the project site to a 159-unit residential development, with large manufactured slopes adjacent to their properties. While these residences would experience a substantial change to the visual setting of the project site, the views are not from public viewpoints, and thus, not considered a significant impact under CEQA.

Construction Period Impacts

Views of the project site during construction would include grading and construction activities, the presence of construction vehicles and works, and storage of building materials. These short-term elements could temporarily reduce the existing visual quality of the site during the construction period due to the introduction of additional visually contrasting features, such as the creation of manufactured slopes, newly graded building pads, construction fencing, construction equipment, and construction materials stockpiling and storage. Open views would be particularly available from SR-71, as well as from

[1] Fuel Modification Zones are areas of land where combustible native or ornamental vegetation must be modified and partially or totally replaced with drought-tolerant, fire-retardant plants.

portions of the residential development to the north of the project site. Although adverse, the construction-period effects would be temporary in nature, and would not visible from many viewpoints within the overall viewshed due to the general screening of the site by topography and intervening structures and landscaping.

Summary of Resulting Visual Impacts

In summary, the project would result in substantial alterations to the visual appearance of the project site; however, protected public views of the project site are limited and generally obstructed or partially obstructed. Private views for residences adjacent to the northern project boundary would be substantially altered, but changes to private views would not be considered a significant CEQA impact. Construction impacts would be temporary. As such, the project would not result in significant impacts associated with substantially degrading the existing visual character or quality of public views of the site and its surroundings. Impacts would be less than significant.

4.1.5 Mitigation Measures

4.1.5.1 Scenic Vistas

No significant visual impacts related to scenic vistas would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.1.5.2 Visual Character and Quality

No significant visual impacts related to visual character or quality would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.1.6 Significance Determination

The significance of aesthetics impacts before and after mitigation is summarized in Table 4.1-1, *Significance Determination Summary of Aesthetics Impacts*. Implementation of the proposed project would not result in any significant visual impacts. Impacts related to scenic vistas and visual character and quality would be less than significant, and no mitigation is required.

Table 4.1-1
SIGNIFICANCE DETERMINATION SUMMARY OF AESTHETICS IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Scenic Vistas	Less than significant	None required	Less than significant
Visual Character and Quality	Less than significant	None required	Less than significant

4.2 AIR QUALITY

This section of the EIR evaluates potential air quality impacts resulting from implementation of the proposed project. This analysis is based on the Air Quality and Greenhouse Gas Emissions Technical Report (HELIX 2022a) prepared for the project, which is included as Appendix B of this EIR.

4.2.1 Existing Conditions

4.2.1.1 Climate and Meteorology

The project site is in the South Coast Air Basin (SCAB), which consists of all or part of four counties: Los Angeles, San Bernardino, Riverside, and Orange. The distinctive climate of the SCAB is determined by its terrain and geographic location. The SCAB is a coastal plain with connecting broad valleys and low hills. It is bound by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light, average wind speeds.

The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. Winds in the project area are usually driven by the dominant land/ sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes. At night, the wind generally slows and reverses direction traveling toward the sea. Local canyons can also alter wind direction, with wind tending to flow parallel to the canyons. The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. High pressure systems, such as the semi-permanent high-pressure zone in which the SCAB is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface and resulting in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog. The basin-wide occurrence of inversions at 3,500 feet above mean sea level or less averages 191 days per year (SCAQMD 1993).

The predominant wind direction in the vicinity of the project site is from the southwest and the average wind speed is approximately six mph (Iowa Environmental Mesonet [IEM] 2021). The annual average maximum temperature in the project area is approximately 78.2 degrees Fahrenheit (°F), and the annual average minimum temperature is approximately 48.3°F. Total precipitation in the project area averages approximately 12.7 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center [WRCC] 2021)

4.2.1.2 Air Pollutants of Concern

Criteria Pollutants

Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the general public. In general, criteria air pollutants include the following compounds:

- Ozone (O_3)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO_2)

- Particulate matter (PM), which is further subdivided:
    - Coarse PM, 10 microns or less in diameter (PM_{10})
    - Fine PM, 2.5 microns or less in diameter ($PM_{2.5}$)
- Sulfur dioxide (SO_2)
- Lead (Pb)

Criteria pollutants can be emitted directly from sources (primary pollutants, e.g., CO, SO_2, PM_{10}, $PM_{2.5}$, and lead), or they may be formed through chemical and photochemical reactions of precursor pollutants in the atmosphere (secondary pollutants; e.g., ozone, NO_2, PM_{10}, and $PM_{2.5}$). PM_{10} and $PM_{2.5}$ can be both primary and secondary pollutants. The principal precursor pollutants of concern are reactive organic gases ([ROGs] also known as volatile organic compounds [VOCs])[1] and nitrogen oxides (NO_X).

The descriptions of sources and general health effects for each of the criteria air pollutants are shown in Table 4.2-1, *Summary of Common Sources and Human Health Effects of Criteria Air Pollutants*, based on information provided by the California Air Pollution Control Officers Association ([CAPCOA] 2021a). Specific adverse health effects on individuals or population groups induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables such as cumulative concentrations, local meteorology and atmospheric conditions, and the number and characteristics of exposed individuals (e.g., age, gender). Criteria pollutant precursors (ROG and NO_X) affect air quality on a regional scale, typically after significant delay and distance from the pollutant source emissions. Health effects related to ozone and NO_2 are, therefore, the product of emissions generated by numerous sources throughout a region. Emissions of criteria pollutants from vehicles traveling to or from the project site (mobile emissions) are distributed nonuniformly in location and time throughout the region, wherever the vehicles may travel. As such, specific health effects from these criteria pollutant emissions cannot be meaningfully correlated to the incremental contribution from the project.

Table 4.2-1
SUMMARY OF COMMON SOURCES AND HUMAN HEALTH EFFECTS OF CRITERIA AIR POLLUTANTS

Pollutant	Major Man-Made Sources	Human Health Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to climate change and nutrient overloading, which deteriorates water quality. Causes brown discoloration of the atmosphere.

[1] CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

Pollutant	Major Man-Made Sources	Human Health Effects
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrogen oxides (NO_X) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles and dyes.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and other sources.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned, when gasoline is extracted from oil, or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid, which can damage marble, iron, and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic elements emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CAPCOA 2021a

Toxic Air Contaminants

The Health and Safety Code (§39655, subd. (a).) defines a toxic air contaminant (TAC) as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the Federal Clean Air Act (CAA) (42 United States Code Section 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is referred to as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter (CARB 2021a). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a notable effect on California's population—it is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB 2021a).

4.2.1.3 Existing Air Quality

Attainment Designations

Attainment designations are discussed below in Section 4.2.2.1 and shown in Table 4.2-4, *South Coast Air Basin Attainment Status (San Bernardino County Portion)*. The SCAB is a federal and state nonattainment area for 8-hour ozone and $PM_{2.5}$. The SCAB is also a state nonattainment area for 1-hour ozone and PM_{10}.

Monitored Air Quality

The SCAQMD maintains monitoring stations to measure ambient concentrations of pollutants in the SCAB. The nearest monitoring station, approximately 11 miles northeast of the project site, is the "Mira Loma Van Buren" air monitoring station. Table 4.2-2, *Air Quality Monitoring Data*, presents a summary of the ambient pollutant concentrations during the most recent three years (2018 through 2020) for which the SCAQMD has reported data.

Table 4.2-2
AIR QUALITY MONITORING DATA

Pollutant Standard	2018	2019	2020
Ozone (O_3) – Mira Loma Van Buren			
Maximum concentration 1-hour period (ppm)	0.129	0.131	0.140
Maximum concentration 8-hour period (ppm)	0.108	0.100	0.117
Days above 1-hour state standard (>0.09 ppm)	21	26	51
Days above 8-hour state/federal standard (>0.070 ppm)	57	65	96
Coarse Particulate Matter (PM_{10}) – Mira Loma Van Buren			
Maximum 24-hour concentration (µg/m^3)	98.9	115.7	158.2
Measured Days above 24-hr state standard (>50 µg/m^3)	139.0	89.20	*
Measured Days above 24-hr federal standard (>150 µg/m^3)	0	0	1
Annual average (µg/m^3)	46	45	45
Exceed state annual standard (20 µg/m^3)	Yes	Yes	Yes
Fine Particulate Matter ($PM_{2.5}$) – Mira Loma Van Buren			
Maximum 24-hour concentration (µg/m^3)	89.1	58.2	66.4
Measured Days above 24-hour federal standard (>35 µg/m^3)	6	10	12
Annual average (µg/m^3)	15.1	12.7	16.5
Exceed state and federal annual standard (12 µg/m^3)	Yes	Yes	Yes
Nitrogen Dioxide (NO_2) – Mira Loma Van Buren			
Maximum 1-hour concentration (ppm)	0.054	0.056	0.058
Days above state 1-hour standard (0.18 ppm)	0	0	0
Days above federal 1-hour standard (0.100 ppm)	0	0	0
Annual average (ppm)	0.013	0.012	0.012
Exceed annual federal standard (0.053 ppm)	No	No	No
Exceed annual state standard (0.030 ppm)	No	No	No

Source: CARB 2021c
ppb = parts per billion; ppm = parts per million; µg/m^3 = micrograms per cubic meter, * = insufficient data available.

As shown in Table 4.2-2, the 1-hour and 8-hour ozone standards, and the PM_{10}, and $PM_{2.5}$ standards were exceeded numerous times in each of the sample years. Data for NO_2 showed no exceedances.

4.2.2 Regulatory Setting

The project site is located within the SCAB. Air quality in the SCAB is regulated by the U.S. Environmental Protection Agency (USEPA) at the federal level, by the California Air Resources Board (CARB) at the state level, and by the SCAQMD at the regional level.

4.2.2.1 Federal

Federal Clean Air Act

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to health and welfare of the general public. The USEPA is responsible for enforcing the CAA of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several criteria pollutants. Table 4.2-3, *Ambient Air Quality Standards*, shows the federal and state ambient air quality standards for these pollutants.

Table 4.2-3
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1]	Federal Standards Secondary[2]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
SO_2	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	–	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	Same as Primary

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1]	Federal Standards Secondary[2]
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	No Federal Standards	No Federal Standards
Sulfates	24 Hour	25 µg/m^3	No Federal Standards	No Federal Standards
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	No Federal Standards	No Federal Standards
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)	No Federal Standards	No Federal Standards

Source: CARB 2016

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

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

O_3 = ozone; ppm: parts per million; µg/m^3 = micrograms per cubic meter; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; AAM = Annual Arithmetic Mean; $PM_{2.5}$ = fine particulate matter; CO = carbon monoxide; mg/m^3 = milligrams per cubic meter; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide; km = kilometer; – = No Standard

The USEPA has classified air basins (or portions thereof) as being in "attainment," "nonattainment," "maintenance," or "unclassified" for each criteria air pollutant, based on whether the NAAQS have been achieved. Upon attainment of a standard for which an area was previously designated nonattainment, the area will be classified as a maintenance area. If an area is designated unclassified, it is because inadequate air quality data was available as a basis for a nonattainment or attainment designation. The project site is located within the San Bernadino County portion of the SCAB and, as such, is in an area designated as a nonattainment area for certain pollutants that are regulated under the CAA. Table 4.2-4, *South Coast Air Basin Attainment Status*, lists the federal and state attainment status of the SCAB for the criteria pollutants. With respect to federal air quality standards, the USEPA classifies the SCAB as in attainment for PM_{10}, CO, NO_2, SO_2, and lead, and in nonattainment for 8-hour ozone and $PM_{2.5}$.

Table 4.2-4
SOUTH COAST AIR BASIN ATTAINMENT STATUS
(SAN BERNADINO COUNTY PORTION)

Criteria Pollutant	Federal Designation	State Designation
O_3 (1-hour)	(No federal standard)	Nonattainment
O_3 (8-hour)	Extreme Nonattainment	Nonattainment
CO	Attainment (Maintenance)	Attainment
PM_{10}	Attainment (Maintenance)	Nonattainment
$PM_{2.5}$	Serious Nonattainment	Nonattainment
NO_2	Attainment (Maintenance)	Attainment
SO_2	Unclassifiable/Attainment	Unclassifiable/Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Attainment
Visibility	(No federal standard)	Attainment

Source: SCAQMD 2016a

4.2.2.2 State

California Clean Air Act

The federal CAA allows states to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the CalEPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the California Ambient Air Quality Standards (CAAQS). CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In addition to primary and secondary AAQS, the state has established a set of episode criteria for ozone, CO, NO_2, SO_2, and PM. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that threaten public health. Table 4.2-3, above, lists the state attainment status of the SCAB for the criteria pollutants. Under state designation, the SCAB is currently in attainment for CO, NO_2, SO_2, and lead; and in nonattainment for ozone, PM_{10}, and $PM_{2.5}$.

State Implementation Plan

The CAA requires areas with unhealthy levels of pollutants to develop plans, known as State Implementation Plans (SIPs). SIPs are comprehensive plans that describe how an area will attain the NAAQS. The 1990 amendments to the CAA set deadlines for attainment based on the severity of an area's air pollution problem.

SIPs are not single documents—they are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, permitting), district rules, state regulations and federal controls. Many of California's SIPs rely on a core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations and limits on emissions from consumer products. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB forwards the SIP revisions to the USEPA for approval and publication in the Federal Register. The Code of Federal Regulations (CFR) Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all of the items that are included in the California SIP (CARB 2009). At any one time, several California submittals are pending USEPA approval.

California Energy Code

California Code of Regulations (CCR) Title 24 Part 6, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for space and water heating) results primarily in GHG emissions.

4.2.2.3 Local

South Coast Air Quality Management District

Air quality in San Bernadino County is regulated by the SCAQMD. As a regional agency, the SCAQMD works directly with the Southern California Association of Governments (SCAG), County transportation commissions, and local governments and cooperates actively with all federal and state government agencies. The SCAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

Air Quality Management Plan

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources. It has responded to this requirement by preparing a sequence of Air Quality Management Plans (AQMP).

On March 3, 2017, the SCAQMD adopted the 2016 AQMP, which is a regional and multiagency effort (SCAQMD, CARB, SCAG, and USEPA). The 2016 AQMP represents a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures. The plan seeks to achieve multiple goals in partnership with other entities promoting reductions in criteria pollutant, GHGs, and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017).

The AQMP, in combination with those from all other California nonattainment areas with serious (or worse) air quality problems, is submitted to CARB, which develops the California SIP. The SIP relies on the same information from SCAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The current federal and state attainment status for the SCAB is presented above, in Table 4.2-3.

Rules and Regulations

The following rules promulgated by the SCAQMD would be applicable to construction and/or operation of the project.

Rule 401 – Visible Emissions: Limits the allowable opacity of air contaminant emissions from any single source (SCAQMD 2001).

Rule 402 – Nuisance: Prohibits the discharge of air contaminants, including odors, which cause injury, detriment, nuisance, or annoyance to any considerable number of persons (SCAQMD 1976).

Rule 403 – Fugitive Dust: Requires actions to prevent, reduce or mitigate anthropogenic fugitive dust emissions, including emissions from construction activities. Project construction would be required to implement all applicable fugitive dust best available control measures specified in Table 1 in the rule (SCAQMD 2005).

Rule 445 – Wood Burning Devices: Controls the operation, sale, and installation of wood-burning devices. Permanently installed wood-burning devices (e.g., fireplace, woodstoves) are prohibited in all new developments (SCAQMD 2020).

Rule 113 – Architectural Coating: Establishes VOC limits for architectural coatings (e.g., paints, stains, preservatives). Effective January 1, 2019, building interior and exterior paint is limited to a maximum VOC content of 50 grams per liter (SCAQMD 2016b).

4.2.3 Methodology and Assumptions

4.2.3.1 Air Emissions Modeling

Criteria pollutant emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0. CalEEMod is a computer model used to estimate air emissions resulting from land development projects throughout the state of California. CalEEMod was developed by CAPCOA in collaboration with the California air quality management and pollution control districts, primarily the SCAQMD.

4.2.3.2 Construction Emissions

CalEEMod has the capability to calculate reductions in construction emissions from the effects of dust control, diesel-engine classifications, and other selected emissions reduction measures. In compliance with SCAQMD Rule 403, fugitive dust emissions calculations assume application of water on exposed surface a minimum of two times per day, enforcing a 15-mph speed limit on unpaved surfaces, and maintaining a minimum 12 percent moisture content in unpaved roads and parking areas within the project sate. Based on CalEEMod, Version 2020.4.0 defaults, the control efficiency for watering two times per day is 55 percent.

Construction Activities

Construction emissions were estimated based on the timeline provided by the project applicant, which assumes construction would commence with grading in the autumn of 2022 and the first model homes would be complete in late 2024. The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of: (1) a more modern and cleaner-burning construction equipment fleet mix than assumed in CalEEMod; and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

The construction schedule assumed in the modeling is shown in Table 4.2-5, *Anticipated Construction Schedule*.

Table 4.2-5
ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Construction Period Start	Construction Period End	Number of Working Days
Demolition	9/1/2022	10/12/2022	30
Site Prep	10/13/2022	11/9/2022	20
Grading	11/10/2022	6/7/2023	150
Paving	6/8/2023	8/9/2023	45
Building Construction	8/10/2023	8/21/2024	270
Architectural Coatings	8/22/2024	10/9/2024	45

Source: HELIX 2022a

Construction Off-Road Equipment

Construction would require the use of heavy off-road equipment. Grading construction equipment estimates are based on project-specific information. Table 4.2-6, *Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

Table 4.2-6
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase Name	Offroad Equipment Type	Number of Units	Usage Hours	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	1	8	81	0.73
	Excavators	1	8	158	0.38
	Rubber Tired Dozers	2	8	247	0.40
	Tractors/Loaders/Backhoes	1	8	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8	97	0.37
	Excavators	1	8	158	0.38
	Rubber Tired Dozers	1	8	247	0.40
Grading	Crawler Tractor	2	8	212	0.43
	Excavators	1	8	158	0.38
	Graders	1	8	187	0.41
	Rubber Tired Dozers	2	8	247	0.40
	Scrapers	8	8	367	0.48
	Tractors/Loaders/Backhoes	1	8	97	0.37
Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	8	80	0.38
Building Construction	Cranes	1	8	231	0.29
	Forklifts	3	8	89	0.20
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	3	8	97	0.37
	Welders	1	8	46	0.45
Architectural Coating	Air Compressors	1	8	78	0.48

Source: HELIX 2022a

Construction On-Road Trips

Worker commute trips and vendor delivery trips were modeled based on input provided by the project applicant. Worker trips are anticipated to vary between 15 and 150 trips per day, depending on construction activity. The CalEEMod default worker, vendor and haul trip distances were applied. The proposed grading will not require disposal of soil, except for soil from areas around the oil tank operations. It is expected that this soil or some of it may be classified as non-hazardous petroleum impacted soil. The maximum estimated export would not exceed 19,000 cubic yards, requiring 1,188 trucks loads (2,376 one-way truck trips) over the duration of grading (150 days). This assumes 15 feet of excavation and removal at all areas of potential contamination. Contaminated soil can be deposited at 14039 Santa Ana Avenue, Fontana.

4.2.3.3 Operational Emissions

Operational sources of criteria air pollutant emissions include area, energy, and vehicular sources.

Area Source Emissions

Area sources include emissions from landscaping equipment, the use of consumer products, the reapplication of architectural coatings for maintenance, and hearths. Emissions associated with area sources were estimated using the CalEEMod default values except for hearths. In accordance with SCAQMD Rule 445, the project would not include wood burning stoves or fireplaces (SCAQMD 2020).

Energy Emissions

Air pollutant emissions from energy sources would occur in relation to direct emissions from the burning of natural gas may result from furnaces, hot water heaters, and kitchen appliances.

Vehicular Sources

Operational emissions from mobile source emissions are associated with project-related vehicle trip generation and trip length. Based on the trip generation rate from the Traffic Study prepared for the project, the project would generate 1,501 average daily trips (Linscott, Law & Greenspan, Engineers [LLG] 2021).

4.2.3.4 Localized Significance Threshold Methodology

As part of the SCAQMD's environmental justice program, more attention has been focused on localized air quality effects. Also, while regional impact analysis is based on attaining or maintaining regional emissions standards, localized impact analysis compares the concentration of a pollutant at a receptor site to a health-based standard.

SCAQMD has developed a localized significance threshold (LST) methodology and mass rate look-up tables by source receptor area (SRA) that can be used by public agencies to determine whether a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard; they are developed based on the ambient concentrations of that pollutant for each SRA (SCAQMD 2009). The LST methodology translates the concentration standards into emissions thresholds that are a function of project site area, source to receptor distance,

and the location within the SCAB. The LST methodology is recommended to be limited to projects of 5 acres or less and to avoid the need for complex dispersion modeling. For projects that exceed 5 acres, such as the proposed project, the 5-acre LST look-up values can be used as a screening tool to determine which pollutants require detailed analysis (Sun 2017). This approach is conservative as it assumes that all on-site emissions would occur within a 5-acre area and over-predicts potential localized impacts (i.e., more pollutant emissions occurring within a smaller area and within closer proximity to potential sensitive receptors). If a project exceeds the LST look up values, then the SCAQMD recommends that project-specific localized air quality modeling be performed.

The closest receptors are the multiple single-family residences along the north boundary of the project site. Therefore, the LSTs in SRA 33 for receptors located with 82 feet (25 meters) are used for project sites less than or equal to 5 acres.

4.2.3.5 Toxic Air Contaminants

Construction projects are not considered stationary sources of TAC emissions subject to Assembly Bill (AB) 2588 reporting or health risk assessment requirements. Potential health risks to nearby sensitive receptors from the emission of TACs during construction at the project site were analyzed in accordance with the applicable portions of the OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (2015) and the SCAQMD *AB 2588 and Rule 1402 Supplemental Guidelines* (2018). The construction Health Risk Assessment (HRA) assumes the total annual emissions averaged over the duration of the construction period and distributed throughout the project site areas that would include substantial construction activity. In the HRA, annual average emissions were assumed to occur throughout the approximately two-year construction period. Refer to Appendix B for detailed methodology and assumptions, including those related dispersion modeling, receptor modeling, and risk determination, for the HRA for construction-period DPM emission conducted for the project.

4.2.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines, a significant air quality impact would occur if implementation of the proposed project would result in any of the following:

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

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

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

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

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. The SCAQMD has established significance thresholds to assess the regional and localized impacts of project-related air pollutant emissions. The significance thresholds are updated, as needed, to appropriately represent the most current technical information and attainment status in the

SCAB. Table 4.2-7, *SCAQMD Thresholds of Significance*, presents the most current significance thresholds, including regional daily thresholds for short-term construction and long-term operational emissions; maximum incremental cancer risk and hazard indices for TACs; and maximum ambient concentrations for exposure of sensitive receptors to localized pollutants. A project with daily emission rates, risk values, or concentrations below these thresholds is generally considered to have a less than significant effect on air quality.

Table 4.2-7
SCAQMD THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction	Operation
Mass Daily Thresholds (pounds per day)		
VOC	75	55
NO_X	100	55
CO	550	550
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
Lead	3	3
Toxic Air Contaminants		
TACs	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Ambient Air Quality for Criteria Pollutants		
NO_2	1-hour average ≥ 0.18 ppm Annual average ≥ 0.03 ppm	
CO	1-hour average ≥ 20.0 ppm (state) 8-hour average ≥ 9.0 ppm (state/federal)	
PM_{10}	24-hour average ≥ 10.4 µg/m^3 (construction) 24-hour average ≥ 2.5 µg/m^3 (operation) Annual average ≥ 1.0 µg/m^3	
$PM_{2.5}$	24-hour average ≥ 10.4 µg/m^3 (construction) 24-hour average ≥ 2.5 µg/m^3 (operation)	
SO_2	1-hour average ≥ 0.075 ppm 24-hour average ≥ 0.04 ppm	

Source: SCAQMD 2015
lbs/day = pounds per day; VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide. PM_{10} = respirable particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; SO_X = sulfur oxides; TACs = toxic air contaminants; GHG = greenhouse gas emissions. MT/yr = metric tons per year; CO_2e = carbon dioxide equivalent; NO_2 = nitrogen dioxide; ppm = parts per million; µg/m^3 = micrograms per cubic meter

4.2.5 Impact Analysis

4.2.5.1 Air Quality Plans

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

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, economy, community development, and environment. Regarding air quality planning, SCAG has prepared the RTP/SCS, a long-range transportation plan that uses growth forecasts to project trends out over a 20-year period to identify regional transportation strategies to address mobility needs. These growth forecasts form the basis for the land use and transportation control portions of the AQMP. These documents are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. Both the RTP/SCS and AQMP are based, in part, on projections originating with County and City General Plans.[2]

The proposed project is designed to be consistent with the City of Chino Hills General Plan and Chino Hills Zoning Code. The existing General Plan land use designation is split between two residential land uses, Agriculture Ranch and Low Density Residential. In addition, the zoning for the property is split between two residential zoning districts, R-S Low Density Residential and R-A Agriculture/Ranches. The location of the split occurs at the same location for both land use and zoning. As proposed, all residential development would occur in the Low-Density Residential land use designated, R-S zoned portion of the site and would conform to the maximum permissible residential density of that land use and zone. As such, the project's growth is accounted for in the AQMP. Therefore, the proposed project would not conflict with or obstruct implementation of the most recent AQMP, and impacts would be less than significant.

4.2.5.2 Air Quality Standards

Threshold 2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the SCAB. The region is a federal and/or state nonattainment area for ozone, PM_{10} and $PM_{2.5}$. In accordance with CEQA Guidelines Section 15064(h)(3), the SCAQMD's approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and State Clean Air Acts. If a project conflicts with the AQMP, which is intended to bring the SCAB into attainment for all criteria pollutants, that project can be considered cumulatively considerable. Additionally, if the mass regional emissions calculated for a project exceed the applicable SCAQMD daily significance thresholds that are designed to assist the region in attaining the applicable state and national ambient air quality standards, that project can be considered cumulatively considerable. As discussed in Section 4.2.5.1, above, the project would not conflict with or obstruct implementation of the AQMP. A comparison of the project mass regional emissions with the applicable SCAQMD daily significance thresholds is provided below.

[2] SCAG serves as the federally designated metropolitan planning organization for the southern California region.

The project would generate criteria pollutants and precursors in the short-term during construction and the long-term during operation. To determine whether a project would result in cumulatively considerable emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation, a project's emissions are evaluated based on the quantitative emission thresholds established by the SCAQMD (as shown in Table 4.2-7).

Construction Emissions

The project's construction emissions were estimated using the CalEEMod model as described in Section 4.2.3.2. Additional details of phasing, selection of construction equipment, and other input parameters, including CalEEMod data, are included in Appendix B.

The results of the calculations for project construction are shown in Table 4.2-8, *Unmitigated Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the SCAQMD thresholds.

Table 4.2-8
UNMITIGATED DAILY CONSTRUCTION EMISSIONS

Phase	ROG (lbs/day)	NO_X (lbs/day)	CO (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Demolition	2.53	25.41	17.55	0.04	2.03	1.28
Site Preparation	1.31	13.13	10.14	0.02	3.93	2.17
Grading	10.17	113.39	71.70	0.18	15.55	7.80
Paving	1.11	10.66	15.35	0.03	0.81	0.55
Building Construction	2.25	16.94	23.18	0.06	3.35	1.39
Architectural Coating	51.86	1.30	2.96	0.01	0.51	0.18
Maximum Daily Emissions	**51.86**	**113.39**	**71.70**	**0.18**	**15.55**	**7.80**
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	*No*	***Yes***	*No*	*No*	*No*	*No*

Source: HELIX 2022a
lbs/day = pounds per day; ROG = reactive organic gas; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 4.2-8, the maximum daily unmitigated emissions for NOx of 113 pounds per day during the grading phase would exceed the SCAQMD significance threshold. As discussed previously, NOX is an ozone precursor. The exceedance is largely due to the number of pieces of offroad equipment required for grading activities. As shown previously in Table 4.2-6, grading would require the use of up to 15 pieces of offroad construction equipment, including 8 scrapers. Therefore, the impact would be potentially significant if not mitigated.

Operational Emissions

The project's operational emissions were estimated using the CalEEMod model as described in Section 4.2.3.3. Model outputs are provided in Appendix B. Table 4.2-9, *Unmitigated Maximum Daily Operational Emissions*, presents the summary of operational emissions for the project. The data are presented as the maximum anticipated daily emissions for comparison with the SCAQMD thresholds.

Table 4.2-9
UNMITIGATED DAILY OPERATIONAL EMISSIONS

Category	ROG (lbs/day)	NO_X (lbs/day)	CO (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Area	6.76	0.15	13.12	<0.01	0.07	0.07
Energy	0.13	1.15	0.50	<0.01	0.09	0.09
Mobile	5.27	6.75	58.73	0.14	15.47	4.19
Maximum Daily Emissions[1]	**12.17**	**8.06**	**72.35**	**0.15**	**15.63**	**4.35**
SCAQMD Thresholds	*55*	*55*	*550*	*150*	*150*	*55*
Significant Impact?	*No*	*No*	*No*	*No*	*No*	*No*

Source: HELIX 2022a

[1] Totals may not sum due to rounding.

lbs/day = pounds per day; ROG = reactive organic gas; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 4.2-9, project emissions during operation would not exceed the daily thresholds set by the SCAQMD.

4.2.5.3 Sensitive Receptors

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

Construction

Criteria Pollutants

The localized effects from the on-site portion of daily construction emissions were evaluated at sensitive receptor locations potentially impacted by the project according to the SCAQMD's LST method, described above in Section 4.2.3.4. The proposed project is within SRA 33, Southwest San Bernadino Valley. Consistent with the LST guidelines, when quantifying mass emissions for localized analysis, only emissions that occur on site are considered. Emissions related to off-site delivery/haul truck activity and construction worker trips are not considered in the evaluation of construction-related localized impacts, as these do not contribute to emissions generated on a project site, but rather occur as far away as 20 miles depending on the trip type. The closest sensitive receptors are the many single-family residences adjacent to the north boundary of the project site and the separate property near the center of the proposed project. Therefore, the LSTs in SRA 33 for receptors located less than 82 feet (25 meters) are used for project sites greater than 5 acres. Table 4.2-10, *Unmitigated Maximum Localized Daily Construction Emissions*, shows the localized construction emissions without implementation of mitigation.

Table 4.2-10
UNMITIGATED MAXIMUM LOCALIZED DAILY CONSTRUCTION EMISSIONS

Activity	NO_X (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Demolition	23.84	16.32	1.56	1.14
Site Preparation	12.25	9.08	3.54	2.06
Grading	109.86	70.01	14.86	7.59
Paving	10.19	14.58	0.51	0.47
Building Construction	14.38	16.24	0.70	0.66
Architectural Coating	1.22	1.81	0.06	0.06
Maximum Daily Emissions	**109.86**	**70.01**	**14.86**	**7.59**
SCAQMD LST Thresholds (25 meters)	*270*	*2,193*	*16*	*9*
Exceed LST?	*No*	*No*	*No*	*No*

Source: HELIX 2022a
lbs/day = pounds per day; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 4.2-10, localized emissions for all criteria pollutants would remain below their respective SCAQMD LSTs at 82 feet (25 meters). Construction of the project would not result in exposure of sensitive receptors to substantial localized concentrations of criteria pollutants and precursors.

Toxic Air Contaminants

Implementation of the project would result in the use of heavy-duty construction equipment, haul trucks, and construction worker vehicles with diesel engines. Diesel engines emit a complex mixture of air pollutants, including gaseous material and DPM. CARB has declared that DPM from diesel engine exhaust a TAC. Additionally, OEHHA has determined that chronic exposure to DPM can cause carcinogenic and non-carcinogenic health effects. The greatest potential for TAC emissions during construction would be from diesel particulate emissions associated with heavy equipment operations.

Generation of DPM from construction projects typically occurs in a localized area (e.g., near locations with multiple pieces of heavy construction equipment working in close proximity) for a short period of time. Because construction activities and subsequent emissions vary depending on the phase of construction, the construction-related emissions which nearby receptors are exposed to would also vary throughout the construction period; however, to present a conservative analysis for the entire construction duration, the average annual DPM emissions were assumed to occur every day for the entire construction period. The average annual emissions were calculated by dividing the total on-site PM_{10} exhaust emissions as calculated by CalEEMod by the total construction period.

The dose (of TAC) to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has with the substance; a longer exposure period to a fixed amount of emissions would result in higher health risks.

The incremental excess cancer risk is an estimate of the chance a person exposed to a specific source of a TAC may have of developing cancer from that exposure beyond the individual's risk of developing cancer from existing background levels of TACs in the ambient air. For context, the average cancer risk from TACs in the ambient air for an individual living in California was estimated to be 730 per million. Of

this total, 520 per million are due to diesel particulate matter (CARB 2021). Cancer risk estimates do not mean, and should not be interpreted to mean, that a person will develop cancer from estimated exposures to toxic air pollutants.

Health risks associated with chronic effects from TAC exposure are quantified using the maximum hazard index. A hazard index is the potential exposure to a substance divided by the recommended exposure limits (REL; the level at which no adverse effects are expected). A hazard index of less than one indicates no adverse health effects are expected from the potential exposure to the substance. The maximum hazard index is the sum of hazard indices for pollutants with non-cancer health effects that have the same or similar adverse health effects. It should be noted that directly correlating a project's TAC exposure pollutant emissions with anticipated health effects is currently infeasible because no expert agency (including SCAQMD) has approved a quantitative method to translate TAC exposure reliably and meaningfully to specific health effects for the typical project-specific scale. As such, the health risk from TAC exposure, as quantified using the hazard index, cannot be directly correlated to the specific instances of chronic or acute effects.

In accordance with the OEHHA HRA guidance manual (OEHHA 2015), the location and estimated health risks must be reported for the following three points:

- The maximum estimated off-site impact or point of maximum impact (PMI)—the geographic point outside of the Project site with the highest estimated incremental cancer risk and maximum non-cancer hazard index;

- The maximum exposed individual resident at an existing residential receptor (MEIR)—the geographic point with the highest estimated incremental cancer risk and maximum non-cancer hazard index in the outdoor space of a residential property where it is probable that a resident would be located for extended periods;

- The maximum exposed individual at an existing occupational worker receptor (MEIW).

Results for these modeled locations are presented in Table 4.2-11, *Unmitigated Health Risk Summary*.

Table 4.2-11
UNMITIGATED HEALTH RISK SUMMARY

Receptor Description	Residential Cancer Risk[1]	Noncancer Chronic[2]
PMI	51.90	0.03
MEIR	26.45	0.02

Source: HELIX 2022a

[1] Risk in increased chances per million.

[2] Hazard Index.

The modeled PMI for the project would be near the project boundary within the cutout area near the center of the site at Universal Transverse Mercator (UTM) coordinates Zone 11, 439250 meters east, 3753800 meters north. As shown in Table 4.2-11, the maximum health risk exposure at this point would be a residential incremental cancer risk of 51.90 in 1 million and a residential non-cancer chronic maximum hazard index of 0.03. No residential buildings or residential outdoor spaces are near the PMI.

The MEIR is located at the existing house on the eastern boundary of the project at UTM coordinates Zone 11, 439365 meters east, 3753677 meters north. As shown in Table 4.2-11, at this residence, the cancer risk would be 26.45 in a 1 million. The chronic hazard index would be 0.02.

There are no existing occupational worker sites within the evaluated area. Workers employed at existing residences, or residents who work at home, are included in the residential health risk evaluation. Therefore, the health risk for the MEIW would not exceed risks reported above for the MEIR.

The maximum risk due to exposure to DPM emissions from construction of the proposed project would not exceed the SCAQMD threshold for a maximum non-cancer chronic health index of 1. However, the incremental increased cancer risk would exceed the SCAQMD threshold of 10 in 1 million. Therefore, construction of the project would result in a potentially significant impact related to the exposure of sensitive receptors to substantial DPM concentrations.

Operations

CO Hotspots

Vehicle exhaust is the primary source of CO. In an urban setting, the highest CO concentrations are generally found near congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as distance from the emissions source (i.e., congested intersection) increase. Project-generated traffic has the potential of contributing to localized “hot spots” of CO off-site. Because CO is a byproduct of incomplete combustion, exhaust emissions are worse when fossil-fueled vehicles are operated inefficiently, such as in stop-and-go traffic or through heavily congested intersections, where the level of service (LOS) is severely degraded.

CARB recommends evaluation of the potential for the formation of locally high concentrations of CO, known as CO hot spots. A CO hot spot is a localized concentration of CO that is above the state or national 1-hour or 8-hour CO ambient air standards. To verify that the project would not cause or contribute to a violation of the 1-hour and 8-hour CO standards, an evaluation of the potential for CO hot spots at nearby intersections was conducted.

The projects Traffic Study (LLG 2021) evaluated whether there would be a change in the LOS at the intersections affected by the proposed project. In accordance with the Transportation Project-Level Carbon Monoxide Protocol, CO hot spots are typically evaluated when: (a) the LOS of an intersection decreases to a LOS E or worse because of the project; (b) signalization and/or channelization is added to an intersection; and (c) sensitive receptors such as residences, schools, hospitals, etc., are located in the vicinity of the affected intersection or roadway segment (California Department of Transportation [Caltrans] 1998).

According to the TIA, all of the analyzed intersections are forecast to operate at LOS D or better in the project opening year condition, without implementation of the project. Implementation of the project would not result in the LOS of any of the analyzed intersections degrading to LOS E or F (LLG 2021). Therefore, consistent with the CO Protocol, operation of the project would not result in exposure of sensitive receptors to substantial localized CO concentrations.

New Sensitive Receptors

As a residential development, the project would site new sensitive receptors. The CARB siting recommendations within the Air Quality and Land Use Handbook suggest a detailed health risk assessment should be conducted for proposed sensitive receptors within 1,000 feet of a warehouse distribution center, within 500 feet of a freeway or urban road with 100,000 vehicles per day, within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater), 50 feet of a typical gas dispensing facilities or within 300 feet of a dry cleaning facility that uses perchloroethylene (PCE), among other siting recommendations (CARB 2005). There are no facilities of this type within 1,000 feet of the project site. The closest high-volume roadway, State Route 71, only carries 75,000 average daily trips along the segment adjacent the project site (Caltrans 2022). Future project residents would not be exposed to substantial concentrations of TACs from existing sources.

4.2.5.4 Odors

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

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting activities, refineries, landfills, dairies, and fiberglass molding operations (SCAQMD 1993). The residential project would not include any of these uses nor are there any of these land uses in the project vicinity.

Emissions from construction equipment, such as diesel exhaust, and VOCs from architectural coatings and paving activities may generate odors; however, these odors would be temporary, intermittent, and not expected to affect a substantial number of people. Additionally, noxious odors would be confined to the immediate vicinity of construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Furthermore, short-term construction-related odors are expected to cease upon the drying or hardening of the odor-producing materials. Long-term operation of the project would not be a substantial source of objectionable odors. Therefore, the project would not create objectionable odors affecting a substantial number of people, and the impact would be less than significant.

4.2.6 Mitigation Measures

4.2.6.1 Air Quality Plans

No significant air quality impacts related to conflicts with applicable air quality plans would result from implementation of the proposed project. Therefore, no mitigation measures are required.

4.2.6.2 Air Quality Standards

The following mitigation measure would be required to reduce emissions of NO_X during project construction.

AQ-1 Tier IV Off-Road Construction Equipment. All off-road diesel-powered equipment rated at 50 horsepower or greater used on the project site during construction of the project shall be USEPA Tier IV (or better) certified or have CARB approved engine/exhaust retrofit kits to result

in equivalent emissions. Prior to issuing permits, the City shall verify that construction contracts specify the off-road equipment certification or retrofit requirements. The applicant shall compile and maintain an inventory, including documentation of engine certification or emissions retrofits, of all off-road diesel-powered equipment rated at 50 horsepower or greater used on the project site during construction. The inventory shall be available for review and verification by the City on demand.

The results of the calculations for project construction with implementation of mitigation measure AQ-1 are shown in Table 4.2-12, *Mitigated Daily Construction Emissions*.

Table 4.2-12
MITIGATED DAILY CONSTRUCTION EMISSIONS

Phase	ROG (lbs/day)	NO_X (lbs/day)	CO (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Demolition	0.50	3.18	19.01	0.04	0.87	0.21
Site Preparation	0.32	1.77	11.16	0.02	3.34	1.63
Grading	2.25	12.53	80.34	0.18	11.17	3.77
Paving	0.35	1.68	18.07	0.03	0.31	0.09
Building Construction	1.17	5.17	24.14	0.06	2.71	0.79
Architectural Coating	51.71	0.21	2.98	0.01	0.45	0.12
Maximum Daily Emissions	**51.71**	**12.53**	**80.34**	**0.18**	**11.17**	**3.77**
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	*No*	*No*	*No*	*No*	*No*	*No*

Source: CalEEMod
lbs/day = pounds per day; ROG = reactive organic gas; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 4.2-12, with implementation of mitigation measure AQ-1, emissions of criteria pollutants and precursors would not exceed the SCAQMD significance thresholds. The project would therefore not result in a cumulatively considerable net increase of any criteria pollutant for which the SCAB is non-attainment, and the impact would less than significant with mitigation incorporated.

4.2.6.3 Sensitive Receptors

Mitigation measure AQ-1 would be required to reduce emissions of onsite DPM during project construction.

As shown in Table 4.2-13, *Mitigated Health Risk Summary,* with incorporation of mitigation measure AQ-1, the health risk exposure at the PMI would be reduced to a residential incremental cancer risk of 1.33 in 1 million and a residential non-cancer chronic maximum hazard index of 0.0008.

Cancer risk at the MEIR would be reduced to 0.68 in 1 million and the chronic hazard index would be reduced to 0.0004 with incorporation of mitigation measure AQ-1.

Table 4.2-13
MITIGATED HEALTH RISK SUMMARY

Receptor Description	Residential Cancer Risk[1]	Noncancer Chronic[2]
PMI	1.33	0.0008
MEIR	0.68	0.0004

Source: HELIX 2022a

[1] Risk in increased chances per million.

Therefore, with implementation of mitigation measure AQ-1, emissions of construction period DPM would not result in exceedances of the SCAQMD thresholds for residential incremental cancer risk or non-cancer chronic hazard. Impacts related to exposure of sensitive receptors to substantial DPM concentrations would be less than significant with mitigation incorporated.

4.2.6.4 Odors

No significant air quality impacts related to emissions of objectionable odors would result from implementation of the proposed project. Therefore, no mitigation measures are required.

4.2.7 Significance Determination

The significance of air quality impacts before and after mitigation is summarized in Table 4.2-14, *Significance Determination Summary of Air Quality Impacts*. Implementation of the proposed project would result in potentially significant impacts related to air quality standards and sensitive receptors. With implementation of mitigation measure AQ-1, these potentially significant impacts would be reduced to below a level of significance. Impacts related to air quality plans and odors would be less than significant, and no mitigation is required.

Table 4.2-14
SIGNIFICANCE DETERMINATION SUMMARY OF AIR QUALITY IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Air Quality Plans	Less than significant	None required	Less than significant
Air Quality Standards	Potentially significant	AQ-1	Less than significant
Sensitive Receptors	Potentially significant	AQ-1	Less than significant
Odors	Less than significant	None required	Less than significant

4.3 BIOLOGICAL RESOURCES

This section of the EIR evaluates anticipated impacts to biological resources resulting from implementation of the proposed project. It is based on a Biological Technical Report prepared for the project (HELIX Environmental, Inc. [HELIX] 2022b), which is included as Appendix C of this EIR.

4.3.1 Existing Conditions

Field surveys were conducted to document the existing condition of the project site and surrounding lands. A general biological survey and habitat assessment were conducted in December 2020 to map existing vegetation communities and to determine habitat suitability for sensitive plant and wildlife species within the biological study area. Noted wildlife species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. The biological survey area included the project site, and approximately 0.84 acre of off-site areas located adjacent to the project boundary that would require disturbance for improvements during project construction. For the purpose the impact analysis contained in this EIR section, the project site and off-site area are collectively referred to as the "biological study area."

A burrowing owl (*Athene cunicularia*; BUOW) habitat assessment was conducted in December 2020 and focused surveys for rare plant species, coastal California gnatcatcher (*Polioptila californica*; CAGN), and least Bell's vireo (*Vireo bellii pusillus*; LBVI) were conducted between May and July 2021. A jurisdictional assessment was conducted in December 2020 to determine the existing jurisdictional limits regulated by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW).

In late October and early November 2020, the Blue Ridge Wildfire burned the hills to the west and south of the biological study area. In the western and southern portions of the biological study area, a backfire was initiated by local fire officials as a containment method for the wildfire. The remainder of the biological study area that did not burn consists of native habitat, including California sagebrush scrub, coast live oak woodland, and mule fat thickets, in addition to existing developed areas, disturbed habitat, pepper tree grove, and upland mustards. Three drainage complexes (Drainage Complexes A, B, and C) were delineated within the biological study area. Drainage Complex A consists of the main Drainage A and three small tributaries (Drainages A1, A1.1, and A2). The series of canyons in the northern portion of the biological study area support six small drainage features (Drainages B1, B2, B2, B2.1, B3, B4, and B5). Another drainage complex, Drainage Complex C, was delineated in the southwest corner of the biological study area. Drainage Complex C consists of the main Drainage C and two small tributaries (Drainages C1 and C2). All drainages on the biological study area ultimately drain into the Santa Ana River, located directly to the east of the biological study area.

4.3.1.1 Soils

Mapped soils on the project site mostly consist of Soper gravelly loam (15 to 30 percent slopes and 30 to 50 percent slopes; Figure 4.3-1, *Soils*; National Resources Conservation Service 2021). The Soper soil series consists of well-drained residuum weathered from sandstone. Other mapped soils on the study area include Alo clay (30 to 50 percent slopes), Fontana clay loam (30 to 50 percent slopes), Garretson very fine sandy loam (2 to 9 percent slopes), and Gaviota-rock outcrop complex.

4.3.1.2 Vegetation Communities/Land Cover Types

Vegetation communities and land uses were mapped in the biological study area. The biological study area supports seven vegetation communities and two land use types, including burned habitat, California sagebrush scrub, coast live oak woodland, developed land, disturbed land, California sagebrush scrub (disturbed), mule fat thickets, pepper tree groves, and upland mustards. The approximate acreages of these vegetation communities and land use types are presented in Table 4.3-1, *Existing Vegetation and Land Uses*, and their locations within the biological study area are shown on Figure 4.3-2, *Vegetation and Land Uses*.

Table 4.3-1
EXISTING VEGETATION AND LAND USES

Habitat Type	On-Site (acres)[1]	Off-Site (acres)[1]	TOTAL (acres)[1]
Burned Habitat	67.30	0.00	**67.3**
California Sagebrush Scrub	14.94	0.00	**14.94**
Coast Live Oak Woodland	0.21	0.00	**0.21**
Developed Land	3.55	0.02	**3.57**
Disturbed Land	12.92	0.73	**13.65**
Disturbed-California Sagebrush Scrub	11.88	0.00	**11.88**
Mule Fat Thickets	0.14	0.00	**0.14**
Pepper Tree Groves	1.96	0.00	**1.96**
Upland Mustards	16.90	0.09	**16.99**
TOTAL	**129.80**	**0.84**	**130.64**

Source: HELIX 2022b

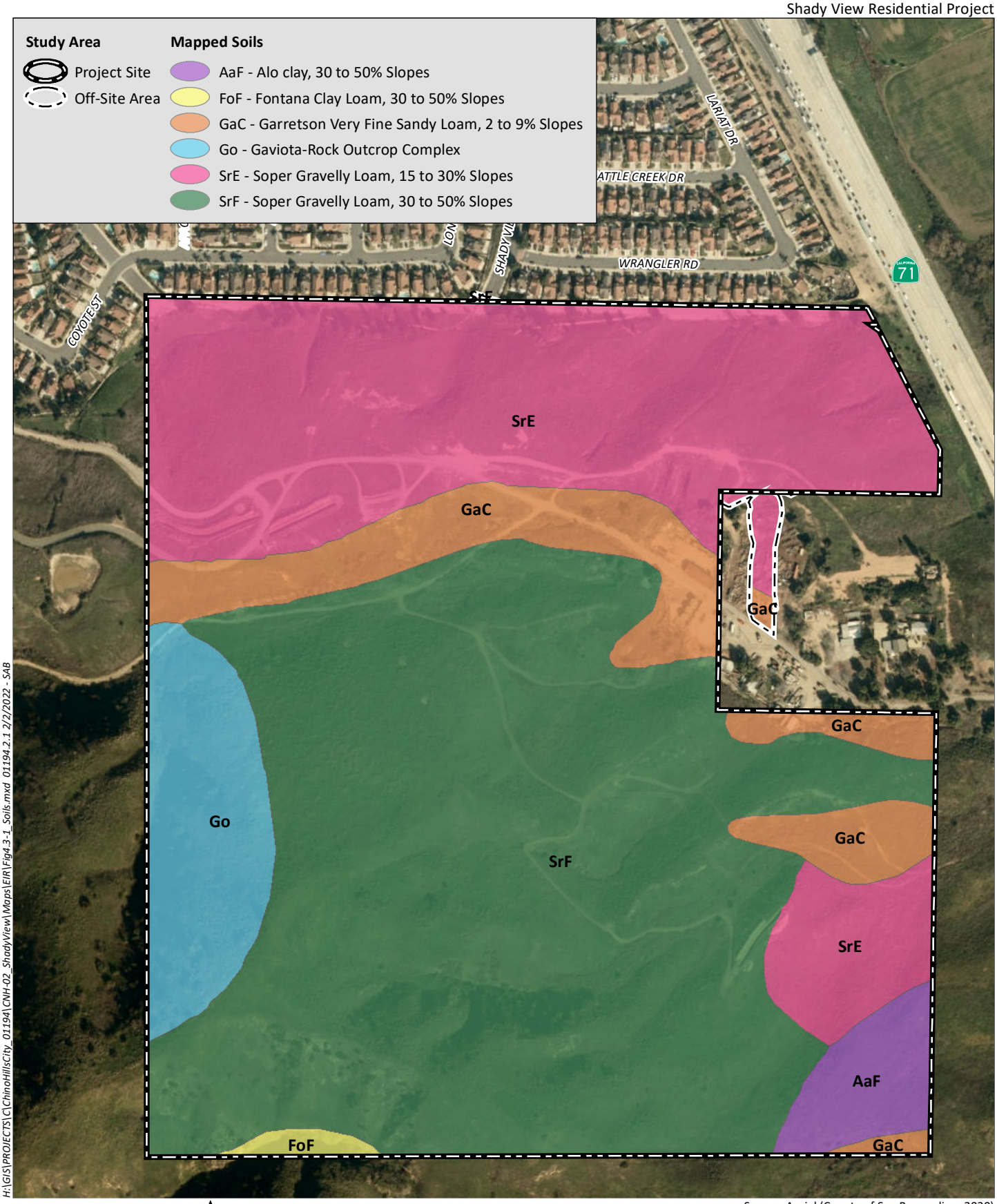
[1] Acreages are rounded to the nearest hundredth.

Burned Habitat

The western and southern portions of the biological study area were burned in the Blue Ridge Wildfire between late October and early November 2020. Mapped burned habitat within the biological study area totaled 67.30 acres (on-site only). Due to the extent of damage from the backfire, vegetation communities in these areas were not identifiable.

California Sagebrush Scrub

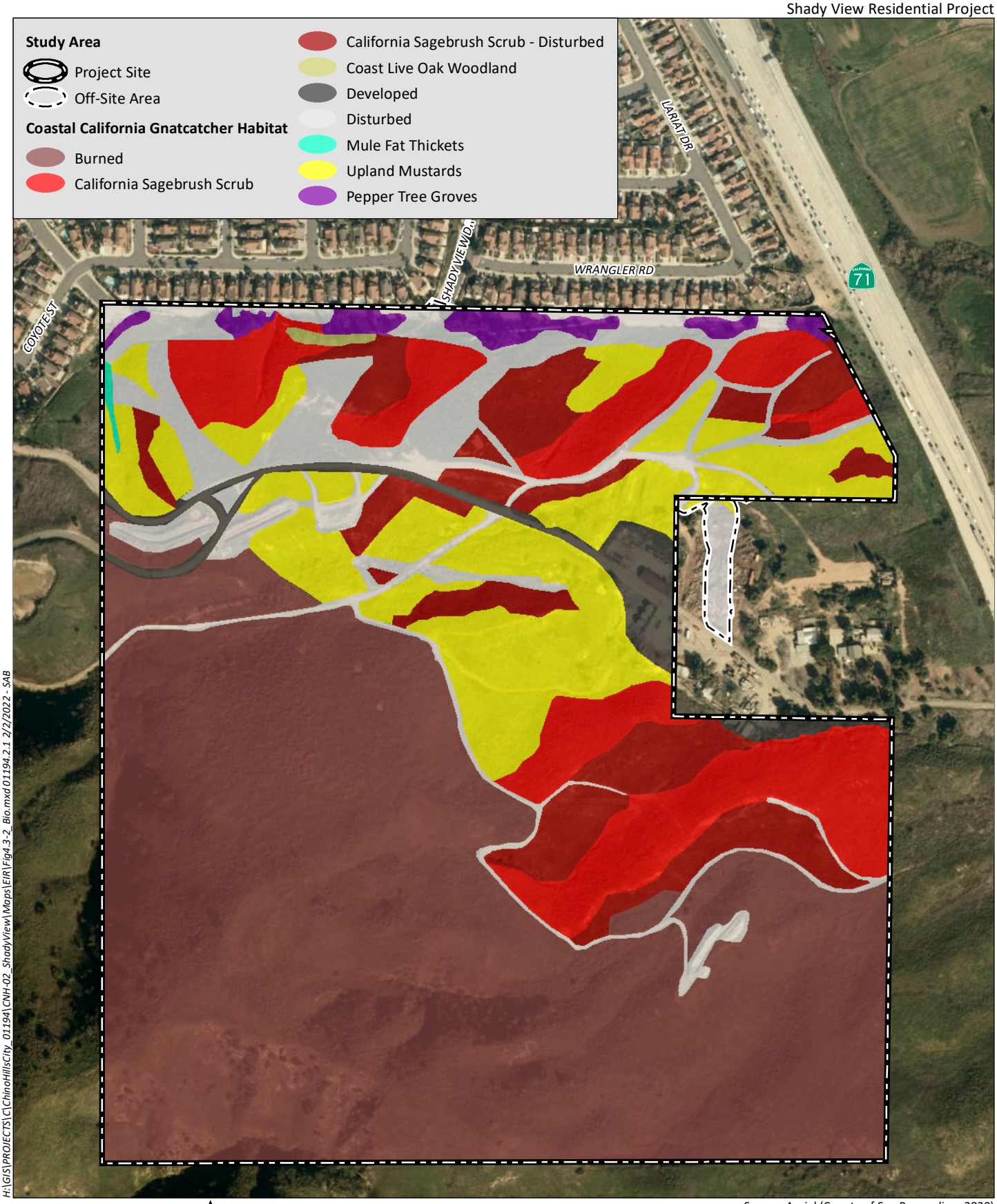
California sagebrush scrub that occurs in more inland areas generally occupies xeric sites (sites that contain little moisture or are very dry), such as steep slopes, severely drained soils, or clays that slowly release stored soil moisture. This community is dominated by subshrubs with leaves that are deciduous during drought, an adaptation that allows the habitat to withstand the prolonged drought period in the summer and fall. California sagebrush scrub species have relatively shallow root systems and open canopies that allow for the occurrence of a substantial herbaceous (annual plant) component. Typical stands are fairly open and dominated by species such as California sagebrush (*Artemisia californica*), brittlebush (*Encelia farinosa*), and California buckwheat (*Eriogonum fasciculatum*). Several patches of California sagebrush scrub were observed on the west- and north-facing hillsides in the northern and western portions of the biological study area, totaling 14.94 acres (on-site only). These areas were dominated by California sagebrush. Other native shrubs commonly observed included box springs goldenbush (*Ericameria palmeri* var. *pachylepis*), California buckwheat, and California encelia (*Encelia*



Source: Aerial (County of San Bernardino, 2020)

Soils

Figure 4.3-1



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Source: Aerial (County of San Bernardino, 2020)

HELIX Environmental Planning

Vegetation and Land Uses

Figure 4.3-2

californica). Red brome (*Bromus rubens*) and short-pod mustard (*Hirschfeldia incana*) were prevalent in the understory and spaces between shrubs.

Coast Live Oak Woodland

Coast live oak woodland is an open-to to-dense evergreen woodland or forest community dominated by coast live oak (*Quercus agrifolia*) trees, which may reach heights between 35 and 80 feet. Components of the shrub layer generally include toyon (*Heteromeles arbutifolia*) and blue elderberry (*Sambucus nigra* ssp. *caerulea*). This community occurs on coastal foothills of the Peninsular Ranges, typically on north-facing slopes and shaded ravines. One small patch of coast live oak woodland was observed on north-facing slope in the northern portion of the biological study area, consisting of roughly 10 coast live oak trees and totaled 0.21 acre (on-site only). The coast live oak woodland appears to be on a manufactured slope associated with the existing South Trail residential development to the north and trees may have been planted to protect the slope. These trees are not visible in aerials prior to development of the homes to the north (Historic Aerials 2021; see aerials from 1992 and 1980). A few toyon (*Heteromeles arbutifolia*) shrubs were intermixed with the coast live oak trees and non-native annuals, such as red brome and short-pod mustard, dominated the understory.

Developed Land

Developed land include areas where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. Developed land consists of paved roads and existing facilities near the center of the biological study area, totaling 3.57 acres (3.55 acres on-site; 0.02 acre off-site).

Disturbed Land

Disturbed habitat includes land cleared of vegetation (e.g., dirt roads) or actively maintained or heavily disturbed areas that are mostly unvegetated but may support scattered non-native plant species, such as ornamentals or ruderal exotic species that take advantage of disturbance. Disturbed habitat is similar to the non-native vegetation community, although disturbed areas generally support little to no vegetative cover. Disturbed habitat was primarily observed within the northern portion of the biological study area and consisted mostly of bare ground with scattered doveweed (*Croton setiger*), filaree (*Erodium* sp.), red brome, tocalote (*Centaurea melitensis*), and white horehound (*Marrubium vulgare*), totaling approximately 13.65 acres (12.92 acres on-site; 0.73 acre off-site).

Disturbed-California Sagebrush Scrub

This community is dominated by disturbed habitat described above and is intermixed with species associated with California sagebrush scrub vegetation type, also described above. Several patches of disturbed-California sagebrush scrub were observed on the east- and south-facing hillsides in the northern and western portions of the biological study area, totaling 11.88 acres (on-site only). This community consisted of sparse California sagebrush and box springs goldenbush. The interstitial spaces between the shrubs were mostly dominated by doveweed, red brome, and short-pod mustard. Scattered castor bean (*Ricinus communis*) and tree tobacco (*Nicotiana glauca*) were also observed within this community.

Mule Fat Thickets

Mule fat thickets is a depauperate (lacking in numbers or variety), shrubby riparian scrub community dominated by mule fat (*Baccharis salicifolia*), sometimes interspersed with small willows (*Salix* spp.). This early seral community is dominated by frequent flooding, the absence of which would lead to a cottonwood or sycamore dominated woodland or forest. In some environments, limited hydrology may favor the persistence of mule fat. A small strip of mule fat thicket was observed in the northwest corner of the biological study area, totaling 0.14 acre (on-site only). This community was almost solely comprised of mule fat, with some scattered coyote brush (*Baccharis pilularis*) and Mexican palo verde (*Parkinsonia aculeata*) throughout. No willow trees were observed in this community.

Pepper Tree Groves

Pepper tree grove is characterized as stands of pepper trees (*Schinus* spp.) and other non-native trees (e.g., acacias [*Acacia* spp.]), many of which are used in landscaping. Pepper tree groves were observed on a north-facing slope in the northern portion of the biological study area, totaling 1.96 acres (on-site only). This area consisted mostly of Peruvian pepper trees (*Schinus molle*), with other ornamental trees including Aleppo pine (*Pinus halepensis*), London plane tree (*Platanus x hispanica*), and river red gum (*Eucalyptus camaldulensis*). Some scattered coast live oak trees were also noted in this area.

Upland Mustards

Upland mustards are typically associated with land that has been heavily influenced by human activities, including areas adjacent to roads, manufactured slopes, and abandoned lots. Upland mustards are dominated by non-native mustard species (e.g., black mustard [*Brassica nigra*], short-pod mustard) or other similar forb species that take advantage of previously cleared or abandoned landscaping or land showing signs of past or present wildlife usage that removes any capability of providing viable habitat. Upland mustards were observed in several patches throughout the biological study area, totaling 16.99 acres (16.90 acres on-site; 0.09 acre off-site). These areas were dominated by short-pod mustard. Other commonly observed species included castor bean rancher's fiddleneck (*Amsinckia intermedia*), red brome, Russian thistle (*Salsola tragus*), tocalote, and tree tobacco.

4.3.1.3 Observed Plant Species

A total of 80 plant species were observed within the biological study area during the biological survey. Of the 80 plant species observed, 32 (40 percent) were non-native species. A complete list of observed wildlife species is contained in Appendix A of the Biological Technical Report (HELIX 2022b), which is included as Appendix C of this EIR.

4.3.1.4 Observed Wildlife Species

A total of 62 wildlife species were detected within the biological study area during the biological survey, including three invertebrate species, two reptile species, 54 bird species, and 3 mammal species. A complete list of observed wildlife species is contained in Appendix B of the Biological Technical Report (HELIX 2022b), which is included as Appendix C of this EIR.

4.3.1.5 Sensitive Biological Resources

Rare plant species are uncommon or limited in that they: (1) are only found in the Chino Hills region; (2) are a local representative of a species or association of species not otherwise found in the region; or (3) are severely depleted within their ranges or within the region. Rare plant species include those species listed by California Native Plant Society (CNPS) with a California Rare Plant Rank (CRPR) of 1, 2, or 3 or federally and state listed endangered and threatened species. Species with CRPR of 4 may be considered rare if a population is locally uncommon, at the periphery of the species' range, sustained heavy losses, shows unusual morphology, or occurs on unusual substrates (CNPS 2021).

Sensitive wildlife species are those listed or candidate listed as federally threatened or endangered by United States Fish and Wildlife Service (USFWS); and/or State listed or candidate listed as threated or endangered or considered Species of Special Concern (SSC) by CDFW.

Sensitive Plant Species

Fourteen rare plant species were recorded within the two-quadrangle database search conducted on California Natural Diversity Database (CNDDB; CDFW 2022) and CNPS (2022) (a list of these species is included in Appendix H of the Biological Technical Report, which is included as Appendix C of this EIR). Of the 14 rare plant species recorded within the vicinity of the biological study area, 10 species were considered to have no potential to occur on the biological study area based on elevation range and/or lack of suitable habitat on the biological study area. The remaining four species were considered to have a potential to occur on the biological study area, primarily based on the presence California sagebrush scrub. These species include Braunton's milk-vetch (*Astragalus brauntonii*), intermediate mariposa lily (*Calochortus weedii* var. *intermedius*), many-stemmed dudleya (*Dudleya multicaulis*), and white-rabbit tobacco (*Pseudognaphalium leucocephalum*).

Braunton's milk-vetch, many-stemmed dudleya, and white-rabbit tobacco were not observed during rare plant surveys conducted in May and July 2021 and are presumed absent from the biological study area. Four intermediate mariposa lilies were observed in the southwest corner of the biological study area (Figure 4.3-3, *Intermediate Mariposa Lily Locations*). Intermediate mariposa lily is a CRPR 1B.2 species, which are species considered rare throughout their range and have declined significantly over the last century. This species is not federally or state listed as endangered or threatened.

Sensitive Wildlife Species

The biological study area is located outside of any USFWS-designated critical habitat, although critical habitat for LBVI occurs within 0.25 mile to the east of the biological study area and critical habitat for southwestern willow flycatcher (*Empidonax traillii extimus*) occurs approximately one mile north of the biological study area. Thirty sensitive wildlife species were recorded within the Prado Dam and Corona North database search conducted on CNDDB (CDFW 2022). A list of these species and an evaluation of each sensitive wildlife species' potential to occur are included in Appendix I of the Biological Technical Report, which is included as Appendix C of this EIR. Of the 29 sensitive wildlife species, 15 species were considered to have no potential to occur on the biological study area due to lack of suitable habitat and/or the biological study area is located outside of the species' known geographical range. The remaining 14 species are discussed further below.

Low Potential. Three species were determined to have a low potential to occur on the biological study area based on the presence of low-quality habitat, limited acreage of habitat, and lack of observations

within the immediate vicinity of the study area. All species with a low potential to occur are State SSC, including long-eared owl (*Asio otus*), pocketed free-tailed bat (*Nyctinomops femorasaccus*), and western yellow bat (*Lasiurus xanthinus*).

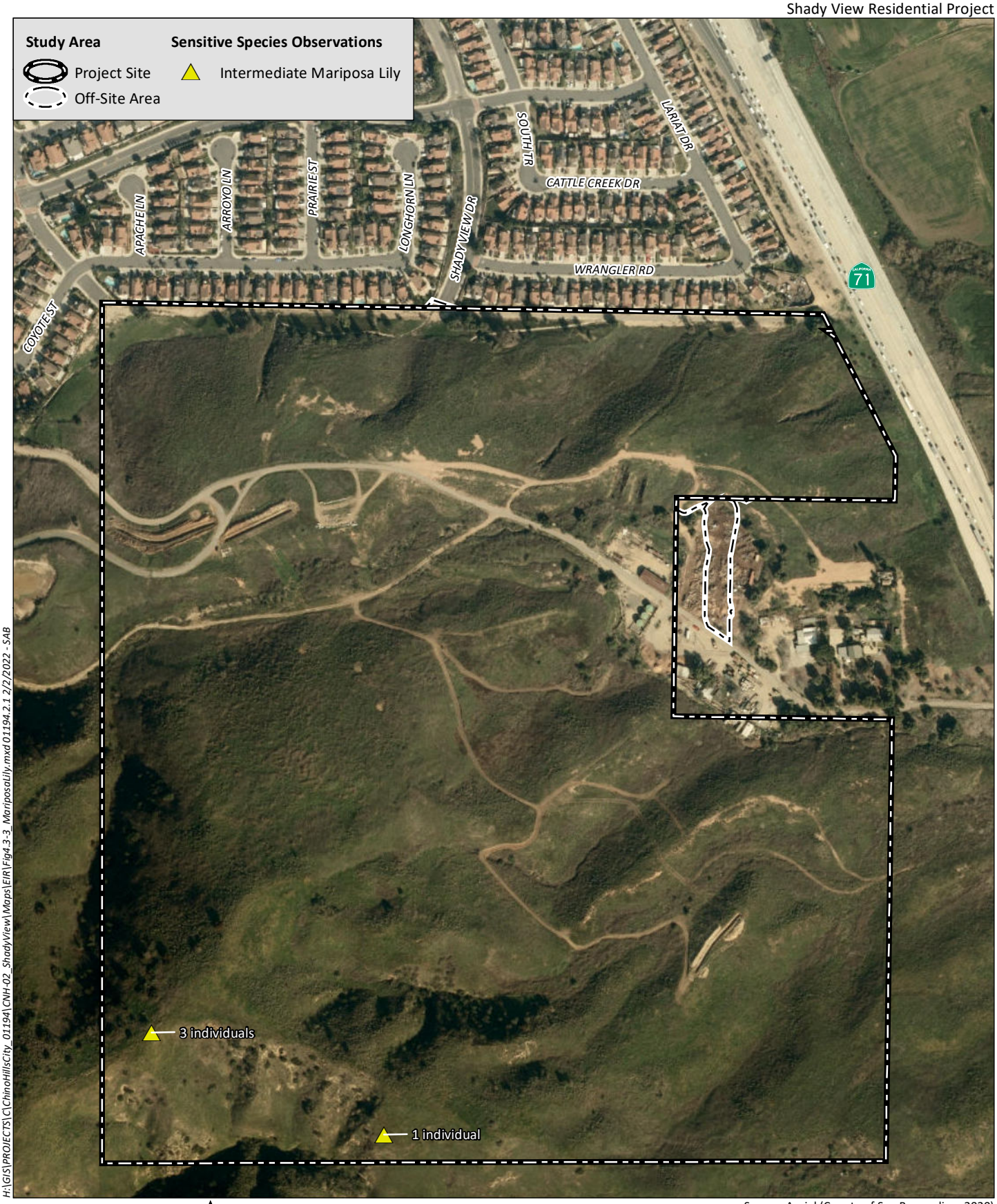
Moderate Potential. Six species were determined to have a moderate potential to occur based on the presence of habitat that was limited in size and recent observations in the vicinity of the biological study area. These species include Southern California legless lizard (*Anniella stebbinsi*), red diamond rattlesnake (*Crotalus ruber*), grasshopper sparrow (*Ammodramus savannarum*), Swainson's hawk (*Buteo swainsoni*; foraging only), white-tailed kite (*Elanus leucurus*), and western mastiff bat (*Eumops perotis californicus*). Red diamond rattlesnake, Southern California legless lizard, grasshopper sparrow, and western mastiff bat are State SSC. Swainson's hawk is a State threatened species and white-tailed kite is a State fully protected species. Although the biological study area supports potentially suitable foraging habitat for Swainson's hawk, this species is not known to nest in southern California with the exception of populations in the Antelope Valley in the Mojave Desert.

High Potential. Two species were determined to have a high potential to occur based on the presence of potentially suitable habitat and recent observations in the vicinity of the study area. These species include coast horned lizard (*Phrynosoma blainvillii*) and golden eagle (*Aquila chrysaetos*). Coast horned lizard is a State SSC and golden eagle is a State Fully Protected Species.

Not Expected. BUOW is a State SSC that inhabits dry, low-growing, sparse vegetation, such as the disturbed habitats that occur throughout the biological study area. The nearest BUOW record in eBird was observed in 2017, approximately 1.5 miles to the northeast of the biological study area (eBird 2021). A BUOW habitat assessment was conducted on the biological study area on December 17, 2020. During the habitat assessment, it was determined that although the biological study area supports some potentially suitable habitat, suitable burrows, as defined in Appendix C of the Staff Report on BUOW Mitigation (CDFG 2012), were not present. The detailed report findings for the BUOW habitat assessments are included as Appendix E of the Biological Technical Report, which is Appendix C of this EIR.

Present. CAGN is a federally endangered species and a State SSC that forages and nests in coastal sage scrub and very open chaparral. The biological study area supports approximately 26.82 acres of potential CAGN habitat consisting of California sagebrush scrub (including disturbed California sagebrush scrub). A total of three CAGN pairs were detected during the 2021 survey effort, although not all individuals were detected during each survey (Figure 4.3-4, *CAGN Locations*). Two CAGN pairs (Pair No. 1 and Pair No. 2) were detected in the eastern portion of the biological study area and one CAGN pair (Pair No. 3) was detected within the northern portion of the biological study area. The detailed report findings for the CAGN focused survey are included as Appendix F of the Biological Technical Report, which is Appendix C of this EIR.

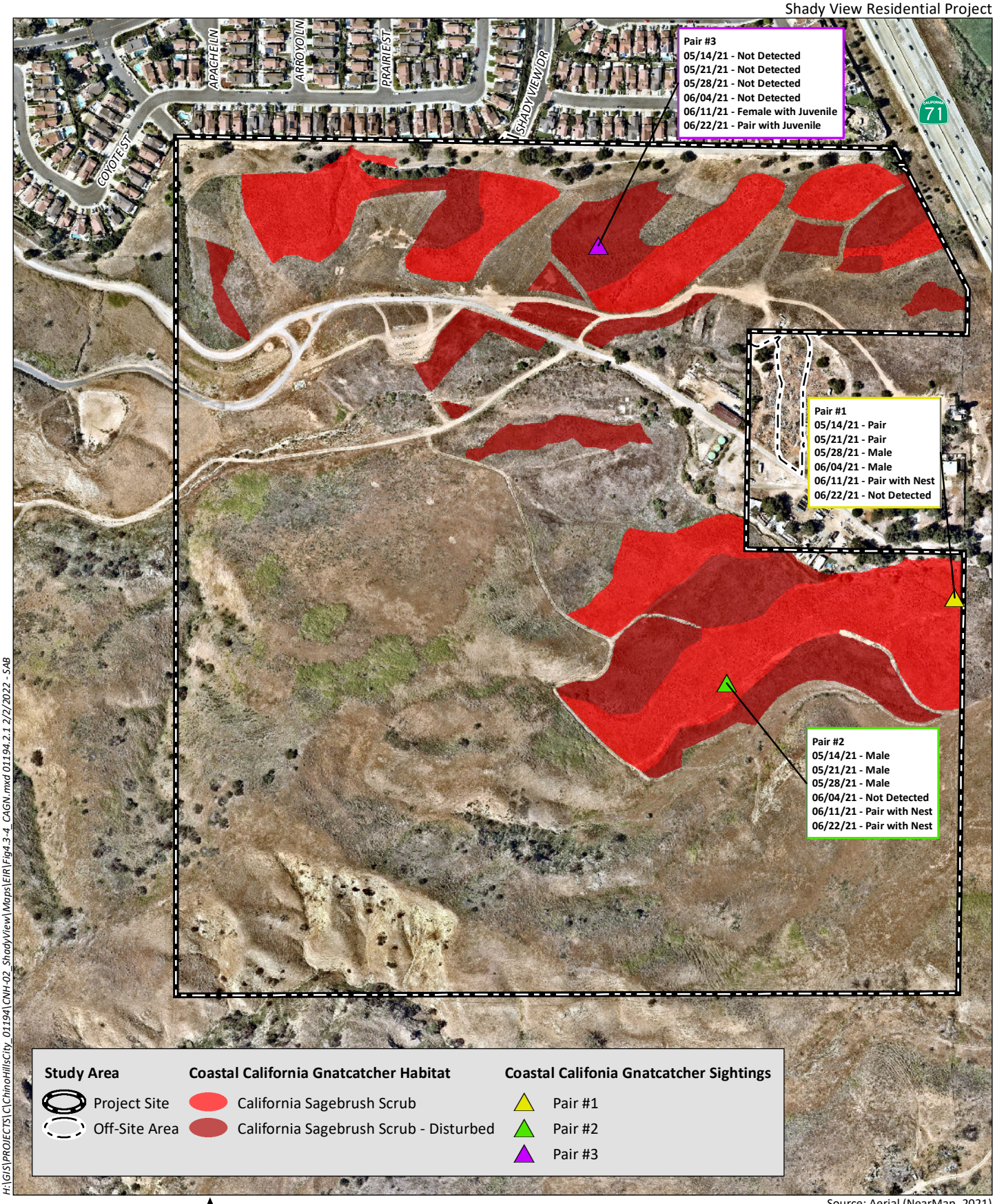
LBVI is a federally and state endangered species that forages and nests in riparian woodland habitat. This species frequents areas that combine an understory of dense, young willows, or mule fat with a canopy of tall willows. No willows were noted within the biological study area during field surveys. The biological study area supports a small area of mule fat scrub (0.14 acre) in the northwest corner. Four single males were detected within the biological study area during the 2021 survey effort, though not all individuals were detected during each survey visit (Figure 4.3-5, *LBVI Locations*). One male (Male No. 1) was observed in the northwest corner of the biological study area, one male (Male No. 2) was observed in the central-eastern portion of the biological study area, one male (Male No. 3) was observed in the



Source: Aerial (County of San Bernardino, 2020)

Intermediate Mariposa Lily Locations

Figure 4.3-3



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Source: Aerial (NearMap, 2021)

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Coastal California Gnatcatcher Locations

Figure 4.3-4

Source: Aerial (NearMap, 2020 & NAIP, 2018)

HELIX Environmental Planning

Least Bell's Vireo Locations

Figure 4.3-5

central-western portion of the biological study area, and one male (Male No. 4) was observed off-site near the western boundary of the biological study area. Only Male No. 1 was heard calling from the small patch of mule fat scrub. The other three males were detected in short-pod mustard and tree tobacco, a burned blue elderberry, and Peruvian pepper trees. No LBVI were detected after the fourth survey conducted on June 17, 2021. The detailed report findings for the LBVI focused survey are included as Appendix G of the Biological Technical Report, which is Appendix C of this EIR.

Sensitive Vegetation Communities/Habitats

Sensitive vegetation communities/habitats are considered either rare within the region or sensitive by CDFW (CDFW 2018). Communities are given a Global and State (S) ranking on a scale of 1 to 5. Communities afforded a rank of 5 are most common while communities with a rank of 1 are considered highly periled. The CDFW considers sensitive communities as those with a rank between S1 and S3. No sensitive plant communities were observed or mapped within the biological study area.

4.3.1.6 Jurisdictional Waters and Wetlands

Three drainage complexes (Drainage Complexes A, B, and C) consisting of 12 drainage features were delineated within the biological study area (Figure 4.3-6, *Jurisdictional Features*). The drainages are presumed to support a total of 0.28 acre of USACE/RWQCB jurisdictional waters of the U.S and 1.14 acres of CDFW jurisdictional streambed (Table 4.3-2, *Existing Jurisdictional Features*). All jurisdictional features are located on-site, with the exception of a small segment in the central portion of Drainage A that extends off-site. No wetlands or other special aquatic features were observed within the biological study area. Detailed descriptions of the drainages are included in the Biological Technical Report, which is Appendix C of this EIR. Representative photographs of the drainage features are included as Appendix D of the Biological Technical Report, which is Appendix C of this EIR.

Table 4.3-2
EXISTING JURISDICTIONAL FEATURES WITHIN BIOLOGICAL STUDY AREA[1]

Drainage	USACE/RWQCB (acres)[2]	CDFW (acres)[2]
Drainage Complex A		
A	0.10[3]	0.38[4]
A1	0.03	0.12
A1.1	<0.01[5]	0.01
A2	0.04	0.12
Subtotal	*0.17*	*0.63*
Drainage Complex B		
B1	0.02	0.15
B2	0.02	0.05
B2.1	<0.01[5]	0.01
B3	0.02	0.09
B4	0.02	0.09
B5	<0.01[6]	<0.01[7]
Subtotal	*0.08*	*0.39*

Drainage	USACE/RWQCB (acres)[2]	CDFW (acres)[2]
Drainage Complex C		
C	0.02	0.08
C1	<0.01[7]	0.01
C2	0.01	0.03
Subtotal	*0.03*	*0.12*
TOTAL	**0.28**	**1.14**

Source: HELIX 2022b

[1] Jurisdictional acreages overlap and are not additive (e.g., RWQCB acreages are included in the CDFW acreages).

[2] Acreages are rounded to the nearest hundredths.

[3] Approximately 0.003 acre of Drainage A consists of a small segment in the central portion of the drainage that extends off-site.

[4] Approximately 0.020 acre of Drainage A consists of a small segment in the central portion of the drainage that extends off-site.

[5] Actual acreage is 0.001 acre.

[6] Actual acreage is 0.002 acre.

[7] Actual acreage is 0.004 acre.

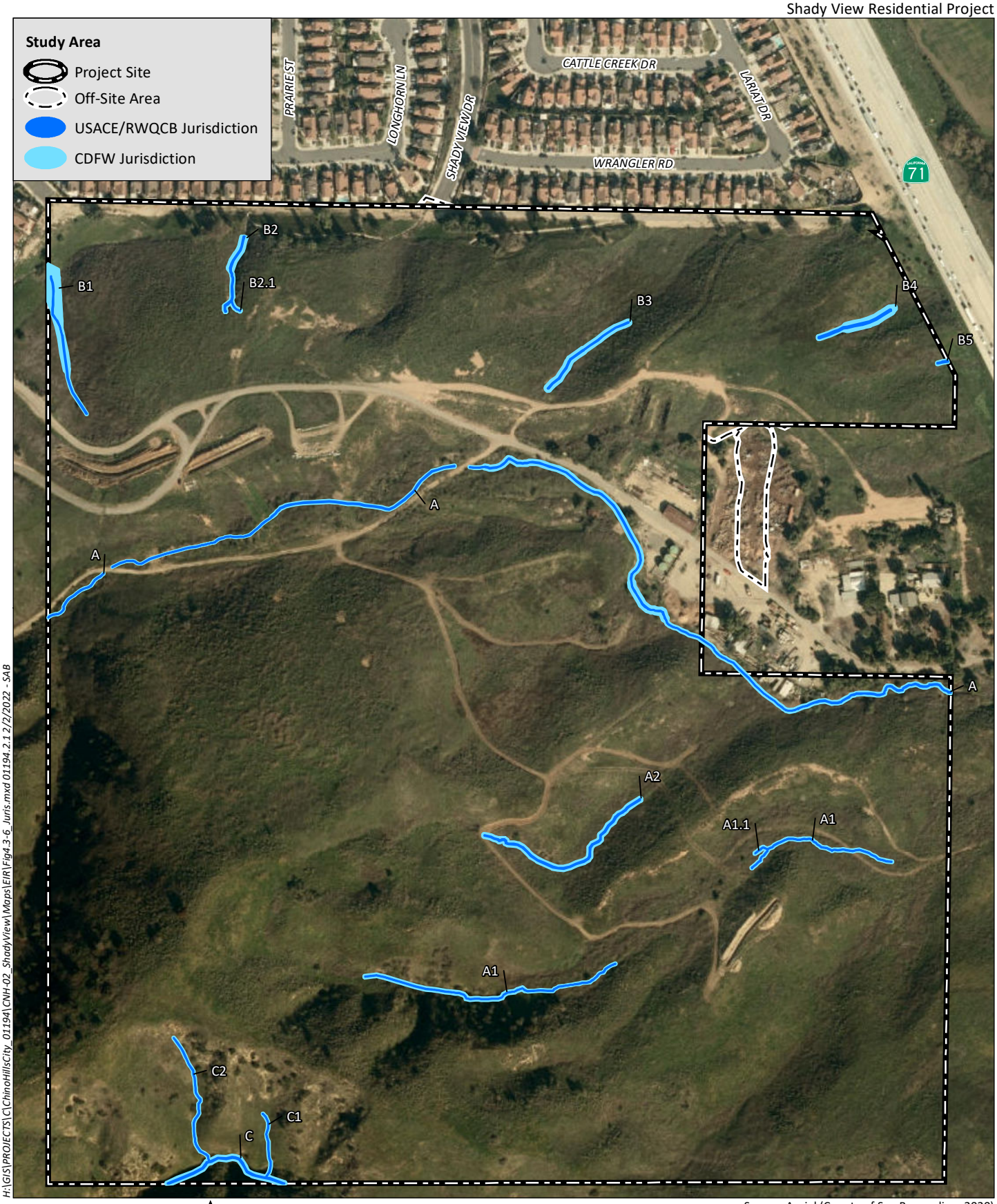
USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife

4.3.1.7 Habitat and Wildlife Corridor Evaluation

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and wildlife. Corridors can be local or regional in scale; their functions may vary temporally and spatially based on conditions and species presence. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. Wildlife uses these corridors, which are often hillsides or tributary drainages, to move between different habitats. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations.

Regionally, the biological study area is situated in the eastern portion of the Chino Hills. The biological study area is located immediately adjacent to open space and approximately 1.7 mile east of Chino Hills State Park. Existing residential homes occur directly to the north of the biological study area and SR-71 is located approximately 100 feet to the east. The biological study area supports a number of relatively small areas of native upland habitat that provide live-in resources for wildlife, such as California sagebrush scrub, coast live oak woodland, and mule fat scrub. A large portion of the biological study area burned in the 2020 Blue Ridge Fire and did not support vegetation at the time the survey was conducted. However, burned habitat likely consisted of a mixture of native vegetation, such as coast live oak woodland and California sagebrush scrub, as well as non-native vegetation, such as upland mustards.

The biological study area is not considered a regional corridor since it does not directly connect two or more large blocks of habitat that would otherwise be fragmented or isolated from one another. The nearest regional wildlife movement corridor to the biological study area identified by the South Coast Missing Linkages Project is the San Gabriel – San Bernardino Connection located approximately 33 miles to the northeast of the biological study area (South Coast Wildlands 2008). The area immediately to the north of the biological study area is highly urbanized and supports limited cover for wildlife moving through the area. The SR-71 bisects any potential corridors to the east of the biological study area, although wildlife can cross under SR-71 via off-site culverts to the east of the biological study area that



0 350 Feet

Source: Aerial (County of San Bernardino, 2020)

HELIX Environmental Planning

Jurisdictional Features

Figure 4.3-6

are associated with Drainages A, B4, and C. Wildlife may also access the biological study area via undeveloped land to the west and south; however, access to the east through the study area is restricted to culverts under SR-71 since development to the north and the highway are physical barriers to wildlife movement. The culverts associated with Drainages A and B4 are small pipe culverts and would only facilitate movement of reptiles and small to medium-sized mammals, such as cottontail rabbits (*Sylvilagus* spp.), coyotes (*Canis latrans*), and bobcats ([*Lynx rufus*]). Mule deer (*Odocoileus hemionus*) have been recorded using the larger culvert crossing associated with Drainage C. There are numerous crossings between the southern boundary of the biological study area and SR-91 that allow wildlife to cross under SR-71. Many of these culverts were improved by the California Department of Transportation, specifically to increase wildlife movement under SR-71 to the southeast of the biological study area when SR-71 was widened in 2005.

4.3.2 Regulatory Setting

4.3.2.1 Federal

Federal Endangered Species Act

Administered by the USFWS, the Federal Endangered Species Act (FESA) provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that impact endangered or threatened species and the habitats upon which they rely are considered a "take" under the FESA. Section 9(a) of the FESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

Sections 4(d), 7, and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A biological assessment is required for any major construction activity if it may affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation is required when there is a nexus between federally listed species' use of the site and impacts to USACE jurisdictional areas. Section 10(a) allows issuance of permits for "incidental" take of endangered or threatened species. The term "incidental" applies if the taking of a listed species is incidental to and not the purpose of an otherwise lawful activity.

Federal Clean Water Act

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the Clean Water Act (CWA). The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all water of the U.S. Permitting for projects filling water of the U.S., including wetlands and vernal pools, is overseen by USACE under Section 404 of the CWA. Projects may be permitted on an individual basis or may be covered under one of several approved Nationwide Permits. Individual Permits are assessed individually based on the type of action, amount of fill, etc. Individual Permits typically require substantial time (often longer than six months) to review and approve, while Nationwide Permits are pre-approved if a project meets the appropriate conditions. A CWA Section 401

Water Quality Certification, which is administered by the State Water Resources Control Board, must be issued prior to any 404 Permit.

Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal Migratory Bird Treaty Act (MBTA), as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is used to place restrictions on disturbance of active bird nests during the nesting season, which is generally defined as February 15 to August 31 for songbirds. In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests, which the nesting season is generally defined as January 15 to August 31.

Critical Habitat

As described by the FESA, critical habitat is the geographic area occupied by a threatened or endangered species essential to species conservation that may require special management considerations or protection. Critical habitat also may include specific areas not occupied by the species but that have been determined to be essential for species conservation. The biological study area is located outside of any USFWS-designated critical habitat, although LBVI critical habitat occurs within 0.25 mile to the east of the biological study area and critical habitat for southwestern willow flycatcher occurs approximately one mile north of the biological study area.

4.3.2.2 State

California Environmental Quality Act

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), which require that projects with potential adverse effects (i.e., impacts) on the environment undergo environmental review. Adverse environmental impacts are typically mitigated as a result of the environmental review process in accordance with existing laws and regulations.

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the FESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the CESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes. The golden eagle and white-tailed kite are considered State Fully Protected (SFP) species. A SFP species may not be taken or possessed at any time, and no state licenses or permits may be issued for their take except for collecting the species necessary for scientific research and relocation of the bird species for the protection of livestock (Fish and Game Code Sections 3511, 4700, 5050, and 5515).

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates the collection, transport, and commerce of plants that are listed. The CESA followed the NPPA and covers both plants and wildlife that are determined to be endangered or threatened with extinction. Plants listed as rare under NPPA were designated threatened under the CESA.

California Fish and Game Code

Protection of Raptor Species. Raptors (birds of prey) and owls and their active nests are protected by California Fish and Game (CFG) Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW.

Streambed Alteration Agreement. The CFG Code (Section 1600 et seq.) requires an agreement with the CDFW for projects affecting riparian and wetland habitats through the issuance of a Streambed Alteration Agreement.

4.3.2.3 Local

Native Tree Preservation

The City has implemented regulatory measures to protect and preserve native trees that occur within the City's jurisdiction. The City's Tree Preservation Ordinance states, "It is unlawful for any person, firm, partnership, corporation or other legal entity to destroy or remove any non-exempt protected trees within the City without a tree permit. When a tree permit is required, no grading or building permits shall be issued until the tree permit is issued, nor shall work of any kind commence that would result in the destruction, damage, or removal of any non-exempt protected tree prior to the issuance of the tree permit" (Chapter 16.90 of the City's Municipal Code; City 2020a).

To remove City-protected trees, a Tree Permit must be obtained. Protected trees include native and heritage trees as defined by the City. Native trees are defined as California sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), southern California black walnut (*Juglans californica*), or scrub oak (*Quercus berberidifolia*) trees that have a stem/trunk is at least four inches in diameter at breast height (DBH; i.e., four feet six inches above finish grade). Heritage trees are defined as any species of single- or multi-trunk tree having a cumulative diameter of 44 inches or greater at DBH and of significant age, health, and quality to be deemed valuable to the aesthetics of the community by an International Society of Arboriculture (ISA) certified arborist. The ISA-certified arborist must also be approved by the City. Heritage trees exclude invasive trees defined by the California Invasive Plant Council (Cal-IPC; 2006, 2007) and trees that are susceptible to falling, such as gum trees (blue gum [*Eucalyptus globulus*]).

To obtain a Tree Permit, an application must be submitted at the same time as any application for the development of land to the City Manager or designated representative ("Director") and a filing fee as established by the City Council must be paid. A Tree Permit will only be granted if at least one of the following findings can be made:

a) The condition of the protected tree(s) with respect to disease, danger of falling, proximity to proposed or existing structures, and interference with utility services warrant removal or relocation of the tree(s).

b) It is reasonable to remove or relocate the protected tree(s) because of its (their) continued existence at the location unreasonably prevents the development of the property because: (1) only an oddly configured structure could be constructed, or (2) an undue financial hardship on the property owner would result.

c) The protected tree(s) removal or relocation is consistent with good urban forestry practices, such as the number of healthy trees that a given parcel of land will support.

d) The protected tree(s) is (are) declared by an ISA-certified arborist to be dead or dying.

e) The proposed removal or relocation of the protected tree(s) will substantially improve the defensible space of the property in the event of a fire as determined by the Fire Department.

The application may also require an Arborist Report and a Soil Erosion and Sediment Control Plan, as determined necessary by the Director. The conditions of the Tree Permit will require an approved Tree Plan that includes protection and maintenance of protected trees to be retained or relocated on site and mitigation with a minimum replacement ratio of trees or other replacement of equivalent value and size, within the subject property, as determined by an approved Tree Plan or any required tree protection mitigation measures included in any applicable project application. The replacement ratio may be expanded or reduced as determined by the Director. If replacement onsite is not feasible, the City may approve replacement at an offsite location or the payment of an in-lieu fee to the City's Protected Tree Replacement Fund.

4.3.3 Methodology and Assumptions

The analysis of potential impacts of the proposed project on biological resources is based on the Biological Technical Report prepared for the project (HELIX 2022b), which is included as Appendix C of this EIR. Project evaluation included a review of project plans; a literature review of biological resources occurring on the biological study area and surrounding vicinity; a general biological survey, including vegetation mapping and a general habitat assessment; a BUOW habitat assessment; focused surveys for rare plant species, CAGN, and LBVI; and a jurisdictional delineation.

Regulatory databases were reviewed to identify the potential for listed, sensitive, or noteworthy species to occur on the site, which was based upon known ranges and habitat preferences for the species, and species occurrence records from the CNDDB, USFWS, and other sites in the vicinity of the biological survey area.

4.3.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines, a significant impact associated with biological resources would occur if implementation of the proposed project would result in any of the following:

1. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

2. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

3. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

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

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

6. Would the project conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan?

4.3.5 Impact Analysis

4.3.5.1 Sensitive Species

Threshold 1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Rare Plant Species

As stated above in Section 4.3.1.5, 10 of the 14 rare plant species recorded within the Prado Dam and Corona North quadrangles were not considered to have a potential to occur at the biological study area based on geographic range, elevation range, and/or lack of suitable habitat. The remaining four species (Braunton's milk-vetch, intermediate mariposa lily, many-stemmed dudleya, and white-rabbit tobacco) were considered to have a potential to occur on the biological study area based primarily based on the presence of suitable habitat. Braunton's milk-vetch, many-stemmed dudleya, and white-rabbit tobacco were not observed during rare plant surveys conducted in May and July 2021 and are presumed absent from the biological study area. Four intermediate mariposa lilies were observed in the southwest corner of the biological study area (Figure 4.3-3). These individuals are located within the portion of the site that would remain undeveloped and would not be impacted by the project since they occur outside of the project footprint. No impacts to rare plant species would occur.

Sensitive Wildlife Species

As stated above in Section 4.3.1.5, of the 29 sensitive wildlife species recorded within the vicinity of the biological study area, 15 species were considered to have no potential to occur on the biological study area due to lack of suitable habitat and/or due to the biological study area being located outside of the species' known geographical range. The remaining 14 species are discussed in further detail below.

Species with Low, Moderate, or High Potential to Occur. Three species were determined to have a low potential to occur on the biological study area based on the presence of low-quality habitat, limited acreage of habitat, and lack of recent observations within the immediate vicinity. These species include long-eared owl, pocketed free-tailed bat, and western yellow bat. Additionally, six species were determined to have a moderate potential to occur based on the presence of habitat that was limited in size and recent observations in the vicinity of the biological study area. These species include Southern California legless lizard, red diamond rattlesnake, grasshopper sparrow, Swainson's hawk (foraging only), white-tailed kite, and western mastiff bat. The project impacts for each of these species is discussed below.

Long-eared owl is protected under MBTA regulations, which is addressed in Section 5.3.5.4 below. Loss of potentially suitable foraging habitat within the biological study area would not result in a significant impact to this species since suitable foraging habitat is located to the east, west, and south of the biological study area.

Western yellow bat roosts in trees, particularly in palms and cottonwoods. Although the project site does not support palms or cottonwoods, some scattered trees were noted throughout the site. Pocketed free-tailed bat roost in crevices within high rocky cliffs, caverns, and buildings. The biological study area supports some potentially suitable roosting habitat, including steep cliffs in the southwest corner of the biological study area that are being avoided and existing structures in the northeast portion of the biological study area. Both species prefer foraging over open water, which the biological study area does not support. Suitable foraging habitat is located within the immediate vicinity of the biological study area (e.g., Prado Basin). Impacts to the suitable roosting and foraging habitat for pocketed free-tailed bat and western yellow bat would be potentially significant; requiring mitigation.

There is limited habitat for Southern California legless lizard and red diamond rattlesnake within the biological study area. Southern California legless lizard requires areas with warm, loose soil with adequate soil moisture. There are only two small habitat areas (mule fat scrub and coast live oak woodland) within the northern portion of the biological study area that support potentially suitable habitat. The project would remove approximately 0.33 acre of potentially suitable Southern California legless lizard habitat. The project site does not support rocky outcrops typically preferred by red diamond rattlesnake, although the biological study area does support rodent burrows within and adjacent to coastal sage scrub habitat that could be used as refuge. Since the biological study area supports limited habitat for these two species, the biological study area is not expected to support large populations of this species and a loss of a few individuals, if present, would not be expected to reduce regional population numbers. As such, impacts to the Southern California legless lizard and red diamond rattlesnake would be less than significant.

Grasshopper sparrow and white-tailed kite are protected under MBTA regulations, which is addressed in Section 5.3.5.4 below. Swainson's hawk is not known to nest in the Chino Hills region. Loss of potentially suitable foraging habitat for grasshopper sparrow, white-tailed kite, and Swainson's hawk within the biological study area would not result in a significant impact to these species since suitable foraging habitat is located to the east, west, and south of the biological study area. Impacts would be less than significant.

The biological study area supports potentially suitable mastiff bat roosting habitat, including steep cliffs in the southwest corner of the biological study area, existing structures in the northeast portion of the biological study area, and large ornamental trees in the northern portion of the biological study area. The biological study area also supports potentially suitable foraging habitat. Loss of potentially suitable foraging habitat within the biological study area would not result in a significant impact to this species since suitable foraging habitat is located to the east, west, and south of the biological study area. However, the loss of potentially suitable mastiff bat roosting habitat is a potentially significant impact; requiring mitigation.

The biological study area supports potentially suitable coast horned lizard habitat, such as California sagebrush scrub. Adjacent suitable habitat is located directly to the west and south of the biological study area. The project would result in potentially significant impacts to coast horned lizard. Mitigation is required.

Golden eagle is protected under MBTA regulations, with potential project impacts to nesting individuals addressed in Section 5.3.5.4 below. The project will avoid 48.23 acres (37 percent) of potentially suitable foraging habitat within the biological study area and existing open space is located to the east, west, and south of the biological study area. Therefore, loss of a relatively small acreage of potentially suitable foraging habitat within the biological study area would not result in a significant impact to this species. Impacts to golden eagle foraging habitat would be less than significant.

Burrowing Owls. Based on the results of the habitat assessment, the biological study area supports potentially suitable habitat for BUOW but does not support suitable burrows or burrow surrogates. Although suitable burrows were not identified within the biological study area, site conditions may change prior to construction. Therefore, the project has the potential to result in significant impacts to BUOW; mitigation is required.

Coastal California Gnatcatcher. Three CAGN pairs were detected during the 2021 survey effort (Figure 4.3-4). The project would permanently impact approximately 14.08 acres of California sagebrush scrub and 11.57 acres of disturbed-California sagebrush scrub, totaling 25.65 acres of permanent impacts to suitable CAGN habitat. Therefore, the project has the potential to result in significant impacts to CAGN; mitigation is required.

Least Bell's Vireo. Four LBVI males were detected within the study area during the first four of eight surveys conducted during the 2021 breeding season (Figure 4.3-5). However, it is presumed LBVI are not using the biological study area for nesting habitat since (1) the biological study area supports very limited nesting habitat of marginal quality (0.14 acre of mule fat scrub); (2) three of the four individuals were detected in habitat not generally used for nesting; and (3) no individuals were detected after June 17, 2021, which is in the middle of the breeding season. Prado Basin is located approximately 0.25 mile to the east of the biological study area and supports high-quality nesting habitat. Additionally, the 2020 Blue Ridge Fire burned a large area to the north, west, and south of the biological study area, which may have supported suitable LBVI nesting habitat. Observed individuals in the study area may have been transient or dispersing individuals, or individuals displaced from the 2020 Blue Ridge Fire searching for suitable habitat within the vicinity. As such, project impacts to LBVI would be less than significant.

4.3.5.2 Sensitive Vegetation Communities/Habitats

Threshold 2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

California Department of Fish and Wildlife Sensitive Vegetation Communities/Habitats

As stated above in Section 4.3.1.5, the biological study area supports native-dominated habitat totaling 27.17 acres, including California sagebrush scrub (14.94 acres), disturbed-California sagebrush scrub (11.88 acres), coast live oak woodland (0.21 acre), and mule fat thickets (0.14 acre). The remainder of the biological study area (103.47 acres) supports existing developed areas, disturbed habitat, pepper tree groves, and upland mustards.

The project proposes permanent impacts to 82.41 acres. Of the 82.41 acres of permanent impacts, 78.51 acres are associated with on-site grading impacts, 3.06 acres are associated with on-site fuel modification impacts that extend outside of the grading limits, and 0.84 acre are associated with off-site

grading impacts (Table 4.3-3, *Impacts to Vegetation Communities;* Figure 4.3-7, *Impacts to Vegetation*). Permanent impacts are proposed to 25.98 acres of native-dominated habitat and 56.43 acres that comprise other areas with little to no native vegetation. None of the vegetation communities described above are considered sensitive pursuant to CDFW. The project would avoid 48.23 acres (37 percent) in the southwest portion of the biological study area, most of which (46.47 acres) burned in the 2020 Blue Ridge Fire. No impact to CDFW sensitive vegetation communities/habitats would occur.

Table 4.3-3
IMPACTS TO VEGETATION COMMUNITIES

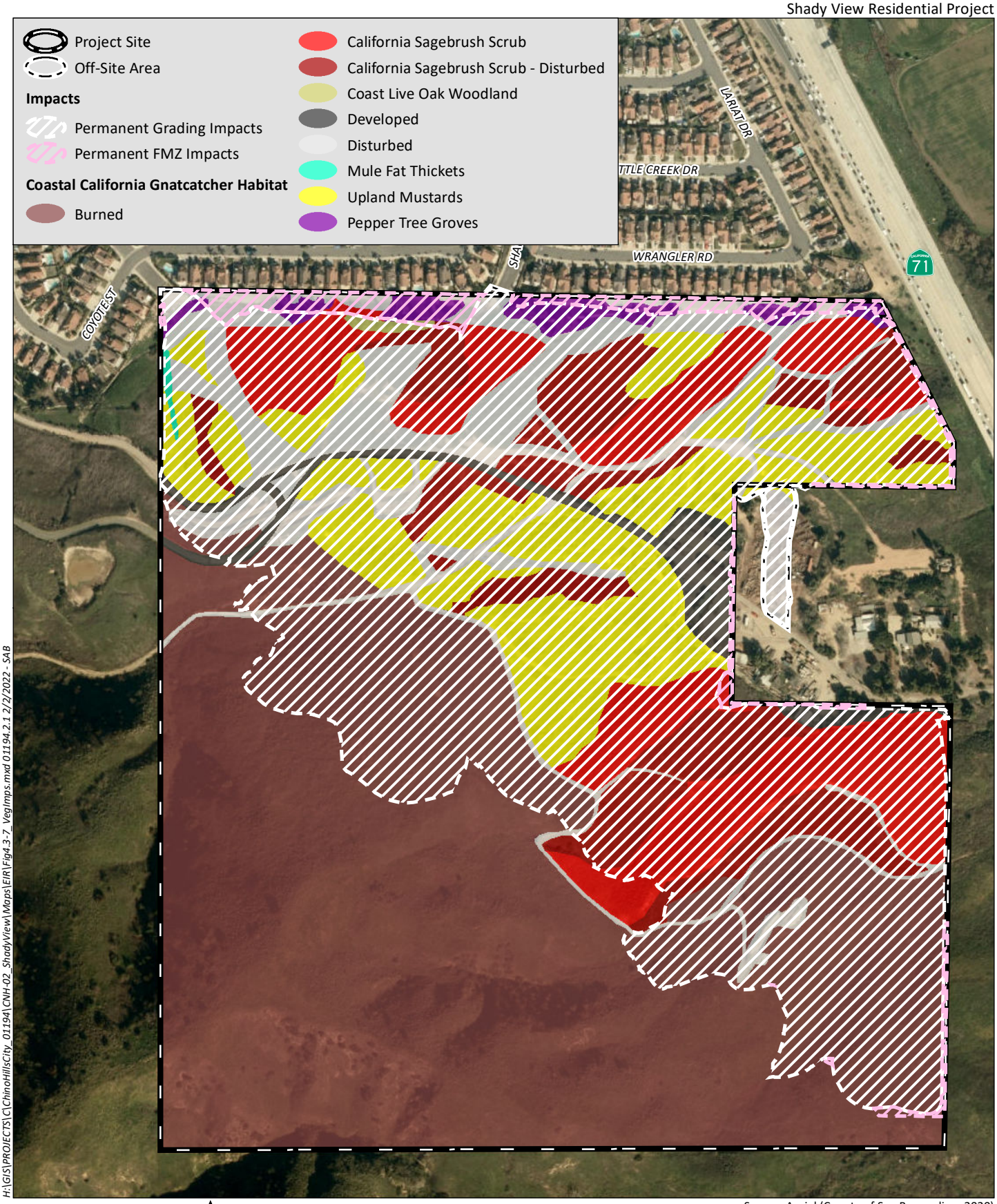
Habitat Type	Permanent On-site Grading Impacts (acres)[1]	Permanent On-site Fuel Modification Impacts (acres)[1]	Permanent Off-site Grading Impacts (acres)[1]	Total Permanent Impacts (acres)[1]	Avoidance (acres)[1]
Burned Habitat	20.60	0.23	0.00	**20.83**	46.47
California Sagebrush Scrub	13.86	0.22	0.00	**14.08**	0.86
Coast Live Oak Woodland	0.18	0.03	0.00	**0.21**	0.00
Developed	3.24	0.10	0.02	**3.36**	0.21
Disturbed	11.43	1.21	0.73	**13.37**	0.28
Disturbed-Sagebrush Scrub	11.49	0.08	0.00	**11.57**	0.31
Mule Fat Thickets	0.12	0.00	0.00	**0.12**	0.02
Pepper Tree Groves	0.87	1.08	0.00	**1.95**	0.01
Upland Mustards	16.72	0.11	0.09	**16.92**	0.07
TOTAL	**78.51**	**3.06**	**0.84**	**82.41**	48.23

Source: HELIX 2022b

[1] Acreages are rounded to the nearest hundredth.

California Department of Fish and Wildlife Riparian Habitat and Streambed

The biological study area supports approximately 1.14 acres of CDFW jurisdictional streambed pursuant to Section 1602 of the CFG Code as regulated by CDFW. Project grading would result in permanent impacts to approximately 0.89 acre of CDFW jurisdiction within the biological study area (Table 4.3-4, *Impacts to CDFW Jurisdiction*; Figure 4.3-8, *Impacts to Jurisdictional Features*). The project would permanently impact most of Drainage Complex A (0.50 acre) and all of Drainage Complex B (0.39 acre). No temporary impacts are anticipated. Approximately 0.13 acre within Drainage Complex A would be avoided and all of Drainage Complex C (0.12 acre) would be avoided. Permanent impacts to 0.89 acre of CDFW jurisdiction is a significant impact; mitigation is required.



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0 400 Feet

Source: Aerial (County of San Bernardino, 2020)

HELIX Environmental Planning

Impacts to Vegetation and Land Uses

Figure 4.3-7

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Source: Aerial (County of San Bernardino, 2020)

HELIX Environmental Planning

Impacts to Jurisdictional Features

Figure 4.3-8

Table 4.3-4
IMPACTS TO CDFW JURISDICTION

Drainage	Permanent On-site Grading Impacts (acres)[1]	Avoidance (acres)[1]
Drainage Complex A		
A	0.38[2]	0.00
A1	0.04	0.08
A1.1	0.01	0.00
A2	0.07	0.05
Subtotal	*0.50*	*0.13*
Drainage Complex B		
B1	0.15	0.00
B2	0.05	0.00
B2.1	0.01	0.00
B3	0.09	0.00
B4	0.09	0.00
B5	<0.01[3]	0.00
Subtotal	*0.39*	*0.00*
Drainage Complex C		
C	0.00	0.08
C1	0.00	0.01
C2	0.00	0.03
Subtotal	*0.00*	*0.12*
TOTAL	**0.89**	**0.25**

Source: HELIX 2022b

[1] Acreages are rounded to the nearest hundredths.

[2] Approximately 0.020 acre of Drainage A consists of a small segment in the central portion of the drainage that extends off-site.

[3] Actual acreage is 0.004 acre.

4.3.5.3 Jurisdictional Waters and Wetlands

Threshold 3: Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The biological study area supports approximately 0.28 acre of USACE/RWQCB non-wetland waters of the U.S. The project would result in permanent impacts to approximately 0.21 acre of USACE/RWQCB non-wetland waters of the U.S. (Table 4.3-5, *Impacts to USACE/RWQCB Jurisdiction*; Figure 4.3-8). The project would permanently impact most of Drainage Complex A (0.13 acre) and all of Drainage Complex B (0.08 acre). No temporary impacts are anticipated. Approximately 0.04 acre within Drainage Complex A would be avoided and all of Drainage Complex C (0.03 acre) would be avoided. Permanent impacts to 0.21 acre of USACE/RWQCB non-wetland waters of the U.S. is a significant impact; mitigation is required.

Table 4.3-5
IMPACTS TO USACE/RWQCB JURISDICTION

Drainage	Permanent On-site Grading Impacts (acres)[1]	Avoidance (acres)[1]
Drainage Complex A		
A	0.10[2]	0.00
A1	0.01	0.02
A1.1	<0.01[3]	0.00
A2	0.02	0.02
Subtotal	*0.13*	*0.04*
Drainage Complex B		
B1	0.02	0.00
B2	0.02	0.00
B2.1	<0.01[3]	0.00
B3	0.02	0.00
B4	0.02	0.00
B5	<0.01[4]	0.00
Subtotal	*0.08*	*0.00*
Drainage Complex C		
C	0.00	0.02
C1	0.00	<0.01[7]
C2	0.00	0.01
Subtotal	*0.00*	*0.03*
TOTAL	**0.21**	**0.07**

Source: HELIX 2022b

[1] Acreages are rounded to the nearest hundredths.

[2] Approximately 0.003 acre of Drainage A consists of a small segment in the central portion of the drainage that extends off-site.

[3] Actual acreage is 0.001 acre.

[4] Actual acreage is 0.002 acre.

4.3.5.4 Wildlife Movement and Migratory Species

Threshold 4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife Movement

As stated in Section 4.3.1.7, the biological study area is not part of a regional corridor. The biological study area is not identified as being part of a local or regional corridor or linkage by the South Coast Missing Linkages (South Coast Wildlands 2008). The biological study area does not directly connect two or more large blocks of habitat that would otherwise be fragmented or isolated from one another. Development of the project would not impede wildlife access to other undeveloped land in the region since the biological study area is located at the edge of existing development and open space would remain to the east, west, and south of the biological study area. The project would not remove any of the off-site culverts adjacent to the westside of SR-71, although increased development may deter common wildlife (e.g., bobcats, cottontail rabbits, coyotes, raccoon [*Procyon lotor*], skunk [*Mephitis* sp.]) from using culverts associated with Drainages A and B4. The project would avoid impacts to

approximately 48.23 acres (37 percent) in the southwest corner of the biological study area, which includes Drainage C. The box culvert is approximately 840 feet to the southeast of the proposed development and is separated by a prominent ridgeline. Therefore, the project would not impede wildlife movement through the off-site box culvert associated with Drainage C and wildlife, including mule deer, would continue to be able to access the Chino Hills and Prado Basin under the SR-71. As previously noted, there are numerous crossings between the southern boundary of the project site and SR-91 that allow wildlife the opportunity to continue to cross under SR-71 following development.

The biological study area does support native upland vegetation and small patches of native riparian vegetation, which provide habitat for local wildlife movement and migratory birds passing through the biological study area. Some reptiles, small mammals, and occasionally larger mammals may access the biological study area from undeveloped land to the west and south. Birds may fly over existing development to access the biological study area for foraging and/or nesting. Therefore, the biological study area provides habitat for local wildlife movement but does not serve as a regional wildlife corridor. Although implementation of the project may result in some temporary disturbance to local wildlife movement from construction noise and potential decreased use of the off-site culverts associated with Drainages A and B4 by commonly occurring wildlife, the project overall would have a less than significant impact to regional wildlife movement and no mitigation measures would be required.

Migratory Species

The biological study area has the potential to support songbird and raptor nests (including sensitive species, such as grasshopper sparrow, golden eagle, and white-tailed kite) due to the presence of shrubs, ground cover, and trees on the biological study area. Potentially suitable golden eagle nesting habitat located in the southwest corner, which consists of steep, southwest facing cliffs. The cliffs would be avoided by the project and would be sheltered from the proposed development due to topography of the area. However, indirect noise impacts could occur if construction occurs during the nesting season.

Project activities could disturb or destroy active migratory bird nests including eggs and young. The nesting season is generally defined as February 15 through August 31 for songbirds and January 15 to August 31 for raptors. Disturbance to or destruction of migratory bird eggs, young, or adults is in violation of the MBTA and is considered a potentially significant impact and mitigation is required.

4.3.5.5 Biological Resource Protection Policies and Ordinances

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

The project would remove several coast live oak trees located in the northern portion of the biological study area (see coast live oak woodland in Figure 4.3-7). Additionally, scattered scrub oaks were noted throughout the biological study area during rare plant surveys. Heritage trees are not likely to occur since the coast live oaks and scrub oaks did not appear to meet the 44-inch DBH threshold. Most of the other trees noted within the biological study area are on the Cal-IPC Inventory (Peruvian peppertree, red gum, tree-of-heaven [*Ailanthus altissima*]), and therefore would not qualify as heritage trees. Aleppo pine, London plane, and Mexican palo verde (*Parkinsonia aculeata*) were also noted during the rare

plant surveys. These trees are non-invasive ornamental trees that could possibly meet the 44-inch DBH threshold. Potential impacts to these trees would be significant; mitigation is required.

4.3.5.6 Habitat Conservation Plans

Threshold 6: Would the project conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan?

The biological study area is not located within any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, implementation of the project would not conflict with any adopted habitat conservation plans and no impact would occur.

4.3.6 Mitigation Measures

4.3.6.1 Sensitive Species

Implementation of the project could result in potentially significant impacts to sensitive wildlife species (sensitive bat species, coast horned lizard, BUOW, and CAGN). Implementation of mitigation measure BIO-1 through BIO-4 would reduce these impacts to below a level of significance.

BIO-1 Sensitive Bat Species. Due to presence of potentially suitable habitat for sensitive bat species, the following avoidance and minimization measures shall be implemented to avoid potential indirect impacts to these two species:

If construction activities (i.e., earthwork, clearing, grubbing, etc.) are proposed within the bat maternity roosting season (April 1 through August 31), a qualified biologist experienced with bats shall conduct a pre-construction survey within all suitable habitat on the study area. The pre-construction survey shall be conducted 30 days prior to commencing construction activities and shall consist of two separate surveys conducted no more than a week apart. The second and final survey should be conducted no more than seven days prior to commencing construction activities. The pre-construction surveys should be conducted using a detector for echolocation calls, such as an Anabat bat detector system. The results of the pre-construction survey shall be documented by the qualified biologist and submitted to the City.

If the qualified biologist determines that no sensitive bat maternity roosts are present, the construction activities shall be allowed to proceed without any further requirements. If the qualified biologist determines that sensitive bat maternity roosts are present, the following avoidance and minimization measures shall be implemented:

1. No construction activities may occur within 300 feet of any sensitive bat maternity roosts. A qualified biologist shall clearly delineate any bat maternity roosts and any required avoidance buffers, which shall be clearly marked with flags and/or fencing prior to the initiation of construction activities.

2. If construction activities are proposed within 300 feet of a sensitive bat maternity roost, a biological monitor shall be required to observe the behavior of any roosting bats. The construction supervisor shall be notified if the construction activities appear to be altering the bats' normal roosting behavior. No construction activities will be allowed within 300 feet

of bat maternity roosts until the additional minimization measures are taken, as determined by the biological monitor in coordination with CDFW and the City. The biological monitor shall prepare written documentation of all monitoring activities and any additional minimization measures that were taken, which shall be submitted to CDFW and the City at the completion of construction activities.

BIO-2 **Coast Horned Lizard:** A qualified wildlife biologist shall monitor initial clearing of suitable habitat (i.e., California sagebrush scrub). If coast horned lizard individuals are found in the project footprint, the biologist(s) shall direct all work to occur within an area of the study area away from coast horned lizard. The biologist(s) shall passively flush individuals away from the active work area. The qualified biologist(s) shall submit to CDFW and the City the number and locations of coast horned lizard(s) disturbed by vegetation removal activities once removal activities are completed.

BIO-3 **Burrowing Owl**: In compliance with the CDFW *Staff Report on BUOW Mitigation* (2012), a take avoidance survey shall be conducted on the study area within 14 days prior to ground disturbance to determine presence of BUOW. If the take avoidance survey is negative and BUOW is confirmed absent, then ground-disturbing activities shall be allowed to commence, and no further mitigation would be required.

If BUOW are observed during the take avoidance survey, active burrows shall be avoided by the project in accordance with the CDFW's Staff Report (2012). The CDFW shall be immediately informed of any BUOW observations. A BUOW Protection and Relocation Plan (plan) shall be prepared by a qualified biologist, which must be approved by CDFW prior to initiating ground disturbance. The plan shall detail avoidance measures that shall be implemented during construction and passive or active relocation methodology. A final copy of the plan shall be provided to the City upon approval by CDFW. Relocation shall only occur outside of the nesting season (September 1 through January 31).

BIO-4 **Coastal California Gnatcatcher**: Due to presence of CAGN and suitable habitat within the study area, the following measures shall be implemented to minimize and avoid potential direct impacts:

1. **FESA Compliance and Compensatory Mitigation:** FESA Compliance: Prior to issuance of a grading permit, it shall be demonstrated that FESA consultation with USFWS regarding the project's effects to CAGN has occurred and that the USFWS has authorized such take through an incidental take statement or incidental take permit, as applicable. Compensatory mitigation for permanent direct impacts to 25.65 acres of suitable CAGN habitat identified in this report shall be offset through compensatory mitigation which may include, but is not necessarily limited to, on-site or off-site California sage scrub preservation, enhancement, restoration, and/or creation at a ratio of no less than 1:1. However, if the USFWS issues a biological opinion or incidental take permit for the project that covers CAGN, that document will supersede any measures and mitigation ratios provided in this report. Mitigation for the project's effects to CAGN shall be determined by USFWS in accordance with the FESA consultation process and the biological opinion or incidental take permit that is issued by USFWS for the project.

2. **Non-breeding Season Avoidance and Minimization Measures:** If construction activities (i.e., earthwork, clearing, and grubbing) occur outside of the CAGN nesting season (September 1 through February 14), the following measures shall be implemented to avoid potential impacts.

    a. Pre-Construction Surveys: A pre-construction survey shall be conducted by the qualified biologist(s) to confirm that CAGN are absent, or breeding and nesting activities are not within 500 feet of the outer limits of disturbance. The survey shall be conducted no more one day prior to impacts to suitable habitat.

    b. Biological Monitoring: A qualified biologist(s) shall monitor initial clearing of suitable habitat. If CAGN are found in the project footprint, the biologist(s) shall direct all work to occur within an area of the study area away from CAGN. The biologist(s) shall passively flush individuals away from the active work area. The qualified biologist(s) shall submit to USFWS the number and locations of CAGN disturbed by vegetation removal activities.

3. **Breeding Season Avoidance and Minimization Measures:** If construction activities (i.e., earthwork, clearing, grubbing, etc.) are proposed within the CAGN nesting season (February 15 through August 31), the following measures shall be implemented to avoid potential impacts:

    a. Pre-Construction Surveys: Following notification to USFWS, a pre-construction survey shall be conducted by the qualified biologist(s) to confirm that CAGN are absent or breeding and nesting activities are not present within 500 feet of the outer limits of disturbance. The survey shall be conducted one day prior to impacts to suitable habitat and USFWS will be notified at least seven days prior to initiation of the survey. The qualified biologist(s) shall submit to USFWS the number and locations of CAGN observed on and within 500 feet of the project footprint.

    b. Biological Monitoring: Construction activities shall not occur within 500 feet of an active CAGN nest unless noise monitoring and/or noise attenuation measures are implemented (see below). Noise monitoring and noise attenuation measures shall be approved by USFWS prior to implementation. A qualified biologist(s) shall monitor initial clearing of suitable habitat. After vegetation removal is complete, surveys shall be completed once per week during project construction that occurs within the breeding season. Weekly surveys may be suspended if approved by USFWS

    c. Noise Monitoring: If an active nest is observed on or within 500 feet of the project footprint, a qualified acoustician shall assess the potential for noise levels to exceed 60 A-weighted decibels (dB[A]) hourly in areas occupied by the CAGN, or an hourly average increase of 3 dB(A) if existing ambient noise levels exceed 60 dB(A). The qualified acoustician shall coordinate with the qualified biologist(s) and USFWS to identify noise attenuation measures. Construction may proceed within 500 feet of an active nest if noise levels are maintained below a 60 dB(A) hourly average, or below an hourly average increase of 3 dB(A) if existing ambient noise levels exceed 60 dB(A), near the nest site and as approved by USFWS.

i. A qualified acoustician shall be retained to determine ambient noise levels for construction activities within 500 feet of active nests. Noise levels near the nest site shall not exceed an hourly average of 60 dB(A), or an hourly average increase of 3 dB(A) if existing ambient noise levels exceed 60 dB(A). If project-related noise levels exceed the threshold described above, construction activities shall cease until additional minimization measures are taken to reduce project-related noise levels to below an hourly average of 60 dB(A), or below an hourly average increase of 3 dB(A) if existing ambient noise levels exceed 60 dB(A). If additional measures do not decrease project-related noise levels below the thresholds described above, construction activities shall cease until USFWS is contacted to discuss alternative methods.

ii. All project personnel shall attend a training program presented by a qualified biologist prior to construction activities. The training program shall inform project personnel about the life history of CAGN and all avoidance and minimization measures.

iii. The construction contractor shall only allow construction activities to occur during daylight hours.

iv. The construction contractor shall require functional mufflers on all construction equipment (stationery or mobile) used within or immediately adjacent to any 500-foot avoidance buffers to reduce construction equipment noise. Stationary equipment shall be situated so that noise generated from the equipment is not directed towards any suitable habitat for the CAGN.

v. The construction contractor shall place staging areas as far as feasible from any suitable CAGN habitat.

vi. The biological monitor shall prepare written documentation of all monitoring activities at the completion of construction activities, which shall be submitted to USFWS.

4.3.6.2 Sensitive Vegetation Communities/Habitats

Implementation of the proposed project would result in permanent impacts to approximately 0.89 acre of CDFW jurisdiction. These impacts are considered significant and require compensatory mitigation. Impacts to CDFW jurisdiction will require a Section 1602 Stream Alteration Agreement from the CDFW, as described in Measure BIO-5 below. Compensatory mitigation for permanent impacts to CDFW jurisdiction would be required as part of subsequent Section 1602 permitting requirements. Permanent impacts to CDFW jurisdiction shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of jurisdictional streambed at ratio of no less than 2:1 as detailed in Measure BIO-5. With implementation of Measure BIO-5, the project would not result in significant impacts to jurisdictional resources; impacts would be reduced to below a level of significance.

BIO-5 **Jurisdictional Resources**: Prior to issuance of a grading permit for impacts to jurisdictional resources, the Project Applicant shall obtain the necessary regulatory permits from USACE, RWQCB, and CDFW (collectively, the "Resource Agencies"). Regulatory permits are anticipated to include a Section 404 Individual Permit or Nationwide Permit through USACE, Section 401

Water Quality Certification through RWQCB, and a Section 1602 Streambed Alteration Agreement through CDFW. Permanent impacts to jurisdictional resources shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of jurisdictional streambed and/or riparian habitat at a ratio of no less than 2:1. The following minimization measures shall be implemented during construction:

- Use of standard Best Management Practices (BMPs) to minimize the impacts during construction.
- Construction-related equipment shall be stored in developed areas, outside of drainages.
- Source control and treatment control BMPs shall be implemented to minimize the potential contaminants that are generated during and after construction. Water quality BMPs shall be implemented throughout the project to capture and treat potential contaminants.
- To avoid attracting predators during construction, the project shall be kept clean of debris to the extent possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from site.
- Employees shall strictly limit their activities, vehicles, equipment and construction material to the proposed project footprint, staging areas, and designated routes of travel.
- Exclusion fencing should be maintained until the completion of construction activities.

4.3.6.3 Jurisdictional Waters and Wetlands

Implementation of the proposed project would result in permanent impacts to approximately 0.21 acre of USACE/RWQCB non-wetland waters of the U.S. Impacts to USACE/RWQCB jurisdiction will require a Section 404 permit from USACE and a Section 401 permit from RWQCB, as described in Measure BIO-5 above. Compensatory streambed mitigation for permanent impacts to USACE/RWQCB jurisdiction will be required as part of subsequent Section 404/401 permitting requirements. Permanent impacts to USACE/RWQCB jurisdiction shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of jurisdictional streambed at ratio of no less than 2:1 as required by Measure BIO-5. With implementation of Measure BIO-5, the project would not result in significant impacts to jurisdictional resources.

4.3.6.4 Wildlife Movement and Migratory Species

Project activities could disturb or destroy active migratory bird nests including eggs and young. Implementation of mitigation measure BIO-6, which would help ensure that the project complies with MBTA regulations, would reduce impacts to a less than significant level.

BIO-6 **Nesting Birds:** If construction activities (i.e., earthwork, clearing, and grubbing) must occur during the general bird nesting season for migratory birds and raptors (January 15 and August 31), a qualified biologist shall perform a pre-construction survey of potential nesting habitat to confirm the absence of active nests belonging to migratory birds and raptors afforded protection under the MBTA and CFG Code. The pre-construction survey shall be performed no more than seven days prior to the commencement of construction activities. The results of the pre-construction survey shall be documented by the qualified biologist and submitted to the City

prior to construction. The report shall include survey methods and results, in addition to recommended avoidance and minimization measures if active nests are located.

If the qualified biologist determines that no active migratory bird nests are within 300 feet (500 feet for raptors) of project impacts, the activities shall be allowed to proceed without any further requirements. If the qualified biologist determines that an active migratory bird or raptor nest is present, no impacts within 300 feet (500 feet for raptors) of the active nest shall occur until the young have fledged the nest and the nest is confirmed to no longer be active, or as determined by the qualified biologist. The biological monitor may modify the buffer or propose other recommendations to minimize disturbance to nesting birds.

In addition, to the nesting bird survey described above, a golden eagle specialist shall perform a pre-construction survey of potential nesting habitat to confirm the absence of active golden eagle nests if construction activities (i.e., earthwork, clearing, and grubbing) must occur during the general bird nesting season for migratory raptors (January 15 and August 31). The golden eagle pre-construction survey shall be performed no more than seven days prior to the commencement of construction activities. If the specialist determines that no active golden eagle nests will be disturbed by the project, the activities shall be allowed to proceed without any further requirements. If project activities have a potential to disturb active nests, the golden eagle specialist may recommend avoidance and minimization measures, such as setback buffers, depending on the location of the nest and the type of activity occurring in the vicinity/view of the nest. The results of the pre-construction survey shall be documented by the golden eagle specialist and submitted to the City prior to construction. The report shall include survey methods and results, in addition to recommended avoidance and minimization measures if golden eagle nests are located within the one-mile survey area.

4.3.6.5 Biological Resource Protection Policies and Ordinances

The project would result in potentially significant impacts to trees protected by local ordinances, including Aleppo pine, London plane, and Mexican palo verde that could possibly meet the 44-inch DBH threshold. Implementation of mitigation measure BIO-7 would reduce impacts to a less than significant level.

BIO-7 **City-protected Trees:** Prior to the issuance of grading permits, a tree survey shall be conducted within the development footprint to determine the number of City-protected trees that will be impacted by the project. The Project Applicant shall obtain a Tree Permit in accordance with the City's Tree Preservation Ordinance (Chapter 16.90 of the City's Municipal Code; City 2020a) prior to impacting protected trees. The Project Applicant shall replace impacted City-protected trees proposed for removal by planting replacement trees on-site, or off-site if deemed acceptable by the Director. At the City's sole discretion, payment of a fee to the City's Protected Tree Replacement Fund, pursuant to the City's adopted Administrative Policy for the implementation of the City's Tree Preservation Ordinance, may be accepted in-lieu of on-site or off-site replacement. Replacement ratios shall be determined based on requirements described in Section 16.90.070 of the Tree Preservation Ordinance. All replacement trees shall be approved by the City.

4.3.6.6 Habitat Conservation Plans

No significant impact related to conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan would occur. Therefore, no mitigation measures are required.

4.3.7 Significance Determination

The significance of biological resources impacts before and after mitigation is summarized in Table 4.3-6, *Significance Determination Summary of Biological Resources Impacts*. The project would result in potentially significant impacts to sensitive species, sensitive vegetation communities/habitats, jurisdictional waters and wetlands, wildlife movement and migratory species, and biological resource protection policies and ordinances. With implementation of mitigation measures BIO-1 through BIO-7 these impacts would be reduced to below a level of significance. No impact related to habitat conservation plans would occur.

Table 4.3-6
SIGNIFICANCE DETERMINATION SUMMARY OF BIOLOGICAL RESOURCES IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Sensitive Species	Potentially significant	BIO-1 through BIO-4	Less than significant
Sensitive Vegetation Communities/Habitats	Potentially significant	BIO-5	Less than significant
Jurisdictional Waters and Wetlands	Potentially significant	BIO-5	Less than significant
Wildlife Movement and Migratory Species	Potentially significant	BIO-6	Less than significant
Biological Resource Protection Policies and Ordinances	Potentially significant	BIO-7	Less than significant
Habitat Conservation Plans	No impact	None required	No impact

4.4 CULTURAL RESOURCES

The analysis in this section of the EIR addresses the potential impacts associated with cultural resources that could occur due to implementation of the proposed project. The following discussion includes information based on the Cultural Resources Survey and Historic Evaluation for the Shady View Residential Project (HELIX Environmental Planning, Inc. [HELIX] 2022c), which is included as Appendix D of this EIR.

4.4.1 Existing Conditions

4.4.1.1 Cultural Resource Definitions

Archaeological resources include prehistoric and historic locations or sites where human actions have resulted in detectable changes to the area. This can include changes in the soil, as well as the presence of physical cultural remains. Archaeological resources can have a surface component, a subsurface component, or both. Historic archaeological resources are those originating after European contact. These resources may include subsurface features such as wells, cisterns, or privies. Other historic archaeological remains include artifact concentrations, building foundations, or remnants of structures.

Historical resources are physical features, both natural and constructed, that reflect past human existence and are of historical, archaeological, scientific, educational, cultural, architectural, aesthetic, or traditional significance. These resources may include such physical objects and features as archaeological sites and artifacts, buildings, groups of buildings, structures, districts, street furniture, signs, cultural properties, and landscapes. Historical resources in the San Diego region span a timeframe of at least the last 10,000 years and include both the prehistoric and historic periods.

4.4.1.2 Cultural Setting

The location of the project in western San Bernardino County places it within the boundary of the San Diego subregion of the Southern Coast Region, but it is also located adjacent to the boundary with the Colorado River subregion of the Desert Region. The approximately 12,000 years of documented prehistory of the region has often been divided into three periods: Early Prehistoric Period (San Dieguito Tradition/complex), Archaic Period (Milling Stone Horizon, Encinitas Tradition, La Jolla and Pauma complexes), and Late Prehistoric Period (San Luis Rey complex).

Prehistoric Period

The prehistoric cultural sequence generally comprises three distinct periods: the Early Prehistoric, the Archaic, and the Late Prehistoric. The Early Prehistoric dates the earliest of the three periods, between about 11,500 and 8,500 years ago, and is most closely associated with the San Dieguito Complex. This period placed a large emphasis on hunting and is characterized by flaked stone biface and scraping tools, crescentics, elongated bifacial knives, and leaf-shaped projectile points.

The Early Prehistoric Period is then followed by the Archaic Period, lasting from approximately 8,500 to 1,500 years ago. The Archaic Period is associated with the Milling Stone Horizon, Encinitas Tradition, La Jolla and Pauma complexes. Artifact assemblages of the Milling Stone Horizon/Encinitas Tradition occur at a range of coastal and adjacent inland sites and are relatively common in the project region. During the Archaic Period in the south coastal region, evidence suggests a relatively stable, sedentary,

predominantly gathering complex, possibly associated with one people, was present in the coastal and immediately inland areas of southern California.

The Archaic Period is followed by the Late Prehistoric, beginning approximately 1,500 years ago. This period is associated with the San Luis Rey complex and is characterized by a shift from hunting using atlatl and dart to the bow and arrow; a de-emphasizing of shellfish gathering along some areas of the coast (possibly due to silting-in of the coastal lagoons); and an increase in the storage of crops, such as acorns and pinyon nuts. Other new traits introduced during the Late Prehistoric Period include the production of pottery and cremation of the dead, and, locally, in the western Riverside and western San Bernardino counties area, a shift in settlement pattern is apparent.

Ethnohistory

The project area is located within the southern extent of the territory commonly ascribed to the Gabrielino Native American peoples. At the time of European contact, the Gabrielino, together with the closely related Fernandeño, occupied a large territory that included the entire Los Angeles Basin and beyond. This territory stretched along the Pacific coast from Aliso Creek in Orange County to Malibu and included parts of the Santa Monica Mountains, the San Fernando Valley, the San Gabriel Valley, the San Bernardino Valley, a northern portion of the Santa Ana Mountains, much of the middle to lower Santa Ana River basin as well as the islands of Santa Catalina, San Clemente, and San Nicolas. The Luiseño/Juaneño extended from the southern Orange County area, south into northern San Diego County and east into Riverside County, while Serrano occupied the San Bernardino Mountain areas of San Bernardino and Riverside counties.

Prior to contact, the Gabrielino and their neighbors subsisted by hunting and gathering practices, using resources available in the natural environment. Village territorial units were fairly small, on the order of 30 square miles. Within the larger territory occupied by the Gabrielino were more than 50 residential communities, with populations ranging from 50 to 150 individuals. Prehistorically, the distribution of such village units generally correlated with available water sources such as drainages and springs, including a Gabrielino village in possible proximity to the project area, east of Chino Creek.

Historic Period

There are three general eras in California history: the Spanish, Mexican, and American periods.

The Spanish Period lasted from 1769 to 1821 and was characterized by European exploration and settlement. The first documented Spanish contact in what is now Riverside County was by Spanish military captain Juan Bautista de Anza, who led expeditions in 1774 and 1775 from Sonora to Monterey. Settlement and development of Spanish colonies was incentivized by giving large land grants to prominent individuals as part of the rancho system. In the 1810s, ranchos and mission outposts called asistencias were established, increasing the amount of Spanish contact in the region. An asistencia was established in Pala in 1818 and in San Bernardino in 1819. Additionally, Rancho San Jacinto was established for cattle grazing in the San Jacinto Valley. The area surrounding the project site was used extensively for grazing by mission cattle. In 1820, Father Payeras, a senior mission official, promoted the idea that the San Bernardino and Pala asistencias be developed into full missions in order to establish an inland mission system. However, Mexico won its independence from Spain in 1821, bringing an end to the Spanish Period in California.

The Spanish Period was followed by the Mexican Period, which began when Mexico declared its independence from Spain in 1821. The Mexican Period is noted for secularizing the previously religious mission system and allowing for the vast expansion of the rancho system, which caused the southern California economy to become largely based on cattle ranching. Rancho El Rincon was located immediately to the east of the project area. North of the project area lies Rancho Santa Ana del Chino. The Mexican Period ended in 1848 when Mexico signed the Treaty of Guadalupe Hidalgo on February 2 of that year, concluding the Mexican-American War.

American governance began in 1848, when Mexico signed the Treaty of Guadalupe Hidalgo, ceding California to the United States at the conclusion of the Mexican-American War, which marked the start of the American Period. A great influx of settlers to California occurred during the American Period, resulting from several factors, including the discovery of gold in California, the end of the Civil War, the availability of free land through passage of the Homestead Act. The increase in American and European populations quickly overwhelmed many of the Spanish and Mexican cultural traditions, and greatly increased the rate of population decline among Native American communities.

4.4.1.3 History of the Project Site

The project area lies in the southern outskirts of the City of Chino Hills. Through the mid-twentieth century, the project area was primarily used for cattle grazing. However, as time went on, other land uses were introduced, such as mining for petroleum, gravel, and clay. While most of San Bernardino County was converted into residential tracts, the hilly topography of Chino Hills prevented cheap subdivisions from being built. In 1979, the County initiated the preparation of the Chino Hills Specific Plan, and the residents of Chino Hills soon began exploring the pros and cons of cityhood (City 2015a). Incorporating in 1991, Chino Hills became a city.

A review of historic topographic maps and aerial imagery was conducted as part of the Cultural Resources Survey to identify historic structures and land use in the area. While the project area remained relatively undeveloped until the present, the vicinity has been used for ranching and agricultural activities, oil and gas production, utility installations, and road formation from the early 1800s to the present. The project site is located on what became known as the Abacherli Ranch property in the early 1900s. Oil was discovered on the property and drilling began in the 1920s. Development within the project site initiated between 1938 and 1946. Roads to access the proposed project site were present as early as 1938. The existing structures east of the proposed project site, outside of the development footprint, were built prior to 1946 and were subsequently expanded prior to 1959. Development within the proposed development footprint has been limited. However, the project site contains several existing structures, foundations, and related features that date between the 1950s and 1960s. Oil production, transmission and storage continue to occur on areas of the original Abacherli Ranch property, including the project site. The project would relocate a battery of three oil and water storage tanks and oil transmission lines to the west portion of the project site.

4.4.2 Regulatory Setting

4.4.2.1 Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966 established the framework that focused local, state, and national efforts with regards to the preservation of historic and archaeological resources.

Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The Section 106 process (36 CFR Part 800) involves efforts to identify historic properties potentially affected by the undertaking, and assess effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. To help identify historic properties and provide community involvement, consulting parties are identified through coordination with the appropriate State Historic Preservation Officer and/or Tribal Historic Preservation Officer.

National Register of Historic Places

The NHPA established the National Register of Historic Places (NRHP) as the official federal list of cultural resources that have been nominated by state offices for their significance at the local, state, or federal level. The NRHP is the official lists of sites, buildings, structures, districts, and objects significant in American history, architecture, archaeology, engineering, and culture. Listing in the NRHP provides recognition that a property is historically significant to the nation, the state, or the community. Properties listed (or potentially eligible for listing) in the NRHP must meet certain significance criteria and possess integrity of form, location, or setting. Barring exceptional circumstances, resources generally must be at least 50 years old to be considered for listing in the NRHP. The NRHP is administered by the National Park Service. Nominations to the NRHP may come from the various State Historic Preservation Offices, Tribal Historic Preservation Offices, local governments, and from private individuals and organizations.

Criteria for listing in the NRHP are stated in 36 CFR 60.4. A resource may qualify for listing if there is quality of significance in American history, architecture, archaeology, engineering, and culture present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association; and where the resource meets at least one of the following criteria:

Criterion A: Is associated with events that have made a significant contribution to the broad patterns of our history;

Criterion B: Is associated with the lives of persons important in our past;

Criterion C: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values; or that represent a significant and distinguishable entity whose components may lack individual distinction; or

Criterion D: Has yielded, or may be likely to yield, information important in prehistory or history.

Eligible properties must meet at least one of the NRHP criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character, the degree to which the original historic fabric has been retained, and the reversibility of changes to the property. The fourth criterion is typically reserved for archaeological resources. These criteria have largely been incorporated into the CEQA Guidelines (Section 15065.5) as well.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA; U.S.C., Title 25, Sections 3001 et seq.) is a federal law passed in 1990 that provides a process for museums and federal agencies to return certain Native American cultural items, such as human remains, funerary objects, sacred objects, or objects of cultural patrimony, to lineal descendants and culturally affiliated Indian tribes.

4.4.2.2 State

California Register of Historic Resources

Similar to the NRHP, the California Register of Historic Resources (CRHR) program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance; identifies resources for planning purposes; determines eligibility of state historic grant funding; and provides certain protections under CEQA. State criteria are those listed in CEQA and used to determine whether an historic resource qualifies for the CRHR. A resource may be listed in the CRHR if it is significant at the federal, state, or local level under one or more of the following four criteria:

Criterion 1: Is associated with events that have made a significant contribution to the broad patterns of local or regional history and cultural heritage of California or the United States;

Criterion 2: Is associated with the lives of persons important to the nation or to California's past;

Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history of the state or nation.

In addition to meeting one of the above criteria, a resource eligible for CRHR listing must retain integrity, meaning it must evoke the resource's period of significance or, in the case of criterion 4, it may be disturbed but must retain enough intact and undisturbed deposits to make a meaningful data contribution to regional research issues.

CEQA Guidelines Section 15064.5

CEQA Guidelines Section 15064.5 provides guidance on determining the significance of impacts to archaeological and historical resources. The term "historical resources" is defined as a resource listed in or determined eligible for listing on the CRHR; a resource included in a local register of historical resources or identified as significant in a historical resource survey that meets certain requirements; and any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant. Archaeological resources are considered "historical resources" for the purposes of CEQA.

A resource that is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historic resources, or not deemed significant in a historical resource survey may nonetheless be historically significant for purposes of CEQA (Section 15064.5 and CEQA Statutes Section 21083.2).

A project that may cause a substantial adverse change in the significance of an historical resource is one that may have a significant effect on the environment. A substantial adverse change in the significance of an historical resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. The significance of an historical resource is materially impaired when a project demolishes or alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR, or that account for its inclusion in a local register of historical resources.

California Native American Graves Protection and Repatriation Act

The California NAGPRA (2001), like the federal act, ensures that Native American human remains and cultural items are treated with respect and dignity during all phases of the archaeological evaluation process in accordance with CEQA and any applicable local regulations.

California Health and Safety Code, Section 7050.5

California Health and Safety Code Section 7050.5 specifies protocol for the inadvertent discovery of human remains. In the event of discovery or recognition of any human remains, disturbance of the site shall halt and remain halted until the County coroner has conducted an investigation into the circumstances, manner, and cause of any death, and has provided recommendations concerning the treatment and disposition of the human remains. If the County coroner determines that the human remains are not subject to his or her authority and recognizes or has reason to believe the human remains are those of a Native American, he or she shall contact the NAHC by telephone within 24 hours.

California Public Resources Code Section 5097

California PRC Section 5097 et seq., Native American Historic Resource Protection Act; Archaeological, Paleontological, and Historical Sites; Native American Historical, Cultural, and Sacred Sites specifies the procedures to be followed in the event of the unexpected discovery of human remains on non-federal public lands. California PRC Section 5097.9 states that no public agency or private party on public property shall "interfere with the free expression or exercise of Native American Religion." The code further states that:

> No such agency or party [shall] cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine... except on a clear and convincing showing that the public interest and necessity so require. County and city lands are exempt from this provision, expect for parklands larger than 100 acres.

Senate Bill 18

Native American involvement in the planning and development review process is addressed by several state laws. The most notable of the state laws is SB 18, which includes detailed requirements for local agencies to consult with identified California Native American tribes early in the planning and/or development process. These consultation and notice requirements apply to adoption and amendment of general plans and specific plans.

4.4.2.3 Local

Chino Hills General Plan

The City of Chino Hills General Plan (2015) contains the following policies that are relevant to the project in regard to cultural resources:

Policy CN-2.1: Protect Chino Hills' archaeological resources.

> Action CN-2.1.1: Require appropriate archaeological surveys as part of the environmental review process where archaeological resources may be present.
>
> Action CN-2.1.2: Require on-site inspections by a qualified archaeologist during grading activities where archaeological resources may be present.
>
> Action CN-2.1.3: Where archaeological resources are found during development activities, require identified archaeological materials to be preserved, restored, cataloged, and/or transmitted to the appropriate repository or as otherwise directed by a qualified professional archaeologist.
>
> Action CN-2.1.4: Consult with local Native American tribes as required to avoid impacts on archaeological resources.

Policy CN-2.3: Protect Chino Hills' potential historical resources.

> Action CN-2.3.5: For structures over 45 years old, review available City building records and make a determination regarding the structure's potential historical significance prior to permitting its demolition or substantial alteration.

The project's consistency with these policies and actions are discussed in Section 4.9, Land Use.

4.4.3 Methodology and Assumptions

A Cultural Resources Survey and Historic Evaluation (HELIX 2022c) was prepared for the project, which is provided as Appendices D of this EIR. As part of the Cultural Resources Survey, site records searches were conducted through the California Historical Resources Information System, South Central Coastal Information Center (SCCIC) at California State University, Fullerton. As record searches cover a one-mile radius, and the project site is near the San Bernardino/Riverside County line, a records search was also conducted at the Eastern Information Center (EIC) for the portion of the search radius within Riverside County. Historic maps and aerial photographs were reviewed to assess the potential for historic archaeological resources to be present.

The Native American Heritage Commission (NAHC) was contacted on December 16, 2020 for a Sacred Lands File search and list of Native American contacts, which were received on January 4, 2021. HELIX sent letters on January 15, 2021 to the contacts listed by the NAHC to request information regarding cultural sensitivity, but HELIX has not received any responses to date. The City initiated tribal outreach and consultation under AB 52 on May 28, 2021 with the two tribes, the Soboba Band of Luiseño Indians (Soboba) and the Gabrieleño Band of Mission Indians- Kizh Nation (Kizh Nation), that previously submitted a written request to receive formal notice of and information on proposed projects for which the City serves as the lead agency pursuant to CEQA (refer to Section 4.13, *Tribal Cultural Resources*, for

a more detailed discussion of AB 52 and the consultation process and results). Of the two tribes, the Kizh Nation was the sole responder to the City's notification letter. During consultation, Kizh Nation requested the project implement three mitigation measures requiring the developer to retain a Native American monitor to observe ground-disturbing activities prior to the commencement of the project and to implement Kizh Nation's protocols in the event tribal cultural resources, grave goods, or human remains are discovered during project- related activities. The City agreed to the mitigation measures provided by Kizh Nation in a letter to the tribe dated December 2, 2021 (refer to Section 4.13, *Tribal Cultural Resources*).

A pedestrian field survey of the project site was conducted in July 2021. To the extent feasible, the project area was surveyed in parallel transects, spaced approximately 10 meters apart. Reconnaissance survey techniques were used in areas where it was unsafe to survey with traditional methods, such as the lower portions of steep slopes and dense drainages.

4.4.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines, a significant impact associated with cultural resources would occur if implementation of the proposed project would result in any of the following:

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

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

4.4.5 Impact Analysis

4.4.5.1 Historical Resources

Threshold 1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

The records search results indicated that a total of 21 cultural resources have been previously recorded within one mile of the project area; however, no sites have been recorded within the project site. In general, the sites recorded within the one-mile search radius consist of historic resources, mainly structural remains and residential, farm, and ranching materials associated with historic ranching and farming of the area. Historic sites documented within the record search limits include the locations of the Pioneer School, the Yorba-Slaughter Adobe, historic trash dumps, two historic roads, a historic quarry, and the locations/remnants of historic ranches and farms, including the Cavanagh Ranch, the Greenfield Ranch, and the Hartshorn farm. Of all of the oil wells and infrastructure that were historically associated with the Abacherli Ranch, only an existing battery of three oil and water storage tanks and associated oil transmission lines is affected by the development of the project. These improvements will be relocated to the northwestern portion of the project site on a 1.36 acre lot, near the western project boundary, in order to retain their operational function associated with other existing oil production infrastructure located outside the project site boundary.

One historic archaeological site was observed during the field survey, consisting of a complex of features and a background scatter of historic artifacts that covers northern portion of the project site. These features and artifacts indicate a historic complex constructed and used beginning in the mid-twentieth

century, based on historic maps and aerial imagery. The numerous components included cast iron pipelines, refuse deposits, possible cattle troughs, cattle guard, several concrete foundation pads, a standing wooden structure, a gas scrubber, and various pipe valves and hook-ups. The historic complex was recorded on the appropriate Department of Parks and Recreation (DPR) forms and assigned a temporary site number, SH-S-002, and submitted to the SCCIC.

A historical significance evaluation for the site SH-S-002 was prepared in the Cultural Resources Survey and Historic Evaluation (HELIX 2022c; Appendix D). This evaluation utilized the NRHP, CRHR, and the City of Chino Hills Historic Designation criteria. The project site was determined to not be eligible for federal, state, or local listing. In addition, it is not included on a federal, state, or City register of designated properties; it is also not a contributor to any designated historic district. As such, impacts to historic resources would be less than significant.

4.4.5.2 Archaeological Resources

Threshold 2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

Based on the results of the records searches, no archaeological resources have been recorded within the project site. Two prehistoric sites are recorded within the one-mile search radius of the project site. One is described as a large artifact scatter with a complex subsurface midden element; the other is described as consisting of 17 projectile points, a boulder mortar, and a pestle. Two prehistoric isolates were also recorded within the search radius: a mano and a metate fragment. Two multi-component sites include a prehistoric site with ground stone and flaked stone artifacts, faunal remains, and a hearth at the site of the Bandini-Cota Adobe, as well as a site comprised of prehistoric ground stone artifacts and historic refuse associated with the location of the original Pioneer School site. These recorded sites are not within or adjacent to the project site.

During the field survey of the project site, ground surface visibility was poor over much of the site due to vegetation. The slopes of the hills on the project site were covered with dense weeds and sparse brush and trees. No bedrock was observed on the property; however, it appears that large rocks may have been previously removed or may be buried below colluvial soils from the slopes of the foothills located to the west. While visibility on the ridgelines of the lower hills was approximately 50 percent, it decreased to approximately 10 percent along the upper portion of the slopes on either side. Visibility further decreased to zero percent on lower slopes away from the tops of the hills. As such, the project site may contain buried prehistoric resources or resources that could not be seen, due to the poor ground visibility. The potential for buried prehistoric archaeological resources is present at the project site. Impacts to unknown resources are potentially significant. Mitigation is required.

One large historic archaeological site that extends across the northern portion of the proposed project site was identified and recorded (SH-S-002) during the pedestrian survey, as discussed above. The historic site consists of a complex of pipes and other features. Although many of these features are visible from the ground surface, some of the features, such as the concrete building pads, are partially buried. This resource was not determined to be historically or archaeologically significant.

4.4.6 Mitigation Measures

4.4.6.1 Historical Resources

Implementation of the project would not result in significant impacts to the historic archaeological site identified and recorded during the Cultural Resources Survey. No mitigation is required.

4.4.6.2 Archaeological Resources

Implementation of the project could result in a potentially significant impact to unknown archaeological resources. Implementation of mitigation measure CUL-1 would reduce this impact to a below a level of significance.

CUL-1 Archaeological and Native American Construction Monitoring. Prior to the issuance of grading permits, the project applicant shall prepare an archaeological and Native American monitoring program that shall be reviewed and approved by the City's Community Development Department. The monitoring program shall include the retention of a qualified archaeologist and a Native American (NA) monitor. The archaeological and NA monitors shall attend a pre-construction meeting with the construction manager and be in attendance during ground disturbing activities at the project site, including brushing/grubbing, excavation, grading, trenching, etc. in soils with a potential for cultural material (e.g., not formation material).

The archaeological and NA monitors shall have the authority to temporarily halt or redirect grading and other ground-disturbing activity if cultural resources are encountered. If significant cultural material is encountered, the project archaeologist will coordinate with the applicant, representatives of the Consulting Tribe(s), and City staff to develop and implement appropriate avoidance, preservation, or mitigation measures.

If significant cultural material is encountered, the project archaeologist will coordinate with the applicant, representatives of the Consulting Tribe(s), and City staff to develop and implement appropriate avoidance, preservation, or mitigation measures.

4.4.7 Significance Determination

The significance of cultural resources impacts before and after mitigation is summarized in Table 4.4-1, *Significance Determination Summary of Cultural Resources Impacts*. Impacts related to historical resources would be less than significant. Implementation of the proposed project would result in potentially significant impacts related to archaeological resources. Implementation of mitigation measure CUL-1 would reduce impacts to unknown buried archaeological resources to a less than significant level.

Table 4.4-1
SIGNIFICANCE DETERMINATION SUMMARY OF CULTURAL RESOURCES IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Historical Resources	Less than significant	None required	Less than significant
Archaeological Resources	Potentially significant	CUL-1	Less than significant

4.5 GEOLOGY AND SOILS

This section of the EIR evaluates potential impacts associated with geology and soils resulting from implementation of the proposed project. The following discussion is based on the Preliminary Geotechnical Review (LGC Geotechnical, Inc. 2020a) and the Fault Evaluation (LGC Geotechnical, Inc. 2020b) for the proposed project, which are included as Appendices E and F of this EIR.

4.5.1 Existing Conditions

4.5.1.1 Geologic Setting

Regionally, the project site is located in the Chino Hills northeast of the Santa Ana Mountains, which are part of the Peninsular Ranges province. The Chino Hills are part of the Puente Hills, which lie at the eastern margin of the Los Angeles Basin. The Peninsular Ranges province is characterized by a series of northwest to southeast-oriented valleys, hills, and mountains separated by faults associated with, and parallel to, the San Andreas Fault system. Several regional faults have influenced formation and erosion of the mountains and hills over time, including the Elsinore Fault Zone that splits into the Whittier Fault and the Chino Fault southeast of the project site.

The Santa Ana River passes to the southwest of the site within a drainage channel that is characterized by a series of stream terraces (older alluvium) at various higher elevations that extend westward to the lower portion of the Chino Hills adjacent to the project site. The Prado Dam is located several miles southeast of the site where it was constructed across the Santa Ana River. The site is predominately underlain by folded or overturned and locally faulted bedrock units with minor amounts of older alluvium along the slopes and ridges at various elevations and young alluvium in the existing drainages.

4.5.1.2 Topography

The site consists of a large hillside in the southwest portion of the site, and a series of low rolling canyons and ridges in the northeast portion of the site. A major active drainage runs west to east through the upper middle-portion of the site. Smaller canyons between low ridges trend west to east in the southern portion of the proposed development area. Elevations at the project site range from approximately 580 feet amsl in the northeast portion of the property to approximately 1,000 feet amsl in the southwest portion of the property.

4.5.1.3 Site-Specific Geology

Geologic units at the project site were determined based on the Geologic Map of the 7.5-minute Prado Dam Quadrangle and geologic field mapping. The project site is underlain by Quaternary Alluvial Deposits, Quaternary Older Alluvial Fan Deposits, and Tertiary Puente Formation, Sycamore Canyon Member (Figure 4.5-1, *Project Site Geology*). The geologic units are summarized below from youngest to oldest.

Quaternary Alluvial Deposits (Qal). The Quaternary Alluvial Deposits are located in the active drainages and valleys that occupy the lowest elevation at the project site. Typically, these unconsolidated deposits vary in thickness from a few feet to greater than 50 feet. The material is generally light orangish brown to moderate brown, silty sand with gravel and cobbles, with variable moisture and density.

Quaternary Older Alluvium (Qoa). Quaternary Older Alluvium was encountered in localized locations, elevated above the active drainages at the southwest portion of the site, becoming deeper and more widely distributed to the east and into the valley east of SR-71. The material is typically light reddish-brown clayey silt to silty sand with gravel and cobbles with interfingered zones of clayey sandy gravel and coarse sand, reddish yellow to strong brown, slightly moist, dense to very dense; indurated, faintly stratified, with some buried paleosol horizons. Alluvial deposits are interfingered with mudflow deposits consisting of clayey silt with fine sand, gravel, and cobble, dark yellowish brown, slightly moist, stiff to very stiff, lacks structure, and indurated. The Quaternary Older Alluvium observed within fault trenches at the project site dated from approximately 200,000 to 300,000 years old, based on soil analysis. Quaternary Older alluvial deposits cap the low ridgelines at the southwest portion of the site and becomes thicker going east. More recent Quaternary Alluvial deposits are mapped within the active drainages. Quaternary Landslides have mantled the central hillside area of the site.

Tertiary Puente Formation, Sycamore Canyon Member (Tpsc). The Tertiary Puente Formation is a Late Miocene marine deposit that consists of four members that have a total thickness of up to about 5,400 feet. The Sycamore Canyon Member is the youngest member in the Tertiary Puente Formation and is the bedrock unit present at the project site. The Sycamore Canyon Member of the Puente Formation encountered onsite consists of thin to very thick interbedded conglomeratic sandstone, and sandstone, sandy siltstone and siltstone, light greenish to yellowish red to very pale brown, slightly moist, dense to very dense. Conglomerate beds were observed to be cemented, resistant to weathering, with sub-rounded to subangular, granitic and metamorphic gravel, and cobble clasts.

4.5.1.4 Faulting and Seismicity

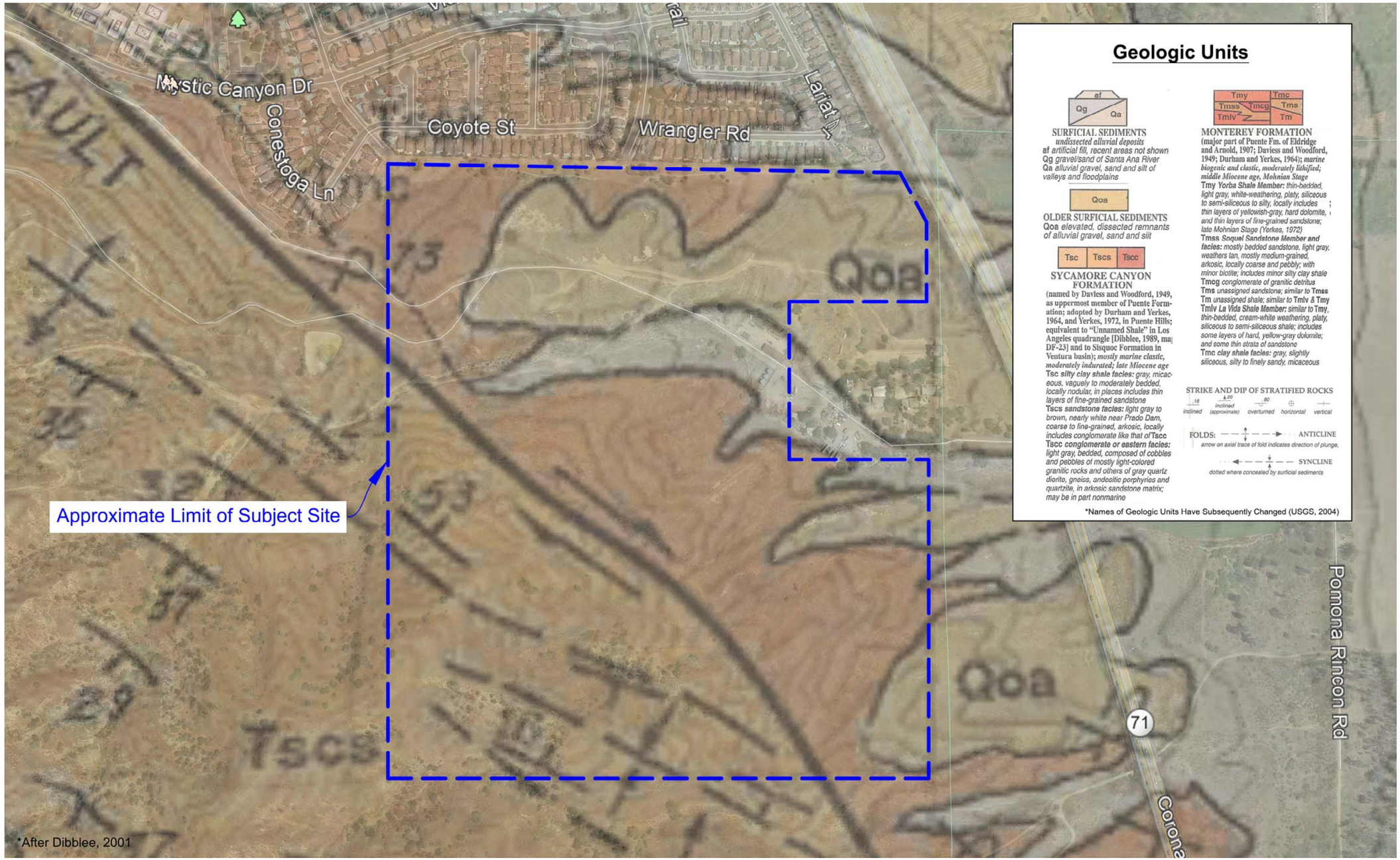
An “active fault,” or “Holocene-active fault” according to the California Department of Conservation, California Geological Survey (CGS), is a fault that has indicated surface displacement within the last 11,000 years. A fault that has not shown geologic evidence of surface displacement in the last 11,000 years is considered “inactive.” (CGS 2019)

Overall faulting in Southern California tends to reflect the constant small movement of the Pacific to North American Plate boundary. The majority of major active faults are right-lateral strike-slip with various oblique movements and features like the Transverse Ranges that are thought to act like a giant “ball bearing” within the overall movement of the lithospheric plates. Many of the regional active faults trend northwest/southeast, matching the orientation of the plate boundary.

The nearby major active faults that could impact the project site include the Chino Fault, Whittier-Elsinore Fault Zone, and San Andreas Faults, among others (Figure 4.5-2, *Regional Faulting*). Regional faulting in the project area is generally associated with the Whittier-Elsinore Fault Zone, which generally trends northwest towards the Whittier Fault along the base of the eastern side of the Santa Ana Mountains. As the Elsinore Fault Zone trends northward, it diverges into the Chino Fault (approximately within the City of Corona). The main branch of the Elsinore Fault becomes the Whittier Fault to the northwest but the Chino Fault also takes on some of the movement (as described below).

Chino Fault

The Chino Fault transects the central and western portions of the project site, trending in a north and northwest direction across the site. An Earthquake Fault Zone for the Chino Fault has been delineated on the project site by the State of California in accordance with the Alquist-Priolo Earthquake Fault



Geologic Units

af — artificial fill, recent areas not shown

Qg / Qa

SURFICIAL SEDIMENTS
undissected alluvial deposits
Qg *gravel/sand of Santa Ana River*
Qa *alluvial gravel, sand and silt of valleys and floodplains*

Qoa

OLDER SURFICIAL SEDIMENTS
Qoa *elevated, dissected remnants of alluvial gravel, sand and silt*

Tsc | Tscs | Tscc

SYCAMORE CANYON FORMATION
(named by Dawiss and Woodford, 1949, as uppermost member of Puente Formation; adopted by Durham and Yerkes, 1964, and Yerkes, 1972, in Puente Hills; equivalent to "Unnamed Shale" in Los Angeles quadrangle [Dibblee, 1989, ma DF-23] and to Sisquoc Formation in Ventura basin); *mostly marine clastic, moderately indurated; late Miocene age*
Tsc ***silty clay shale facies:*** *gray, micaceous, vaguely to moderately bedded, locally nodular, in places includes thin layers of fine-grained sandstone*
Tscs ***sandstone facies:*** *light gray to brown, nearly white near Prado Dam, coarse to fine-grained, arkosic, locally includes conglomerate like that of* **Tscc**
Tscc ***conglomerate or eastern facies:*** *light gray, bedded, composed of cobbles and pebbles of mostly light-colored granitic rocks and others of gray quartz diorite, gneiss, andesitic porphyries and quartzite, in arkosic sandstone matrix; may be in part nonmarine*

Tmy | Tmc | Tmss | Tmcg | Tms | Tmlv | Tm

MONTEREY FORMATION
(major part of Puente Fm. of Eldridge and Arnold, 1907; Dawiss and Woodford, 1949; Durham and Yerkes, 1964); *marine biogenic and clastic, moderately lithified; middle Miocene age, Mohnian Stage*
Tmy ***Yorba Shale Member:*** *thin-bedded, light gray, white-weathering, platy, siliceous to semi-siliceous to silty, locally includes thin layers of yellowish-gray, hard dolomite, and thin layers of fine-grained sandstone; late Mohnian Stage (Yerkes, 1972)*
Tmss ***Soquel Sandstone Member and facies:*** *mostly bedded sandstone, light gray, weathers tan, mostly medium-grained, arkosic, locally coarse and pebbly; with minor biotite; includes minor silty clay shale*
Tmcg *conglomerate of granitic detritus*
Tms *unassigned sandstone; similar to* **Tmss**
Tm *unassigned shale; similar to* **Tmlv** *&* **Tmy**
Tmlv ***La Vida Shale Member:*** *similar to* **Tmy**, *thin-bedded, cream-white weathering, platy, siliceous to semi-siliceous shale; includes some layers of hard, yellow-gray dolomite; and some thin strata of sandstone*
Tmc ***clay shale facies:*** *gray, slightly siliceous, silty to finely sandy, micaceous*

STRIKE AND DIP OF STRATIFIED ROCKS
18 inclined · 20 inclined (approximate) · 80 overturned · horizontal · vertical

FOLDS: ANTICLINE — *arrow on axial trace of fold indicates direction of plunge;*
SYNCLINE — *dotted where concealed by surficial sediments*

*Names of Geologic Units Have Subsequently Changed (USGS, 2004)

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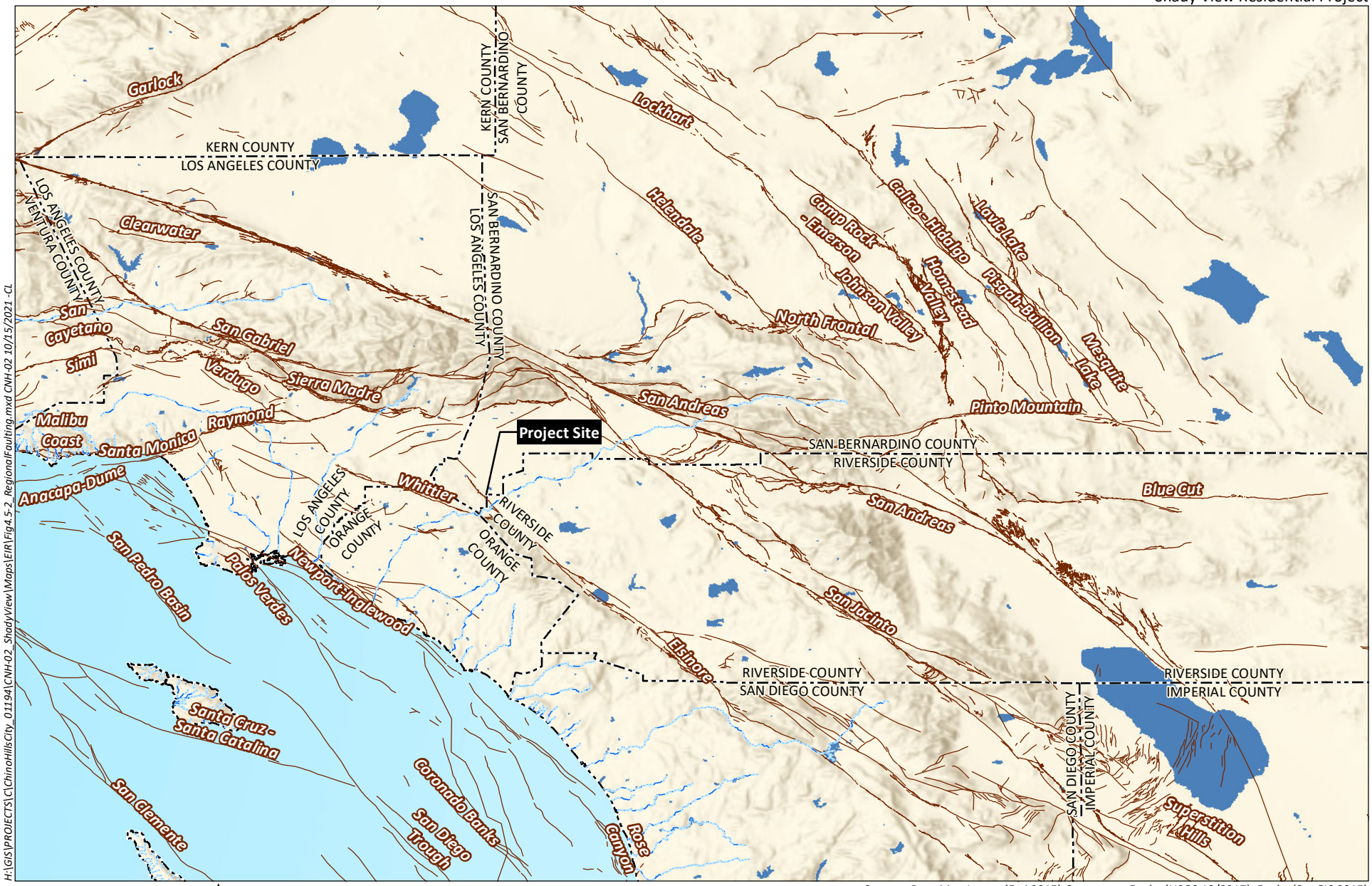
Source: LGC Geotechnical, Inc. (2020)

HELIX Environmental Planning

Project Site Geology
Figure 4.5-1



Source: Base Map Layers (Esri 2015) Quaternary Faults (USGS 12/2017); Faults (SanGIS 2015)

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HELIX Environmental Planning

Regional Fault Map

Figure 4.5-2

Zoning Act (Figure 4.5-3, *Chino Fault Earthquake Fault Zone*). The fault is generally a right-lateral strike-slip with some component of reverse faulting that likely produced the escarpment of the Chino Hills. The overall geometry of the fault is estimated to strike about 40 degrees to the west, dipping 70 degrees west at depth, based on petroleum drilling data, shallower near the surface.

The main trace of the Chino Fault is estimated to have a slip rate of less than half of the overall slip rate of the 5 to 6 millimeters per year of the Elsinore Fault. The Elsinore Fault is estimated to split it's slip rate between the Whittier and Chino Faults, although some movement appears to be absorbed by folding. The slip rate of the Chino Fault is estimated to be up to approximately 2 millimeters per year.

Two historic earthquake events have been recorded in the vicinity of the Chino Fault. A magnitude 3.2 strike-slip earthquake occurred on February 16, 1989 at 4.3 kilometers depth, and a magnitude 3.9 strike-slip earthquake occurred on December 14, 2001 at a depth of approximately 13.8 kilometers (City 2015a). Based soil age dating that occurred in the southern portion of the site, the fault last ruptured approximately mid-Holocene.

4.5.1.5 Groundwater

No free groundwater was encountered during subsurface field evaluations conducted for the project. The maximum explored depth during subsurface evaluations is approximately 60 feet. The active drainage that runs west to east on the site appears to be an ephemeral drainage with intermittent water flow based on seasonal conditions. Samples were collected at depth within the center of the active wash and no permanent water table was encountered in the drainage. Seasonal fluctuations of groundwater elevations should be expected over time, as groundwater levels fluctuate with the seasons. Local zones of perched groundwater may be present within near-surface deposits due to local seepage or during rainy seasons.

4.5.1.6 Paleontological Resources

Paleontology is the science dealing with prehistoric plant and non-human animal life. Paleontological resources (or fossils) typically include the buried remains or traces of prehistoric organisms (i.e., animals, plants, and microbes). Fossil remains such as bones, teeth, shells, leaves, and wood, as well as trace fossils such as tracks, trails, burrows, and footprints, are found in geologic units composed of the sediments that originally buried them. The formation of fossils typically involves the rapid burial of plant or animal remains and the formation of casts, molds, or impressions in the associated sediment (which subsequently becomes sedimentary bedrock). Paleontological resources include not only the actual fossil remains, but also the collecting localities and the geologic formations containing those localities.

Fossils are considered important scientific and educational resources because they serve as direct and indirect evidence of prehistoric life and are used to understand the history of life on Earth, the nature of past environments and climates, the membership and structure of ancient ecosystems, and the patterns and processes of organic evolution and extinction. Fossils are also considered to be non-renewable resources because typically the organisms they represent no longer exist.

The potential for fossil remains at a location can be predicted through previous correlations that have been established between the fossil occurrence and the geologic formations within which they are buried. Geologic formations possess a specific paleontological resource potential wherever the formation occurs based on discoveries made elsewhere in that particular formation.

The Chino Hills are made up of middle to late Miocene Epoch (15 million to 9 million years old) marine sedimentary rock units overlain in some areas by Pleistocene Epoch (1.8 million to 10 thousand years old) terrestrial sediments (City 2015a). About 23 million years ago, the ocean covered Chino Hills and Miocene sediments were deposited as submarine fans. In most of the City, two formations are present, consisting of the Monterey Formation (middle Miocene) and the Sycamore Canyon Formation (late Miocene). Pleistocene Epoch Quaternary Older Alluvium is mapped at the surface near the Santa Ana River and its tributaries.

Known paleontological resources in Chino Hills consist of Miocene and Pleistocene fossils. Miocene fossils represent the time period when Chino Hills was ocean floor and include many kinds of marine life fossils, and leaves from terrestrial plants that were washed into the ocean by streams and rivers. The Chino Hills Dolphin, *Atocetus anguloi,* is the most scientifically significant fossil recovered in the City. It is a previously unknown species with no living relatives, recovered from the latest Miocene (circa 9 million years ago) Sycamore Canyon Formation (City 2015c). According to the City's General Plan, based on the numerous fossil findings in Chino Hills, the entire City is considered sensitive for paleontological resources.

4.5.2 Regulatory Setting

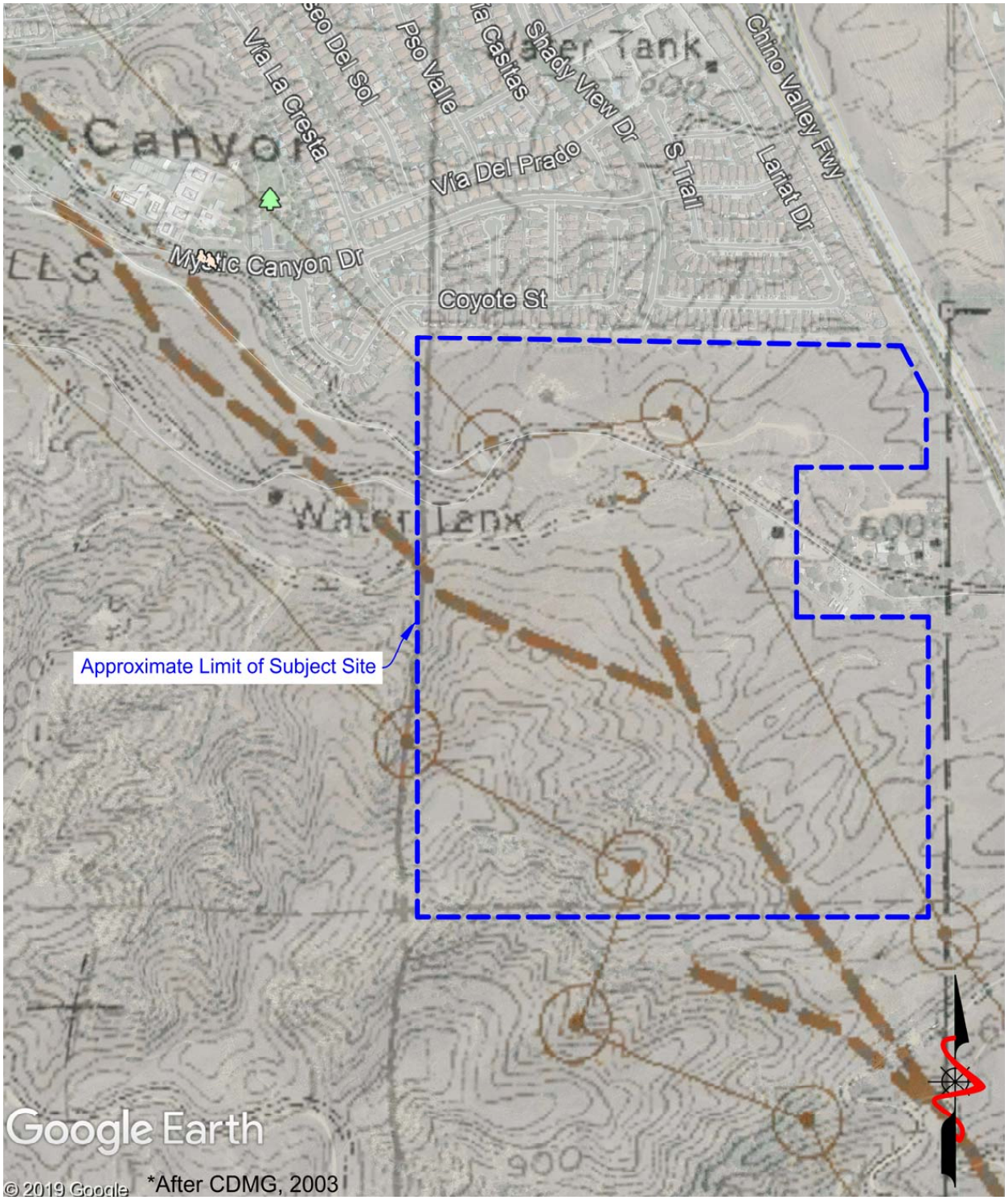
4.5.2.1 State

California Alquist-Priolo Earthquake Fault Zoning Act

The California Alquist-Priolo Earthquake Fault Zoning Act of 1972 (PRC Section 2621 et seq.) is intended to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The law requires the State Geologist to establish regulatory zones known as Earthquake Fault Zones (previously called Special Studies Zones and Fault-Rupture Hazard Zones) around the surface traces of active faults, and to distribute maps of these zones to all affected cities, counties, and state agencies. The Act also requires completion of a geologic investigation prior to project approval, to demonstrate that applicable structures will not be constructed across active faults and/or that appropriate setbacks from such faults (generally 50 feet) are included in the project design. The location and width of structural setback zones are determined based on the geologic structure and type of active faulting encountered during the detailed fault evaluation and the proposed improvements.

California Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act of 1990 (PRC Division 2, Chapter 7.8, Section 2690 et seq.) provides a statewide seismic hazard mapping and technical advisory program to assist local governments in protecting public health and safety relative to seismic hazards other than surface fault rupture, which is covered by the Alquist-Priolo Earthquake Fault Zoning Act (described above). This Act is intended to protect the public from the effects of strong ground shaking, ground failure, liquefaction, earthquake-induced landslides, and other hazards caused by earthquakes. The Act provides direction and funding for the State Geologist to compile seismic hazard maps and to make those maps available to local governments. The Act, along with related standards in the Seismic Hazards Mapping Regulations (CCR Title 14, Division 2, Chapter 8, Article 10, Section 3270 et seq.), also directs local governments to require the completion and review of appropriate geotechnical studies prior to approving development projects. These requirements are implemented on a local level through means such as general plan directives and regulatory ordinances (with applicable City standards outlined below). Special



H:\GIS\PROJECTS\C\ChinoHillsCity_01194\CNH-02_ShadyView\Maps\EIR\Fig4.5-3_ChinoFaultEarthquakeFaultZone.indd CNH-02 10/15/21 - CL

Source: LGC Geotechnical, Inc. (2020)

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Chino Fault Earthquake Fault Zone

Figure 4.5-3

Publication 117A, Guidelines for Evaluation and Mitigating Seismic Hazards in California (California Geological Survey 2008), contains guidance for the evaluation and mitigation of earthquake hazards for projects within designated zones of required investigations.

California Building Code

The California Building Code (CBC; CCR Title 24, Part 2) encompasses a number of requirements related to geologic issues. Specifically, these include general provisions (Chapter 1); structural design, including soil and seismic loading (Chapters 16/16A); structural tests and special inspections, including seismic resistance (Chapters 17/17A); soils and foundations (Chapters 18/18A); concrete (Chapters 19/19A); masonry (Chapters 21/21A); wood, including consideration of seismic design categories (Chapter 23); construction safeguards (Chapter 33); and grading, including excavation, fill, drainage, and erosion control criteria (Appendix J). The CBC encompasses standards from other applicable sources, including the International Building Code as outlined below, and ASTM International, with appropriate amendments and modifications to reflect site-specific conditions and requirements in California.

4.5.2.2 Local

Chino Hills General Plan

The Safety Element of the General Plan (City 2015a) identifies a number of applicable actions related to seismic, geologic, and structural considerations. Specifically, Goal S-1 calls for protecting the community from geologic hazards. A number of actions (Actions S-1.1.1 through S-1.1.10) are associated with Goal S-1 that provide specific steps to protect the community from geologic hazards. The actions that would specifically apply to the project include the following:

- *Action S-1.1.1:* Observe prudent land use planning in the Fault Hazard Zone delineated for the Chino Fault, restricting high occupancy and emergency operation facilities and limiting residential development.

- *Action S-1.1.2:* Conduct site-specific studies on soils, seismicity, and groundwater conditions to evaluate the potential for liquefaction and related ground failure phenomena in canyon floors and the alluvial flatlands.

- *Action S-1.1.6:* Discourage any grading beyond that necessary to create adequate and stable building pads.

- *Action S-1.1.7:* Require all development to conform to the grading guidelines contained in the City Development Code.

- *Action S-1.1.8:* Require fault zones to be clearly identified on tract and parcel maps to increase public awareness of fault rupture hazards.

- *Action S-1.1.9:* Within geologic hazard overlay areas, require development to minimize landscape irrigation.

- *Action S-1.1.10:* Require new development to minimize peak runoff as required by the Municipal Code.

The project's consistency with these goals, policies, and actions are discussed in Section 4.9, Land Use.

Chino Hills Building Code

Chino Hills Municipal Code Title 15, *Buildings and Construction*, sets forth rules, regulations, and minimum standards for buildings, grading, and construction activities that take place in the City. Section 15.04.010 adopts the 2019 Edition of the CBC (Appendices C, I, and J of the CBC, 2019 Edition) as the building code of the City of Chino Hills that serves to regulate the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use, height, area, and maintenance of all buildings or structures in the City.

Chino Hills Development Code

The City of Chino Hills Development Code (Title 16 of the Municipal Code) is intended to provide the legislative framework to enhance and implement the goals, policies, plans principles, and standards of the General Plan. Regulations and requirements contained in the Development Code uniformly govern the use, placement, spacing, and size of land and buildings. The City's Development Code sets forth these regulations and requirements and defines the City's zoning districts.

Additionally, the City's Development Code applies seven overlay districts to particular areas of the City where supplemental policies relative to special land uses and environmental or safety conditions have been established. The project site is located within the City's Geologic Hazard Overlay District, which applies to potentially active seismic faults and areas where landslides, liquefaction hazards, or other geologic hazards are known or suspected to occur. Chapter 16.24 of the Municipal Code, *Geologic Hazard Overlay District*, establishes requirements for geologic reports for all land use applications and development permits proposed within the Geologic Hazard Overlay District and contains development standards for development proposed within the overlay district. The following are standards contained the Chapter 16.24 that are applicable to the proposed project:

- All structures used for human occupancy, other than single-family wood frame structures, shall be set back from any fault, including the Chino Hills fault, as indicated in site-specific geotechnical reports.

- Utility lines and streets shall not be placed within the construction setback area of a hazardous fault except for a crossing which can be made perpendicular to the fault trace or as recommended by the project geologist and approved by the reviewing authority.

- The following conditions apply to areas subject to landslide hazards:

    1. All facilities and street should be sited in a manner which minimizes erosion potential.

    2. Natural vegetation shall be retained and protected where possible. Where inadequate vegetation exists, additional landscaping shall be provided. Any additional landscaping shall be compatible with the local environment and capable of surviving with a minimum of maintenance and supplemental water.

    3. The development should be designed to minimize water run-off. Provisions should be made to effectively accommodate any increased run-off.

4. Measures shall be taken to offset the possible effects of landslides. A detailed geologic report identifying these measures shall be required prior to the issuance of building permits.

5. All proposed facilities located within landslide hazard areas shall be constructed in a manner to minimize or eliminate subsidence damage.

Chino Hills Hazard Mitigation Plan

The City of Chino Hills' Hazard Mitigation Plan (City 2020b) identifies effective ways to assess the significant natural and manmade hazards that may affect the City and its inhabitants and reduce the City's vulnerability to these hazards. The Hazard Mitigation Plan assists the City in reducing risks from natural hazards by identifying resources, information, and strategies for risk reduction, while helping to guide and coordinate mitigation activities throughout the City. The Plan provides an action plan to reduce risks from natural hazards through education and outreach programs and to foster the development of partnerships, and implementation of preventative activities such as land use programs that restrict and control development in areas subject to damage from natural hazards.

Earthquakes are ranked as a high hazard in the Hazard Mitigation Plan. The Hazard Mitigation Plan identifies the following that could cause significant ground shaking in the City: Chino Fault, Elsinore Fault Zone, San Jose Fault, Puente Hills Blind Thrust, Sierra Madre-Cucamonga Fault Zone, San Jacinto Fault Zone, and the San Andreas Fault Zone. The Hazard Mitigation Plan includes mitigation goals, objectives, and projects to reduce or avoid long-term vulnerabilities to hazards identified in the plan, including earthquake hazards. The identified goal for earthquake hazards is to significantly reduce life loss and injuries; to minimize hazards to structures and property; and to minimize disruption of essential services and human activities. Objectives to support this goal that are applicable to the proposed project include requiring geological and geotechnical investigations of all new developments in areas of potential seismic or geologic hazards as part of the environmental and development review process, and continue to use the environmental and development review process to ensure prudent development and redevelopment of all land within the moderate to high landslide susceptibility zones.

4.5.3 Methodology and Assumptions

The Preliminary Geotechnical Review (included as Appendix E of this Draft EIR) is based upon a field investigation consisting of boring excavations, backhoe test pits, field percolation tests, and laboratory testing. To evaluate the project site for engineering characteristics, large and small diameter borings were excavated at the site, along with backhoe pit tests at various locations. Large and small diameter borings were sampled and logged for structural geologic information, and selected samples of small diameter borings were tested for laboratory characteristics. Two field percolation tests were performed to approximate depths of 15 to 20 feet below existing grade, within native soils.

The Fault Evaluation is based on a field investigation consisting of a total of more than 2,000 linear feet of fault trenching at the project site. Three fault trenches were excavated onsite in 2014 and three fault trenches were excavated in 2020. The trenches were excavated generally perpendicular to the orientation of the Chino Fault at intervals along the portion of the Earthquake Fault Zone that overlap the proposed residential development (Figure 4.5-4, *Fault Trenching Locations*). Seven large-diameter bucket auger borings were excavated at depths of up to 60 feet in the central hillside portion of the site to supplement the fault trenching information and to establish remedial measures for the proposed

development. Age-dating of soil horizons was conducted to determine whether the onsite fault was Holocene-active (active within the last 11,700 years).

In addition to the field investigations described above, a review of pertinent readily available geologic background information was conducted. This background information included existing geologic reports, in-house regional geologic maps, aerial/satellite photographs, published geologic literature, and a previous fault study conducted in the southern portion of the project site in 2014. The results of the geologic background information research, field investigations, laboratory testing, and geologic analysis and evaluation are summarized in the Preliminary Geotechnical Review and the Fault Evaluation for the proposed project (LGC Geotechnical 2020a and 2020b, respectively), which are included as Appendices E and F of this EIR. Additionally, relevant information from the California Department of Conservation and the California Geological Survey, as well as relevant maps and geologic documentation, were reviewed.

4.5.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines, a significant impact associated with geology and soils would occur if implementation of the proposed project would result in any of the following:

1. Would the project directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, 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; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides?

2. Would the project result in substantial soil erosion or the loss of topsoil?

3. Would the project be located on a geological unit or soil that is unstable as a result of the project, and potentially result in on-site or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse?

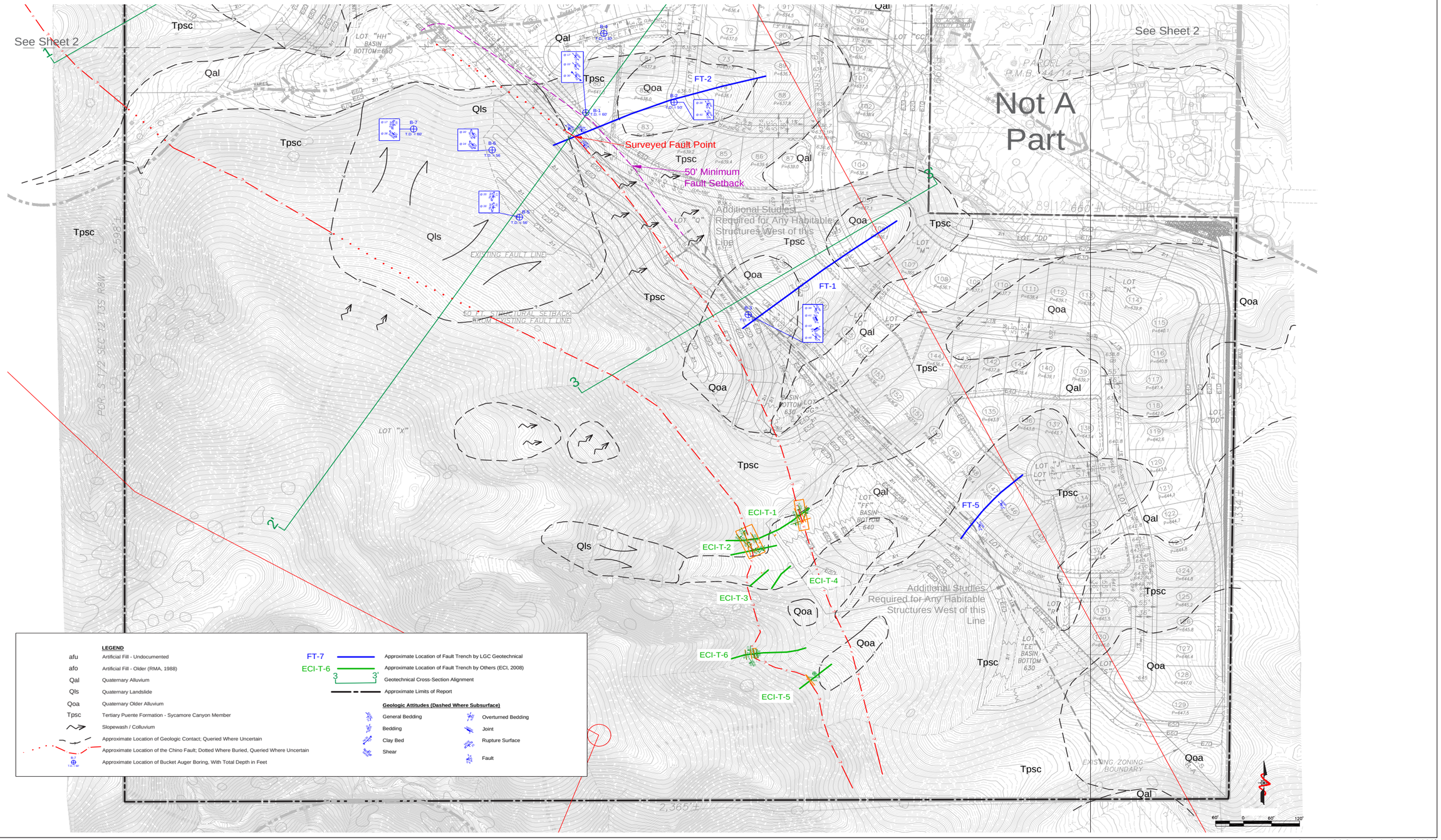
4. Would the project be located on an expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

5. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

4.5.5 Impact Analysis

4.5.5.1 Seismic Hazards

Threshold 1: *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides?*



LEGEND

afu	Artificial Fill - Undocumented
afo	Artificial Fill - Older (RMA, 1988)
Qal	Quaternary Alluvium
Qls	Quaternary Landslide
Qoa	Quaternary Older Alluvium
Tpsc	Tertiary Puente Formation - Sycamore Canyon Member
	Slopewash / Colluvium
	Approximate Location of Geologic Contact; Queried Where Uncertain
	Approximate Location of the Chino Fault; Dotted Where Buried, Queried Where Uncertain
	Approximate Location of Bucket Auger Boring, With Total Depth in Feet
FT-7	Approximate Location of Fault Trench by LGC Geotechnical
ECI-T-6	Approximate Location of Fault Trench by Others (ECI, 2008)
3 3'	Geotechnical Cross-Section Alignment
	Approximate Limits of Report

Geologic Attitudes (Dashed Where Subsurface)

General Bedding	Overturned Bedding
Bedding	Joint
Clay Bed	Rupture Surface
Shear	Fault

Source: LGC Geotechnical, Inc. (2020)

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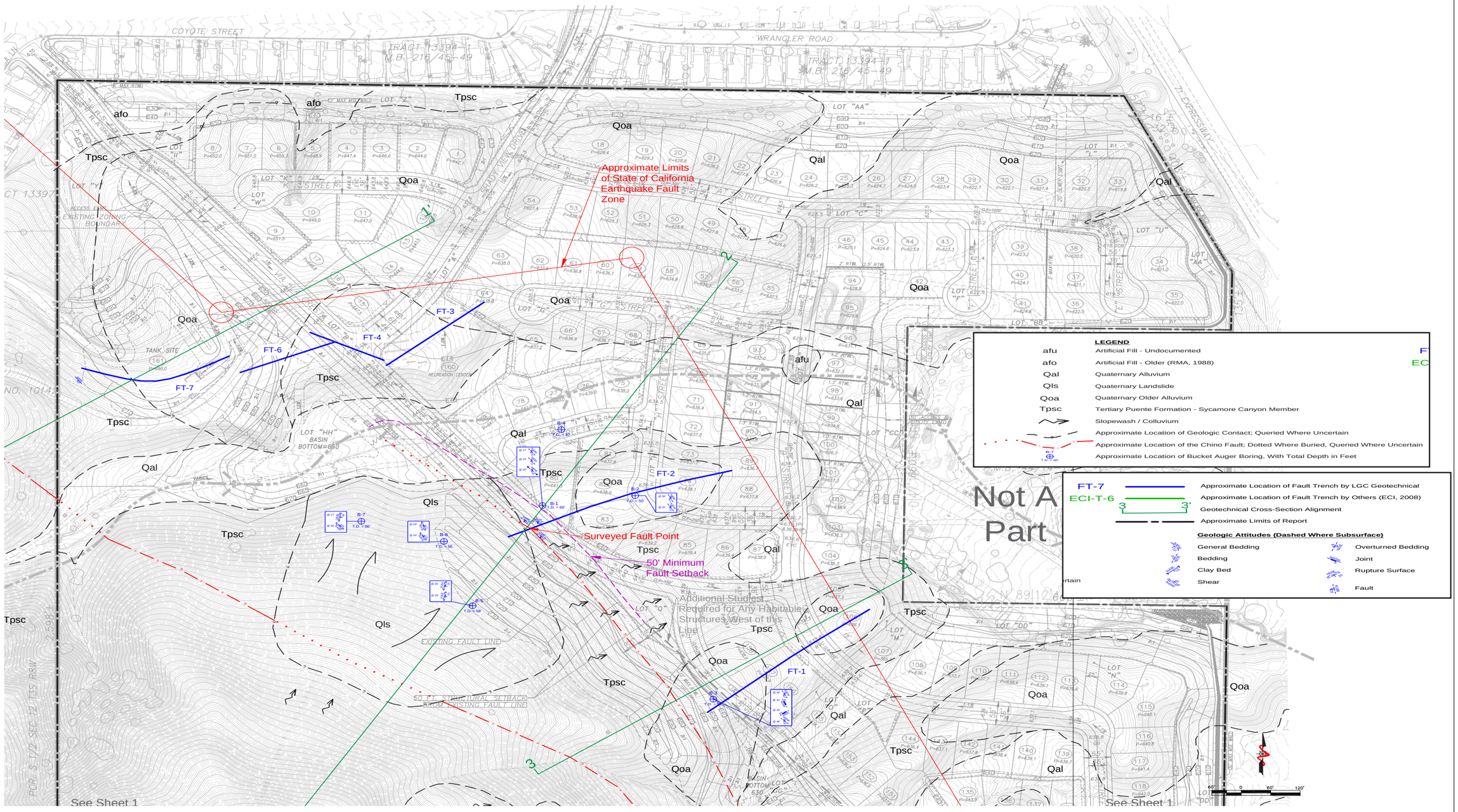
Fault Trenching Locations

Figure 4.5-4a



Source: LGC Geotechnical, Inc. (2020)

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Fault Trenching Locations

Figure 4.5-4b

Ground Rupture

Ground rupture is characterized by bedrock slippage along an established earthquake fault and may result in the displacement of the ground surface. The mapped Chino Fault trace on the project site is located just outside of, and adjacent to, the proposed residential development at one of the surveyed fault trenches (fault trench FT-2; refer to Figure 4.5-4) and is increasingly distant from the proposed residential development at the south end of the project site. The western fault trace appears to die out in the active drainage just north of fault trench FT-2. The eastern trace of the fault continues northwest outside of the proposed development area. The features observed at fault trench FT-2 form the edge of a relatively low-angle "flower structure" and is not the main trace of the fault. The eastern edge of the flower structure is estimated to have a longer recurrence interval (tens of thousands of years) based on the age of soils that overlie the feature. The probability of future movement on the main/western fault trace is high; however, the probability of future movement on the eastern flower structure fault trace, which is the portion of the fault located closest to the proposed residential development, is low. Nonetheless, the on-site fault has been determined to be Holocene-active, as defined by the State of California, and as such, the project would be subject to potentially significant impacts associated with fault rupture for the proposed residential development and mitigation is required.

The proposed oil storage tank is not located on or directly adjacent to an active fault. During fault trenching for the proposed project's fault evaluation, no active faults and no indication of active faulting were observed in the immediate vicinity of the proposed oil tank. The actual fault trace is estimated to be located approximately 350 feet or more from the western edge of the proposed oil tank location. As such, the potential for significant impacts related to the proposed oil tank and fault ruptures are less than significant. No significant impact related to ground rupture would occur and no specific setback recommendations are necessary in regard to the proposed oil tank.

Ground Shaking

The project site could potentially be subject to relatively high levels of ground shaking and site acceleration in the event of an earthquake on any of the major active faults in the region, including the trace of the Chino Fault present on the project site. The intensity of ground shaking at any specific site and relative potential for damage from this hazard depends on the earthquake magnitude, distance from the source (epicenter), and the site response characteristics (ground acceleration, predominant period, and duration of shaking). Ground shaking can affect the integrity of surface and subsurface facilities such as structures, foundations, and utilities, either directly from vibration-related damage to rigid structures, or indirectly through associated hazards (as described below). The nearby major active faults that could produce secondary seismic effects at the project site, including ground shaking, include the Chino Fault, Whitter-Elsinore Fault Zone, and San Andreas Faults, among others.

In the event of a major earthquake, the project site and proposed buildings could be subject to strong ground shaking, which has the potential to damage or destroy buildings and other structures, thereby exposing people to hazardous conditions. However, pursuant to Chino Hills Municipal Code Title 15, the proposed project would be designed and constructed in compliance with the CBC, which contains specific structural requirements for seismic safety. Recommendations from the Preliminary Geotechnical Review would be required as project conditions of approval and incorporated into the construction contract specifications. Proper engineering, and adherence to the Preliminary Geotechnical Review recommendations and CBC guidelines would minimize the risk to life and property from potential ground motion at the project site. Therefore, the project would not directly or indirectly cause potential

substantial adverse effects, including the risk of loss, injury, or death involving ground shaking. Impacts would be less than significant.

Liquefaction

Liquefaction is a phenomenon in which water-saturated granular soil loses shear strength during strong ground shaking produced by earthquakes. Liquefaction occurs when three general conditions coexist: (1) shallow groundwater; (2) low density non-cohesive (granular) soils; and (3) high-intensity ground motion. Potential hazards due to liquefaction include loss of bearing strength beneath structures, possibly causing foundation failure and/or significant settlements and differential settlements. Liquefaction generally occurs in areas where the ground water table is less than 50 feet below the surface.

The project site is not located in an area of high or moderate potential for liquefaction, as shown in the City's General Plan Final EIR Figure 4-7, *Liquefaction Susceptibility*. The City's Hazard Mitigation Plan identifies the project site as an area of low liquefaction susceptibility (City 2011). The Preliminary Geotechnical Review prepared for the project indicates that the site is within an "Area not Evaluated" for potential liquefaction by the California Department of Mines and Geology. At completion of rough grading, the proposed development would be underlain by compacted fill over sufficiently dense alluvium or formational bedrock, as specified in the Preliminary Geotechnical Review. Proper engineering, and adherence to the Preliminary Geotechnical Review recommendations and CBC guidelines would minimize the risk to life and property at the project site due to potential liquefaction impacts. Impacts would be less than significant.

Landslides

Landslides occur when rock, earth, or debris move down a slope, including rock falls, deep failure of slopes, and shallow debris flows. Landslides and other slope failures may occur in hillside areas due to several factors including seismic ground shaking or substantial rainfall. Structures, engineered slopes, roadways, utilities, and people located on or below unstable areas could be subject to severe damage or injury. Landslide, debris flows, and surficial material failures affect the area where the material originates, as well as downslope areas where the landslide debris accumulates.

The City's General Plan Final EIR Landslide Susceptibility Map (Final EIR Figure 4-8; City 2015c) identifies the potential for landslide susceptibility based on regional data. The Landslide Susceptibility Map indicates that the northern and eastern-most portions of the site are marginally susceptible to landslides (Zone 2), while the southern portion is generally susceptible (Zone 3), and the western and central portions are most susceptible (Zone 4). The project area is mapped within an Area Not Evaluated for potential earthquake-induced landslides on the State of California Seismic Hazard Zones for the Prado Dam 7.5 Minute Quadrangle. An existing landslide up to 40 feet thick is present to the southwest of the proposed residential development. The Preliminary Geotechnical Review contains recommendations for the landslide to be temporarily removed and recompacted as part of the proposed earthwork associated with the project.

The proposed grading of the site, with the measures specified in the Preliminary Geotechnical Review for design cut, fill grading, and remedial grading would ensure that impacts associated with landslides would remain less than significant. The proposed project would follow the construction recommendations provided by the Preliminary Geotechnical Review and would also be constructed

consistent with CBC requirements. Compliance with the recommendations contained in the Preliminary Geotechnical Review as well as CBC requirements would avoid potential slope failure and/or landslide hazards. Therefore, it is unlikely that implementation of the proposed project would expose people or structures to substantial adverse effects from seismic-induced landslides. Impacts would be less than significant.

4.5.5.2 Soil Erosion

Threshold 2: Would the project result in substantial soil erosion or the loss of topsoil?

The proposed project may result in or indirectly accelerate erosion on the project site during construction. Ground-disturbing activities, such as grading and excavation, and stockpiling of excavated materials would expose bare soils that could be eroded by wind or water. Furthermore, vegetation removal could reduce soil cohesion and temporarily diminish the buffer provided by vegetation from wind, water, and surface disturbance, causing the exposed soils to be more susceptible to erosion. Native slopes southwest of the central portion of the site have potential for erosion.

Construction activities would comply with the CBC, which regulates excavation, construction of foundations and retaining walls, and grading, including drainage and erosion control. As discussed in Section 4.1, *Air Quality*, SCAQMD Rule 403 requires that construction activities implement fugitive dust control measures, which would minimize the effects of wind erosion. As discussed in Section 4.8, *Hydrology and Water Quality*, erosion and sedimentation control BMPs would be implemented as part of the site-specific Storm Water Pollution Prevention Plan (SWPPP) developed pursuant to the NPDES Construction General Permit. The City's Erosion Management Ordinance (Municipal Code Chapter 16.54.010) requires the preparation of a soil erosion and sediment control plan prior to the issuance of building, grading, or other permits where erosion can reasonably be expected to occur. The proposed project would include the preparation and implementation of the required plans to minimize soil erosion impacts. All graded areas that would not be developed immediately would remain subject to the SCAQMD Rule 403, NPDES Construction General Permit, and City's Erosion Management Ordinance until permanently stabilized in accordance with the standards contained within these regulations. Provisions for the stabilization of inactive disturbed areas and graded slopes, as required by the existing mechanisms described above, would serve to minimize potential erosion impacts. Stabilization methods include hydroseeding, soil binders, chemical soil stabilizers, geotextiles, tarps, fencing, or other erosion control measures. With implementation of the dust control measures and construction BMPs described above, the proposed project would not result in substantial erosion or loss of topsoil. Impacts would be less than significant.

4.5.5.3 Unstable Soils

Threshold 3: Would the project be located on a geological unit or soil that is unstable as a result of the project, and potentially result in on-site or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse?

Strong ground shaking can cause settlement, lateral spreading, or subsidence by allowing sediment particles to become more tightly packed, thereby reducing pore space. Lateral spreading is a liquefaction-induced ground failure associated with the lateral displacement of surficial blocks of sediment resulting from liquefaction in a subsurface later. Land surface subsidence can be induced by both natural and human phenomena. Natural phenomena include subsidence resulting from tectonic

deformations and seismically induced settlements, soil subsidence from consolidation, hydro compaction, rapid sedimentation subsidence from oxidation or dewatering of organic-rich soils, and subsidence related to subsurface cavities. Subsidence related to human activity includes subsurface fluid or sediment withdrawal. Pumping of water for residential, commercial, and agricultural uses from subsurface water tables causes the majority of the identified subsidence in the U.S.

Native slopes southwest of the central portion of the site have potential for sloughing and surficial instabilities, which may be exacerbated by heavy rains or shaking events. The proposed project would follow the construction recommendations provided by the Preliminary Geotechnical Review and CBC requirements, which would avoid potential slope failure and/or landslide hazards. Additionally, the risk of liquefaction is minimal due to the earthwork and site preparation recommendations required as part of the Preliminary Geotechnical Review. At completion of rough grading, the proposed development would be underlain by compacted fill over sufficiently dense alluvium or formational bedrock, which would ensure the potential for liquefaction impacts remain low, resulting in a less than significant impact. The Preliminary Geotechnical Review identifies the risk of lateral spreading at the site to be low. Although no removal of subsurface water or fluids is proposed as part of the project, minor subsidence is expected to occur at the project site during construction activities. Subsidence at the project site due to earthwork equipment during construction is expected to be on the order of 0.1 foot. Adherence to the recommendations contained in the Preliminary Geotechnical Review, which would be required as project conditions of approval and incorporated into the construction contract specifications, and compliance with the CBC would avoid impacts related to unstable soils. Adherence to these measures would ensure that the project would not result in landslides, lateral spreading, subsidence, liquefaction, or collapse. Impacts would be less than significant.

4.5.5.4 Expansive Soils

Threshold 4: Would the project be located on an expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Expansion of soils may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors. Soils with a relatively high fine soils content (clays dominantly) are generally considered expansive or potentially expansive.

According to the Preliminary Geotechnical Review, soils at the project site are expected to range from very low to medium expansion potential. Final expansion potential would be determined at completion of rough grading. The Preliminary Geotechnical Review contains a number of recommendations to be incorporated into project site preparation and construction to address expansive soils, including recommendations related to soil removal and over-excavation, material for fill, provisional foundation recommendations, lateral earth pressures for conventional retaining walls, and for nonstructural concrete flatwork. Adherence to the recommendations contained in the Preliminary Geotechnical Review and compliance with the CBC, which will be required as project conditions of approval and incorporated into the construction contract specifications, would avoid impacts related to expansive soils. Therefore, impacts associated with expansive soils would be less than significant.

4.5.5.5 Paleontological Resources

Threshold 5: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Because paleontological resources are limited, non-renewable resources of scientific, cultural, and/or educational value, the loss of fossils that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region, would be considered a significant environmental impact. Impacts to paleontological resources primarily entail the destruction of non-renewable paleontological resources and the loss of information associated with such resources. If potentially fossiliferous bedrock is disturbed, the disturbance could result in the destruction of paleontological resources and subsequent loss of information.

The Sycamore Canyon Member of the Tertiary Puente Formation, which is the bedrock unit present at the project site, is late Miocene in age and has previously yielded paleontological resources within the City. Additionally, the City's General Plan identifies the entire City as sensitive for paleontological resources. Thus, ground disturbing activities associated with the construction of the proposed project have the potential to uncover paleontological resources. In the event that paleontological resources are encountered during construction, such resources could potentially be damaged or destroyed. Therefore, implementation of the proposed project could potentially result in significant impacts to paleontological resources and mitigation is required.

There are no unique geologic features known or expected to occur on the project site. Therefore, implementation of the proposed project would not result in impacts to unique geologic features.

4.5.6 Mitigation Measures

4.5.6.1 Seismic Hazards

Potentially significant impacts associated with fault rupture and the proposed residential development portion of the project could occur. Implementation of mitigation measure GEO-1 would reduce these potential impacts to below a level of significance.

GEO-1 Structural Fault Setback. To avoid impacts associated with fault rupture, the project applicant shall ensure a setback of 50 feet, consistent with the setback required by the California Alquist-Priolo Earthquake Fault Zoning Act, is maintained between all habitable structures and the surveyed location of the active fault trace. The final position of the 50-foot setback shall be based on finished grade elevations, shown on project plans and construction documents, and shall be subject to review and approval from the City Engineer and/or City Building Official.

4.5.6.2 Soil Erosion

No significant impacts related to soil erosion and topsoil loss would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.5.6.3 Unstable Soil

No significant impacts related to unstable soil would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.5.6.4 Expansive Soil

No significant impacts related to expansive soil would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.5.6.5 Paleontological Resources

Potentially significant impacts associated with paleontological resources would occur. Implementation of mitigation measure GEO-2 would reduce these potential impacts to below a level of significance.

GEO-2 Paleontological Monitoring. Prior to construction, the owner/permittee shall retain a qualified paleontological monitor, acceptable to the City. The paleontological monitor shall attend pre-construction meeting(s) with the construction manager and shall be present during all initial cutting, grading, or excavation of previously undisturbed areas. If a fossil is encountered, all operations in the area where the fossil was found shall be suspended immediately, the City shall be notified, and a qualified paleontologist shall be retained by the City to evaluate the significance of the find; salvage, record, clean, and curate significant fossil(s); and document the find in accordance with current professional paleontological standards. Within 30 days of completion of ground-disturbing activities, either a letter signed by the paleontological monitor stating that no fossils were found or, if fossils were found, a report prepared by the qualified paleontologist documenting the mitigation program shall be submitted to the City.

4.5.7 Significance Determination

The significance of impacts to geology and soils before and after mitigation is summarized in Table 4.5-1, *Significance Determination Summary of Geological Impacts.* Implementation of the proposed project would result in a potentially significant impact related to fault rupture; however, implementation of mitigation measure GEO-1 would reduce this potential impact to a less than significant level. Impacts related to seismic hazards (ground shaking, landslides), soil erosion, unstable soils, and expansive soils would be less than significant with adherence to applicable regulatory/industry standard and codes, including the CBC, NPDES requirements, and recommendations contained in the Preliminary Geotechnical Review prepared for the project. Impacts associated with paleontological resources would be potentially significant; however, implementation of mitigation measure GEO-2 would reduce the impact to a less than significant level.

Table 4.5-1
SIGNIFICANCE DETERMINATION SUMMARY OF GEOLOGICAL IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Seismic Hazards	Potentially significant	GEO-1	Less than significant
Soil Erosion	Less than significant	None required	Less than significant
Unstable Soils	Less than significant	None required	Less than significant
Expansive Soils	Less than significant	None required	Less than significant
Paleontological Resources	Potentially significant	GEO-2	Less than significant

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4.6 GREENHOUSE GAS EMISSIONS

This section of the EIR evaluates potential greenhouse gas (GHG) impacts resulting from implementation of the proposed project. This analysis is based on the Air Quality and Greenhouse Gas Emissions Technical Report (HELIX 2022a) prepared for the project, which is included as Appendix B of this EIR.

4.6.1 Existing Conditions

4.6.1.1 Global Climate Change Overview

Global climate change refers to changes in average climatic conditions on Earth including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with: (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

The temperature record shows a decades-long trend of warming, with 2016 global surface temperatures ranking as the warmest year on record since 1880. The newest release in long-term warming trends announced 2020 ranked as tied with 2016 for the warmest year on record with an increase of 1.84 degrees Fahrenheit compared to the 1951-1980 average (National Aeronautics and Space Administration [NASA] 2021). GHG emissions from human activities are the most significant driver of observed climate change since the mid-20th century (United Nations Intergovernmental Panel on Climate Change [IPCC] 2007). The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a "high confidence" that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius relative to preindustrial levels if atmospheric concentrations are stabilized at about 450 parts per million (ppm) carbon dioxide equivalent (CO_2e) by the year 2100 (IPCC 2014).

4.6.1.2 Types of GHGs

The GHGs defined under California's AB 32 include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Carbon Dioxide. CO_2 is the most important and common anthropogenic GHG. CO_2 is an odorless, colorless GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO_2 include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. The atmospheric CO_2 concentration in 2010 was 390 ppm, 39 percent above the concentration at the start of the Industrial Revolution (approximately 280 ppm in 1750). In September 2021, the CO2 concentration was 413 ppm, a 48 percent increase since 1750 (National Oceanic and Atmospheric Administration [NOAA] 2021).

Methane. CH_4 is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are decay of organic material in landfills, fermentation of manure, and cattle digestion.

Nitrous Oxide. N_2O is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Hydrofluorocarbons. Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the 1989 Montreal Protocol.

Sulfur Hexafluoride. SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHG emissions to disperse around the globe. Because GHG emissions vary widely in the power of their climatic effects, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, a gas with a GWP of 10 is 10 times more potent than CO_2 over 100 years. CO_2e is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e.

Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (SAR). In 2007, IPCC updated the GWP values based on the latest science at the time in its Fourth Assessment Report (AR4). The updated GWPs in the IPCC AR4 have begun to be used in recent GHG emissions inventories. In 2013, IPCC again updated the GWP values based on the latest science in its Fifth Assessment Report (AR5) (IPCC 2013). However, United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines for national inventories require the use of GWP values from the AR4. To comply with international reporting standards under the UNFCCC, official emission estimates for California and the U.S. are reported using AR4 GWP values, and statewide and national GHG inventories have not yet updated their GWP values to the AR5 values. Project GHG emissions in this analysis are reported using the AR4 GWP values.

By applying the GWP ratios, project related CO_2e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4.6-1, *Global Warming Potentials and Atmospheric Lifetimes*.

Table 4.6-1
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	IPCC SAR GWP	IPCC AR4 GWP	IPCC AR5 GWP
Carbon Dioxide (CO_2)	50-200	1	1	1
Methane (CH_4)	12	21	25	28
Nitrous Oxide (N_2O)	114	310	298	265
HFC-134a	14	1,300	1,430	1,300
PFC: Tetraflouromethane (CF_4)	50,000	6,500	7,390	6,630
PFC: Hexafluoroethane (C_2F_6)	10,000	9,200	12,200	11,100
Sulfur Hexafluoride (SF_6)	3,200	23,900	22,800	23,500

Source: IPCC 2007
IPCC = Intergovernmental Panel on Climate Change; GWP = global warming potential; HFC = hydrofluorocarbon.
PFC = perfluorocarbon

4.6.1.3 GHG Emissions Inventories

In 2018, total GHG emissions worldwide were estimated at 48,900 million metric tons (MMT) of CO_2e emissions (World Resource Institute [WRI] 2021). The U.S. contributed the second largest portion (13 percent) of global GHG emissions in 2018 with 5,790 MMT CO_2e in 2018, of which 82 percent was CO_2 (WRI 2021). On a national level, approximately 30 percent of GHG emissions were associated with transportation and about 34 percent were associated with electricity generation (WRI 2021).

CARB performs statewide GHG inventories. The inventory is divided into six broad sectors: agriculture, commercial and residential, electricity power, industrial, transportation, High GWP (Global Warming Potential), and Recycling and Waste. Emissions are quantified in MMT CO_2e. Table 4.6-2, *California Greenhouse Gas Emissions by Sector*, shows the estimated statewide GHG emissions for the years 1990, 2000, 2010, and 2019.

Table 4.6-2
CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR

Sector	Emissions (MMT CO_2e) 1990	Emissions (MMT CO_2e) 2000	Emissions (MMT CO_2e) 2010	Emissions (MMT CO_2e) 2019
Agriculture	18.9 (4%)	31.0 (7%)	33.7 (8%)	31.8 (8%)
Commercial and Residential	14.4 (3%)	44.0 (9%)	45.9 (10%)	43.8 (10%)
Electricity Generation	110.5 (26%)	105.0 (22%)	90.3 (20%)	58.8 (14%)
Industrial	105.3 (24%)	96.23 (21%)	91.1 (20%)	88.2 (21%)
Recycling and Waste	29.7 (7%)	7.37 (2%)	8.3 (2%)	8.9 (2%)
Transportation	150.6 (35%)	178.4 (38%)	165.1 (37%)	166.1 (40%)
High GWP substances	1.3 (<1%)	6.3 (1%)	13.5 (3%)	20.6 (5%)
Total	**433.3**	**468.0**	**448.0**	**418.2**

Source: CARB 2007 and CARB 2021d
Note: Totals may not sum due to rounding.
MMT = million metric tons; CO_2e = carbon dioxide equivalent

As shown in Table 4.6-2, statewide GHG source emissions totaled 433 MMT CO_2e in 1990, 468 MMT CO_2e in 2000, 448 MMT CO_2e in 2010, and 418 MMT CO_2e in 2019. Transportation-related emissions

consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions (CARB 2021d).

Emissions by sector for Chino Hills was shown in the San Bernadino County Regional Greenhouse Gas Reduction Plan (2021). The City's GHG inventory for 2016 is shown below in Table 4.6-3, *Chino Hills 2016 Greenhouse Gas Emissions by Sector.*

Table 4.6-3
CHINO HILLS 2016 GREENHOUSE GAS EMISSIONS BY SECTOR (MT CO_2e)

Sector	2016
Residential Natural Gas	47130 (11%)
Non-Residential Natural Gas	8921 (2%)
Light-Medium Duty Vehicles	211,216 (48%)
Residential Electricity	45,729 (10%)
Non-Residential Electricity	16,529 (4%)
Heavy-Duty Vehicles	59,900 (14%)
Off-Road Equipment	8,651 (2%)
Wastewater Treatment	2,498 (1%)
Solid Waste Management	22,057 (5%)
Water Transport, Distribution, and Treatment	13,043 (3%)
Agriculture	3,222 (1%)
TOTAL	**438,898**

Source: San Bernadino County Regional Greenhouse Gas Reduction Plan (2021). Table 3-6. Chino Hills 2016 Community Greenhouse Gas Inventory and 2030 and 2045 Forecasts (MT CO_2e).
MT = metric tons; CO_2e = carbon dioxide equivalent

4.6.2 Regulatory Setting

4.6.2.1 Federal

Federal Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency* that CO_2 is an air pollutant, as defined under the CAA, and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including CO_2, CH_4, N_2O, HFC, PFC, and SF_6) threaten the public health and welfare of the American people (USEPA 2021a). This action was a prerequisite to finalizing the USEPA's GHG emissions standards for light-duty vehicles, which were jointly proposed by the USEPA and the United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA).

Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards

The USEPA and the NHTSA worked together on developing a national program of regulations to reduce GHG emissions and to improve fuel economy of light-duty vehicles. The USEPA established the first-ever national GHG emissions standards under the CAA, and the NHTSA established CAFE standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017

through 2025. On March 3, 2020, the agencies released the final Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). The purpose of the SAFE Vehicles Rule is "to correct the national automobile fuel economy and GHG emissions standards to give the American people greater access to safer, more affordable vehicles that are cleaner for the environment." The direct effect of the rule is to eliminate the standards that were put in place to gradually raise average fuel economy for passenger cars and light trucks under test conditions from 37 miles per gallon (mpg) in 2020 to 50 mpg in 2025. The new SAFE Vehicles Rule freezes the average fuel economy level standards indefinitely at the 2020 levels. The new SAFE Vehicles Rule also results in the withdraw of the waiver previously provided to California for that State's GHG and zero emissions vehicle (ZEV) programs under Section 209 of the CAA (USEPA and NHTSA 2020). The combined USEPA GHG standards and NHTSA CAFE standards resolve previously conflicting requirements under both federal programs and the standards of the State of California and other states that have adopted the California standards. The SAFE Vehicles Rule Part I (SAFE-1), which withdraws the waiver, was published in September 2019 and Part II (SAFE-2), which finalizes the regulation, was published in April 2020. On April 26, 2021, the USEPA published the Notice of Reconsideration of Previous Withdrawal of a Waiver for California's Advanced Clean Car Program. The purpose of this Notice of Reconsideration is to seek comment on a number of issues in the SAFE-1 action including:

- Whether it was proper for the USEPA to reconsider a previously issued CAA waiver.
- Whether USEPA's actions to withdraw California's waiver was appropriate.
- Whether the SAFE-1 interpretation of the CAA that enabled USEPA to withdraw California's waiver was appropriate.
- Whether the SAFE-1 interpretation of CAA Section 177 that could disallow other states' ability to adopt California GHG emission standards was appropriate.

4.6.2.2 State

California Code of Regulations, Title 24, Part 6

CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for space or water heating) results in GHG emissions.

The Title 24 standards are updated approximately every three years to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Title 24 standards went into effect on January 1, 2020. The 2019 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The most significant efficiency improvement to the residential standards is a requirement for onsite photovoltaic electricity generation (e.g., solar panels) for most new or modified residential building up to three stories high (California Energy Commission [CEC] 2019a).

The 2022 Building Energy Efficiency Standards will improve upon the 2019 Energy Code for new construction of, and additions and alterations to, residential and nonresidential buildings. On August 11,

2021, the CEC adopted the 2022 Energy Code which will be presented to the California Building Standards Commission (CBSC) for approval into the California Building Standards Code in December 2021. If approved, the 2022 Energy Code will go into effect on January 1, 2023 (CEC 2022).

The standards are divided into three basic sets. First, there is a basic set of mandatory requirements that apply to all buildings. Second, there is a set of performance standards—the energy budgets—that vary by climate zone (of which there are 16 in California) and building type; thus, the standards are tailored to local conditions. Finally, the third set constitutes an alternative to the performance standards, which is a set of prescriptive packages that are basically a recipe or a checklist compliance approach.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen; CCR Title 24, Part 11) is a code with mandatory requirements for all nonresidential buildings (including industrial buildings) and residential buildings for which no other state agency has authority to adopt green building standards. The current 2019 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings went into effect on January 1, 2020 (CBSC 2019).

The development of CALGreen is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

CALGreen contains requirements for storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

Executive Order S-3-05

On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

Assembly Bill 32 – Global Warming Solution Act of 2006

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed by AB 32 to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28 nation European Union. California is on track to meet or exceed the target of reducing GHGs emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

Senate Bill 32

Senate Bill (SB) 32 (Amendments to the California Global Warming Solutions Action of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

Assembly Bill 197

A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment a legislative committee to make recommendations about CARB programs to the legislature.

Assembly Bill 1493 – Vehicular Emissions of Greenhouse Gases

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars (CARB 2021b).

Assembly Bill 341

The state legislature enacted AB 341 (California Public Resource Code Section 42649.2), increasing the solid waste diversion target to 75 percent statewide. AB 341 requires all businesses and public entities that generate four cubic yards or more of waste per week to have a recycling program in place. The final regulation was approved by the Office of Administrative Law on May 7, 2012 and went into effect on July 1, 2012.

Executive Order S-01-07

This EO, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs CARB to determine whether a LCFS can be adopted as a discrete early action measure pursuant to AB 32. CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. Although challenged in 2011, the Ninth Circuit reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. CARB is therefore continuing to implement the LCFS statewide.

Senate Bill 350

Approved by Governor Brown on October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard eligible resources, including solar, wind, biomass, and geothermal. In addition, large utilities are required to develop and submit Integrated Resource Plans to detail how each entity will meet their customers' resource needs, reduce GHG emissions, and increase the use of clean energy.

Senate Bill 375

SB 375, the Sustainable Communities and Climate Protection Act of 2008, supports the State's climate action goals to reduce GHG emissions through coordinated transportation and land use planning with the goal of more sustainable communities.

Under the Sustainable Communities Act, CARB sets regional targets for GHG emissions reductions from passenger vehicle use. In 2010, CARB established these targets for 2020 and 2035 for each region covered by one of the State's metropolitan planning organizations (MPOs). CARB periodically reviews and updates the targets, as needed.

Each of California's MPOs must prepare a Sustainable Communities Strategy (SCS) as an integral part of its regional transportation plan (RTP). The SCS contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets. Once adopted by the MPO, the RTP/SCS guides the transportation policies and investments for the region. CARB must review the adopted SCS to confirm and accept the MPOs' determination that the SCS, if implemented, would meet the regional GHG targets. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate alternative planning strategy (APS) to meet the targets. The APS is not a part of the RTP. Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

Senate Bill 100

Approved by Governor Brown on September 10, 2018, SB 100 extends the renewable electricity procurement goals and requirements of SB 350. SB 100 requires that all retail sale of electricity to California end-use customers be procured from 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045.

California Air Resources Board: Scoping Plan

On December 11, 2008, the CARB adopted the Scoping Plan (CARB 2008) as directed by AB 32. The Scoping Plan proposes a set of actions designed to reduce overall GHG emissions in California to the levels required by AB 32. Measures applicable to development projects include those related to energy-efficiency building and appliance standards, the use of renewable sources for electricity generation, regional transportation targets, and green building strategy. Relative to transportation, the Scoping Plan includes nine measures or recommended actions related to reducing VMT and vehicle GHGs through fuel and efficiency measures. These measures would be implemented statewide rather than on a project-by-project basis.

In response to EO B-30-15 and SB 32, all state agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the Scoping Plan to reflect the 2030 target (CARB 2014). The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue driving down emissions.

CARB adopted a second update to the Scoping Plan in 2017 to reflect the 2030 target set by EO B3015 and codified by SB 32. The 2017 Climate Change Scoping Plan Update, Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target, was adopted in December 2017. The Scoping Plan Update establishes a proposed framework for California to meet a 40 percent reduction in GHGs by 2030 compared to 1990 levels (CARB 2017).

4.6.2.3 Regional

San Bernadino County Regional Greenhouse Gas Reduction Plan

The San Bernardino County Regional Greenhouse Gas Reduction Plan (2021) was adopted March 2021 by the San Bernardino Council of Governments (SBCOG). Included in the Plan are items pertaining to Chino Hills, including a table of GHG Reduction Measures and Estimated 2030 Reductions for Chino Hills. The Report shows that the City will reduce its community GHG emissions to a level that is 35.1 percent below its 2008 emissions level by 2030, which corresponds to the attainment of CARB's per capita GHG reduction target for 2030. The City will meet and exceed this goal subject to reduction measures that are technologically feasible and cost-effective through state (100 percent) efforts. The Pavley vehicle standards, the state's low carbon fuel standard, the RPS, and other state measures will significantly reduce GHG emissions in Chino Hills' on-road and building energy sectors in 2030. Chino Hills' reduction plan has the greatest impacts on GHG emissions in the building energy, on-road transportation, and waste sectors.

4.6.3 Methodology and Assumptions

4.6.3.1 Air Emissions Modeling

Criteria pollutant emissions were calculated using CalEEMod, Version 2020.4.0, as discussed in Section 4.2, *Air Quality*.

4.6.3.2 Construction Emissions

Refer to Section 4.2, *Air Quality*, for assumptions related to construction schedule, construction off-road equipment, and construction on-road trips that were used in the GHG emissions modeling.

4.6.3.3 Operational Emissions

Operational sources of GHG emissions include area, energy, transportation, water use, and solid waste.

Area Source Emissions

Area sources include emissions from landscaping equipment, the use of consumer products, the reapplication of architectural coatings for maintenance, and hearths. Emissions associated with area sources were estimated using the CalEEMod default values except for hearths. In accordance with SCAQMD Rule 445, the project would not include wood burning stoves or fireplaces (SCAQMD 2020).

Energy Emissions

Development within the project would use energy for lighting, heating, and cooling. Direct emissions from the burning of natural gas may result from furnaces, hot water heaters, and kitchen appliances. Electricity generation typically entails the combustion of fossil fuels, including natural gas and coal, which is then transmitted to end users. A building's electricity use is thus associated with the off-site or indirect emission of GHGs at the source of electricity generation (power plant).

Energy source emissions were estimated assuming implementation of energy-reducing project design features to comply with the 2019 Title 24 standards which include a requirement for new residential buildings with three or fewer residential floors to have on-site generation of electricity through photovoltaic (solar) panels. Based on the number and size of the dwelling units, the project would require solar panels rated at a minimum of 605 kilowatts (kW).[1] The annual electricity generated by a rooftop mounted solar power system varies by the climate, amount of sunlight available per day, the pitch and orientation of the roof, and the efficiency of the electrical transmission. Assuming a capacity factor (CF) of 20 percent, which accounts for climate, daylight hours, roof pitch and orientation, and transmission loss, the power produced by the project's solar panels would be approximately 1,061,037 kilowatt-hours (kWhr) per year.[2] The complete solar power requirement calculations are included in Appendix C to this report.

Vehicular (Mobile) Sources

Operational emissions from mobile source emissions are associated with project-related vehicle trip generation and trip length. Based on the trip generation rate from the Traffic Study prepared for the project, the project would generate 1,501 average daily trips (LLG 2021).

[1] Per the 2019 Title 24 residential building energy efficiency requirements, the minimum solar electrical generation required is calculated by kW = (CFA x A)/1000 + (DU * B), where CFA is the conditioned floor area, A is 0.572 (climate zone 10 adjustment factor), DU is the total number of dwelling units, and B is 1.15 (climate zone dwelling unit factor).

[2] Solar kWhr per year can be calculated by: kWhr/year = Power Output (kW) x 24 hours/day x 365 days/year x CF, where CF is a capacity factor which accounts for climate, daylight hours, roof pitch and orientation, and transmission loss. For typical California residential systems, the CF can range between 17% and 22.5%. A CF of 20% was used in the project calculations.

Solid Waste Sources

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. CalEEMod determines the GHG emissions associated with disposal of solid waste into landfills. Portions of these emissions are biogenic. CalEEMod methods for quantifying GHG emissions from solid waste are based on the IPCC method using the degradable organic content of waste. A conservative 25 percent solid waste diversion rate was applied in CalEEMod to account for mandatory compliance with AB 341 which is not included in the model defaults.

Water Sources

Water-related GHG emissions are from the conveyance and treatment of water. CalEEMod uses the CEC's 2006 *Refining Estimates of Water-Related Energy Use in California* to establish default water related emission factors. Modeling was conducted using these defaults and a 20 percent reduction in potable water use and wastewater generation in accordance with 2019 CALGreen requirements not accounted for in the model defaults.

4.6.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines, a significant GHG emissions impact would occur if implementation of the proposed project would result in any of the following:

1. Generate GHGs, either directly or indirectly, that may have a significant impact on the environment; or

2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

There are no established federal, state, or local quantitative thresholds applicable to the project to determine the quantity of GHG emissions that may have a significant effect on the environment. CARB, the SCAQMD, and various cities and agencies have proposed, or adopted on an interim basis, thresholds of significance that require the implementation of GHG emission reduction measures. For the proposed project, the most appropriate screening threshold for determining GHG emissions is the SCAQMD proposed Tier 3 screening threshold (SCAQMD 2010); therefore, a significant impact would occur if the proposed project would exceed the SCAQMD proposed Tier 3 screening threshold of 3,000 MT CO_2e per year.

As discussed in Section 4.6.2.3, the San Bernardino County Regional Greenhouse Gas Reduction Plan (2021) was adopted March 2021 by the San Bernardino Council of Governments (SBCOG). Included in the Plan are items pertaining to Chino Hills, including a table of GHG Reduction Measures and Estimated 2030 Reductions for Chino Hills. The Report shows that the City will reduce its community GHG emissions to a level that is 35.1 percent below its 2008 emissions level by 2030, which corresponds to the attainment of the California Air Resource Board's per capita GHG reduction target for 2030. The City will meet and exceed this goal subject to reduction measures that are technologically feasible and cost-effective through state efforts. The Pavley vehicle standards, the state's low carbon fuel standard, the RPS, and other state measures will significantly reduce GHG emissions in Chino Hills' on-road and building energy sectors in 2030. Chino Hills' reduction plan has the greatest impacts on GHG emissions in the building energy, on-road transportation, and waste sectors.

4.6.5 Impact Analysis

4.6.5.1 Greenhouse Gas Emissions

Threshold 1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

Project construction GHG emissions were estimated using CalEEMod as described in Section 4.6.2.3. Project-specific input was based on general information provided in Chapter 3, *Project Description,* and default model settings to estimate reasonably conservative conditions. Additional details of phasing, selection of construction equipment, and other input parameters, including CalEEMod data, are included in Appendix B.

Emissions of GHGs related to the construction of the project would be temporary. As shown in Table 4.6-4, *Estimated Construction Greenhouse Gas Emissions*, total GHG emissions associated with construction of the project are estimated at 2,065 MT CO_2e. For construction emissions, SCAQMD guidance recommends that the emissions be amortized (i.e., averaged) over 30 years and added to operational emissions. Averaged over 30 years, the proposed construction activities would contribute approximately 69 MT CO_2e emissions per year.

Table 4.6-4
ESTIMATED CONSTRUCTION GREENHOUSE GAS EMISSIONS

Activity	Emissions (MT CO_2e)
Demolition	53.94
Site Preparation	20.39
Grading	1,235.92
Paving	54.14
Building Construction	690.59
Architectural Coating	10.50
TOTAL[1]	**2,065.48**
Amortized Construction Emissions[2]	***68.85***

Source: HELIX 2022a
[1] Totals may not sum due to rounding.
[2] Construction emissions are amortized over 30 years in accordance with SCAQMD guidance.
GHG = greenhouse gas; MT = metric tons; CO_2e = carbon dioxide equivalent

Operational Emissions

Table 4.6-5, *Total Operational Greenhouse Gas Emissions*, shows the calculated total annual emissions for the project. The emissions include the amortized annual construction emissions anticipated for the project. Appendix B contains the CalEEMod output files for the project.

Table 4.6-5
TOTAL OPERATIONAL GREENHOUSE GAS EMISSIONS

Emission Sources	2025 Emissions (MT CO_2e)
Area Sources	2.74
Energy Sources	281.62
Vehicular (Mobile) Sources	2,429.33
Solid Waste Sources	73.59
Water Sources	41.21
Subtotal[1]	**2,828.49**
Construction (Annualized over 30 years)	68.85
TOTAL[1]	**2,897.34**
SCAQMD GHG Threshold	**3,000**
Exceed Threshold?	**No**

Source: HELIX 2022a

[1] Totals may not sum due to rounding.

[2] Emission per capita is the project total emissions divided by the project population (2,301.3/690).

GHG = greenhouse gas; MT = metric tons; CO_2e = carbon dioxide equivalent

As shown in Table 4.6-5, the project emissions are 2,897 MT CO_2e, while the SCAQMD GHG threshold is 3,000 MT CO_2e per year. Therefore, impacts would be less than significant.

4.6.5.2 Conflict with Plans or Policies

Threshold 2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is AB 32, the California Global Warming Solutions Act of 2006. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. SB 32 would require further reductions of 40 percent below 1990 levels by 2030. Because the project's operational year is post-2020, the project aims to reach the quantitative goals set by SB 32. Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493), the LCFS, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the statewide level; as such, compliance at the project level is not addressed. Therefore, the proposed project would not conflict with those plans and regulations.

The project must also be constructed in accordance with the energy-efficiency standards, water reduction goals, and other standards contained in the 2022 Title 24 Part 6 Building Energy Efficiency Standards and Part 11 (CALGreen) Building Standards, or the code in place at the time building permit applications are submitted, including the requirement for onsite solar electricity generation.

As discussed in Section 4.6.2.3 the San Bernardino County Regional Greenhouse Gas Reduction Plan shows that the City will reduce its community GHG emissions to a level consistent with CARB's per capita GHG reduction target for 2030 through consistency with state mandates including the Pavley vehicle standards, the state's low carbon fuel standard, and the RPS. Therefore, through mandatory compliance with state GHG reduction measures, the project would be consistent with the San Bernardino County Regional Greenhouse Gas Reduction Plan. Impacts would be less than significant.

4.6.6 Mitigation Measures

4.6.6.1 Greenhouse Gas Emissions

No significant impacts related to emissions of GHGs would result from implementation of the proposed project. Therefore, no mitigation measures are required.

4.6.6.2 Conflict with Plans or Policies

No significant impacts related to conflict with GHG plans or policies would result from implementation of the proposed project. Therefore, no mitigation measures are required.

4.6.7 Significance Determination

The significance of GHG impacts before and after mitigation is summarized in Table 4.6-6, *Significance Determination Summary of Greenhouse Gas Impacts*. Implementation of the proposed project would not result in significant GHG impacts. Impacts related to GHG emissions and conflict with GHG plans and policies would be less than significant, and no mitigation is required.

Table 4.6-6
SIGNIFICANCE DETERMINATION SUMMARY OF GREENHOUSE GAS IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Greenhouse Gas Emissions	Less than significant	None required	Less than significant
Conflict with Plans or Policies	Less than significant	None required	Less than significant

4.7 HAZARDS AND HAZARDOUS MATERIALS

This section of the EIR evaluates potential impacts associated with hazards and hazardous materials resulting from implementation of the proposed project. The following discussion is based, in part, on the Phase I, Phase II, and Supplemental Phase II Environmental Site Assessments (ESAs) prepared for the project (ENGEO Incorporated [ENGEO] 2019a, 2019b, and 2021 respectively), which are included as Appendices G, H, and I of this EIR.

4.7.1 Existing Conditions

4.7.1.1 Hazardous Materials Sites

Hazardous materials are substances with certain physical or chemical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous materials are used for a variety of purposes, including service industries, various small businesses, medical uses, schools, and households. Many chemicals used in household cleaning, construction, dry cleaning, film processing, landscaping, and automotive maintenance and repair are considered hazardous. Small-quantity hazardous waste generators include facilities such as automotive repair, dry cleaners, and medical offices.

A search of federal, tribal, state, and local environmental regulatory agency databases was conducted to identify listed hazardous materials sites on and within the appropriate minimum search distances for each database. The project site is not listed in any of the Standard Environmental Record source databases or in any Additional Environmental Record source databases. Off-site listed facilities that were identified within the search radius are included in Table 4.7-1, *Listed Facilities in the Project Vicinity with Potential to Impact the Project Site*.

Table 4.7-1
LISTED FACILITIES IN THE PROJECT VICINITY WITH POTENTIAL TO IMPACT THE PROJECT SITE

Facility*	Location	Distance/Direction from Project Site	Database	Potential Concern
Han Shell	6743 Wrangler Road, City of Chino Hills	105 feet north	Historic Auto	Hazardous waste generator
General Mobil, Inc.	18118 Conestoga Lane, City of Chino Hills	450 feet west	Historic Auto	Hazardous waste generator

Source: ENGEO 2019a

* ENGEO 2019a identifies one additional facility, the Liston Brick Company at 20401 Highway 71 (Temescal Canyon Road) as a listed facility in the project vicinity with potential to impact the project site. Based on further research, the Liston Brick Company site appears to be located at 20401 Temescal Canyon Road, approximately 11 miles from the project site. Due to the distance, this site is not listed in this table, even though it is identified in the Phase I ESA. It appears the 1.5-mile distance identified in the Phase I ESA is an error.

Additionally, the following regulatory agencies were contacted pertaining to possible past development or activity at the project site: City of Chino Hills, San Bernardino County Department of Environmental Health, San Bernardino County Fire Department, Regional Water Quality Control Board (RWQCB), and Department of Toxic Substances Control (DTSC). None of the listed agencies, except DTSC, reported records for the project site; although the RWQCB reported a pond directly west of the project site that was an unpermitted produced-water pond on the Geotracker website. The case was opened in May 2018 and states that the unlined disposal pond is in violation of the Santa Ana RWQCB due to

excessive salinity. The RWQCB ordered the oil operator on adjacent property to cease use of the unlined disposal pond. Currently, the DTSC is working with the TH Shady View, LLC to evaluate historic and existing hazardous material releases at the property site and overseeing the site investigation under the Standard Voluntary Agreement (SVA) (Docket No. HSA-FY20/21-087), executed on January 4, 2022 between DTSC and TH Shady View, LLC. Following the review of the site investigation data, a cleanup/remediation would occur under DTSC's oversight if hazardous material concentrations were found to be unacceptable by DTSC. The community would be informed should a cleanup plan be proposed for the site.

4.7.1.2 Previous Investigations

In 2014, two previous environmental investigations were conducted at the project site. A Phase I ESA (Hillman Consulting 2014a) was conducted and identified two Recognized Environmental Conditions (RECs) present at the project site. These RECs included the property's past use of storing crude oil and the use of the property for waste disposal purposes. The Phase I ESA determined that the project site had been used to store crude oil produced from oil wells adjacent to the east and west for approximately 50 years. Additionally, two excavated areas on the project site had been utilized for waste disposal purposes for approximately 50 years.

A Phase II Subsurface Investigation (Hillman Consulting 2014b) was also conducted in 2014 to determine whether the current and past use of the project site and adjoining properties for producing and storing crude oil had resulted in releases of hazardous or petroleum substances, and to characterize the waste disposed in the excavated areas. Subsurface testing was conducted to test soil and soil vapor for evidence of petroleum hydrocarbons, volatile and semi-volatile compounds, polychlorinated biphenyls (PCBs), and heavy metals. Two soil samples within debris-filled trenches on the project site reported detectable levels of petroleum hydrocarbons which exceeded screening levels. No PCBs or semi-volatile compounds were detected, and no heavy metals in excess of screening levels were present, except for arsenic. Arsenic is a metal commonly found in moderate concentrations in naturally occurring sediment in Southern California.

4.7.1.3 Recognized Environmental Conditions

Three RECs were identified at the project site as a result of the 2019 Phase I ESA (ENGEO 2019a) effort. Three former aboveground storage tanks were present in the northwestern portion of the project site from at least 1973 through at least 2009, and three existing aboveground storage tanks are present along the eastern project boundary. The potential presence of petroleum-impacted soil and soil gas from historic and current petroleum storage are two of the RECs for the project site. A scrapyard and storage area located directly north of the existing aboveground storage tanks is the third REC for the project site. The scrapyard was observed to contain numerous (more than 25) 55-gallon drums and numerous (more than 30) 5-gallon buckets. Some of these containers contained visible labels indicating potential hazardous material content.

Although not a REC, the Phase I ESA also identified two trenches present at the project site as features of potential environmental concern. The two trenches are located near the eastern project boundary, north of the scrapyard. These trenches contained visible construction-related debris (bricks, concrete, and wood). A 2014 Subsurface Investigation (Hillman Consulting 2014b) reported that two soil samples from the trenches contained total petroleum hydrocarbons (TPH) as diesel range (TPH-diesel) and TPH

as motor oil range (TPH-motor oil) at levels exceeding screening levels for residential land use (see discussion in Section 4.7.1.2, *Previous Investigations*).

4.7.1.4 Soil Gas and Soil Samples

A Phase II ESA (ENGEO 2019b) was conducted for the project and consisted of the collection and laboratory testing of soil and soil gas samples, and an attempted groundwater sample (no groundwater was present at the project site). Sampling associated with the Phase II ESA occurred in 2019. These samples were collected at the locations of the former and existing aboveground storage tanks and the scrapyard area. Soil gas samples collected in the former aboveground storage tank area exceeded screening levels for 1,3-butadine, benzene, and chloroform. Soil gas samples collected in the existing aboveground storage tank area exceeded screening levels for 1,3-butadine and benzene. Soil samples collected within the existing aboveground storage tank area of the project site exceeded screening levels for TPH. Soil samples collected in the existing and former aboveground storage tank area and in the scrapyard area exceeded screening levels for arsenic; however, the levels of arsenic detected are within the background arsenic soil concentration levels for Southern California established by the DTSC and are not considered to be from contamination. Table 4.7-2, *Soil Gas and Soil Samples Exceeding Screening Levels,* summarizes the samples collected that exceeded applicable screening levels. Other chemicals were detected in the soil gas and soil samples; however, they were not detected in excess of established applicable screening levels (refer to Tables A and B in Appendix H for the complete summary of the soil gas and soil samples analytical results).

Table 4.7-2
SOIL GAS AND SOIL SAMPLES EXCEEDING SCREENING LEVELS

Location on Project Site	Chemicals Exceeding Screening Levels Soil Gas Samples	Chemicals Exceeding Screening Levels Soil Samples
2019 Sampling		
Former Aboveground Storage Tank Area	1,3-butadine benzene chloroform	arsenic[1]
Existing Aboveground Storage Tank Area	1,3-butadine benzene	TPH, arsenic[1]
Scrapyard Area	N/A	arsenic[1]
2021 Sampling		
Existing Aboveground Storage Tank Area	benzene[2] TCE[2]	N/A

Sources: ENGEO 2019b; ENGEO 2021

[1] Arsenic levels in all three 2019 sample locations exceeded the established screening level, but are within background arsenic soil concentration levels established by DTSC for Southern California.

[2] Benzene and TCE exceeded screening level thresholds in 2021 sampling; however, when an attenuation factor (AF) of 0.001 is applied for new residential construction, samples were below residential screening levels for benzene and TCE. Refer to discussion in Section 4.7.3 for additional information regarding AF and how it is applied in the Supplemental Phase II ESA for this project.

TPH = total petroleum hydrocarbons; TCE = trichloroethylene

Although the 2019 scrapyard soil samples did not exceed established screening levels, the soil samples reported detectable concentrations of TPH-diesel and TPH-motor oil, as well as heavy metals. The soil on the ground near the storage shed in the scrapyard area had visible surface stains.

In 2021, additional sampling was conducted at the project site and a Supplemental Phase II ESA was prepared (ENGEO 2021). Sampling in 2021 included 145 samples consisting of shallow soil samples from 26 locations along the existing pipeline corridor that traverses the central main canyon on the project site, 40 soil borings within the former and existing aboveground storage tank areas and scrapyard, and 33 temporary soil gas wells that were constructed within the soil borings. Each of the soil gas samples reported detectable concentrations of VOCs, all of which were below residential screening levels, with the exception of benzene and trichloroethylene (TCE). Benzene exceeded the residential screening levels in some samples; however, when applying an Attenuation Factor (AF) of 0.001 for new residential construction, all benzene levels were below the corresponding screening levels (refer to Section 4.7.3 for additional information regarding AF and how it is applied in the Supplemental Phase II ESA for the project). TCE was detectable in three soil gas samples, with one sample exceeding residential screening levels; however, with application of the AF of 0.001, all samples with detectable TCE were below the corresponding residential threshold level. Oxygen concentrations in the collected soil gas samples ranged from 16 percent to 18.9 percent, indicating an aerobic environment for bioattenuation. California Environmental Protection Agency recognizes bioattenuation as appropriate for TPH-related compounds including benzene. Samples were also tested for leak-detection compounds (n-pentane, n-hexane, and n-heptane), which were non-detectable in all soil gas samples.

Approximately 21 percent of the soil samples reported detectable concentrations of TPH-diesel and TPH-motor oil; however, all detectable concentrations were below residential screening thresholds. TPH-diesel and TPH-motor oil were detected along the pipeline, in the scrapyard, and in the existing and former aboveground storage areas. Additionally, approximately one-third of collected soil samples reported detectable concentrations of VOCs, specifically TCEand/or methylene chloride, both of which were below corresponding screening levels. TCE was detected in the scrapyard, pipeline, and existing aboveground storage tank areas, and methylene was detected along the pipeline and in the existing aboveground storage area. Metal concentrations in collected soil samples were reported to be below corresponding screening levels and/or below background concentrations (refer to Sections 4.0 and 5.0 in Appendix I for the complete discussion of analytical results and assessment conclusions).

4.7.2 Regulatory Setting

4.7.2.1 Federal

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980 and provides federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Federal actions related to CERCLA are limited to sites on the National Priorities List (NPL) for cleanup activities, with NPL listings based on the United States Environmental Protection Agency (USEPA) Hazard Ranking System (HRS). The HRS is a numerical ranking system used to screen potential sites based on criteria such as the likelihood and nature of the hazardous material release, and the potential to affect people or environmental resources. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986. SARA stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites; required Superfund actions to consider the standards and requirements found in other state and federal environmental laws and regulations; provided new enforcement authorities and settlement tools; increased state involvement in every phase of the Superfund program; increased the focus on

human health problems posed by hazardous waste sites; encouraged greater citizen participation in making decisions on how sites should be cleaned up; and increased the size of the trust fund to $8.5 billion.

Resources Conservation and Recovery Act

The federal Resources Conservation and Recovery Act (RCRA) of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, provides for the management of hazardous wastes from generation to disposal to ensure that it is handled in a manner that protects human health and the environment. Under RCRA, the USEPA has established regulations and procedures for the generation, transportation, storage, and disposal activities of hazardous waste handlers, as well as technical standards for the design and safe operation of treatment, storage, and disposal facilities to minimize the release of hazardous waste into the environment. RCRA's corrective action program is designed to investigate and guide the cleanup of any contaminated air, groundwater, surface water, or soil from hazardous waste management of spills or releases into the environment as a result of the past and present activities at RCRA-regulated facilities.

Hazardous Materials Transportation Act

The U.S. Department of Transportation (DOT), the Federal Highway Administration (FHWA), and the Federal Railroad Administration are the three entities that regulate the transport of hazardous materials at the federal level. The Hazardous Materials Transportation Act (49 CFR 171, Subchapter C) governs the transportation of hazardous materials. These regulations are promulgated by DOT and enforced by USEPA.

Spill Prevention, Control, and Countermeasure (SPCC) Regulation (40 Code of Federal Regulations Part 112)

Originally published in 1973 under the authority of the Clean Water Act (Section 311(j)(1)(C), the Oil Pollution Prevention regulation sets forth requirements for the prevention of, preparedness for, and response to oil discharges at specific non-transportation related facilities (USEPA 2022). This regulation is intended to prevent oil from reaching navigable waters and adjoining shorelines, and to contain discharges of oil. Regulation requirements include the development and implementation of Spill Prevention, Control, and Countermeasure (SPCC) Plans to establish procedures, methods, and equipment requirements at applicable facilities. The SPCC applies to facilities that store, transfer, use, or consumes oil or oil products; and stores more than 1,320 gallons in total of all aboveground contains (in containers exceeding 55 gallon-storage capacity) or more than 42,000 gallons in completely buried containers; and could reasonably be expected to discharge oil to navigable waters of the United States or adjoining shorelines, such as lakes, rivers, and streams. Facilities with aboveground storage tanks meeting the specified requirements are required to prepare a SPCC Plan and to file the plan with the USEPA. The SPCC is required to be certified by a Professional Engineer, and required to be recertified every five years

4.7.2.2 State

California Code of Regulations

California Code of Regulations (CCR) Title 14, Division 2, Chapter 4 regulates the development, regulation, and conservation of oil and gas resources. Subchapter 1 is applicable to onshore well

regulations. Sections 1722 and 1722.9 requires facilities to have a Production Facility Spill Contingency Plan. The Spill Contingency Plan (SCP) is designed to prevent and respond to unauthorized releases, including remediation of potential surface spills of produced fluids. Section 1722.9 contains the requirements for SCP contents. Section 1774 contains requirements for pipeline construction and maintenance, including pipeline inspection and testing (Section 1774.1) and preparation of Pipeline Management Plans (Section 1774.2).

Most state and federal regulations and requirements that apply to generators of hazardous waste are codified in CCR Title 22, Division 4.5. Title 22 contains detailed compliance requirements for hazardous waste generation, transportation, treatment, storage, and disposal facilities. Because California is a fully authorized state under RCRA, most RCRA regulations are integrated into Title 22. The CalEPA/California DTSC regulates hazardous waste more stringently than the USEPA through Title 22, which does not include as many exemptions or exclusions as the equivalent federal regulations. Title 22 also regulates a wider range of waste types and waste management activities than RCRA. The State has compiled a number of additional regulations from various CCR titles related to hazardous materials, wastes, and toxics into CCR Title 26 (Toxics), and provides additional related guidance in Titles 23 (Waters) and 27 (Environmental Protection), although California hazardous waste regulations are still commonly referred to as Title 22.

CCR Title 24, Part 9, the California Fire Code is based on the International Fire Code, with necessary California amendments. The purpose of the California Fire Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, as well as to provide safety and assistance to firefighters and emergency responders during emergency operations.

California Health and Safety Code-HSC Division 20 Chapter 6.8

California Health and Safety Code Division 20, Chapter 6.8 establishes a program to provide for response authority for releases of hazardous substances, including spills and hazardous waste disposal sites that pose a threat to the public health or environment. The DTSC is a Responsible Agency on the project site regarding any hazardous materials and substances evaluation and cleanup. Currently, DTSC is working with the project applicant to investigate the property site and cleanup if needed pursuant to Health and Safety Code section 25355.5(a)(1)(C), which authorizes DTSC to enter into an enforceable agreement to oversee investigation and/or remediation of a release or a threatened release of any hazardous substance at or from the Site.

Hazardous Materials Release Response Plans and Inventory Act

The Hazardous Materials Release Response Plans and Inventory Act requires facilities that handle hazardous materials in amounts above threshold quantities to establish and implement hazardous materials business plans. Pursuant to California Health and Safety Code Section 25504, hazardous materials business plans must contain a hazardous materials inventory disclosing the type, quantity, use, location, and health risks of every hazardous substance, chemical product, and waste handled by the facility; emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material; and provisions for employee training in safety procedures.

Emergency Response to Hazardous Materials Incidents

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous material incidents is one part of this plan. The plan is managed by the California Emergency Management Agency, which coordinates the responses of other agencies, including CalEPA, the California Highway Patrol, CDFW, and RWQCB.

4.7.2.3 Local

Chino Hills Emergency Operations Plan

The Chino Hills Emergency Operations Plan (EOP) describes a comprehensive emergency management system for response to natural disasters, technological incidents, and national security emergencies. It provides guidance on the response to emergencies that may affect the City such as earthquakes, hazardous materials emergencies, flooding, and wildfire. The EOP does not address normal day-to-day emergencies or the well-established and routine procedures used in coping with such emergencies, but instead focuses on potential large-scale disasters that can generate unique situations requiring unusual emergency response. The EOP outlines procedures for mass evacuation and shelter and provides City staff with the basis for an effective response in the event of a local or region-wide disaster. It identifies lines of authority and operational responsibilities and outlines a framework for the continuity of government and maintenance of City services.

Chino Hills General Plan

The Safety Element of the General Plan (City 2015a) identifies a number of applicable policies and actions related to hazardous materials. Specifically, Goal S-5 calls for minimizing the risk from hazardous materials. Policies and actions supporting this goal that are applicable to the proposed project include the following:

- *Policy S-5.1:* Minimize risk to life and property from production, use, and storage of hazardous materials and waste.
- *Action S-5.1.1:* Continue to enforce fire and building code provisions regarding secondary containment; segregation of chemicals to reduce reactivity during a release; sprinkler and alarm systems; and monitoring, venting, and automatic shut-off systems on all new developments.
- *Policy S-5.2:* Control the transportation of toxic, explosive, or other hazardous materials.
- *Policy S-5.3:* Monitor and enforce regulations to ensure adequate clean-up of hazardous materials and waste.
- *Action S-5.3.1:* Require all new developments occurring within areas previously utilized for oil production to mitigate any hazards associated with the oil fields.
- *Action S-5.3.3:* Confirm that existing toxics are contained, removed, and/or remediated as required by applicable federal and state standards.

The project's consistency with these policies and actions are discussed in Section 4.9, *Land Use*.

Chino Hills Fire Code

Chino Hills Municipal Code Chapter 8.16, California Fire Code, adopts the 2019 California Fire Code as the fire code of the City of Chino Hills for regulating and governing the safeguarding of life and property from fire and explosion hazards arising from the storage, handling, and use of hazardous substances, materials, and devices; and from conditions hazardous to life or property in the occupancy of buildings and premises; and providing for the issuance of permits and collection of fees.

4.7.3 Methodology and Assumptions

The Phase I ESA prepared for the proposed project (see Appendix G) included a review of federal, tribal, state, and local environmental records sources; a review of standard historical sources, aerial photographs, fire insurance maps, and physical setting sources; and site reconnaissance. The site reconnaissance was conducted on May 29, 2019 to observe and document existing site conditions. The project site was viewed for hazardous materials storage, superficial staining or discoloration, debris, stressed vegetation, or other conditions that may be indicative of potential sources of soil, soil gas, or groundwater contamination. The project site was also checked for evidence of fill/ventilation pipes, ground subsidence, or other evidence of existing or preexisting underground storage tanks. Available previous environmental reports and site records were reviewed, including a Phase I ESA and a Phase II ESA previously conducted at the project site in 2014, and regulatory agency records from the City of Chino Hills, San Bernardino County Department of Environmental Health, San Bernardino County Fire Department, and RWQCB. Additionally, historic aerial photographs, City directories, Sanborn Fire Insurance maps, topographic maps, and geological maps were reviewed. The regulatory database search was conducted by Environmental Data Resources, Inc. (EDR) and included a comprehensive search of listed facilities on numerous federal and state agency databases within a radius of up to one mile from the project site.

The Phase II ESA prepared for the project consisted of drilling borings to collect soil, soil gas, and groundwater samples, conducted on June 19, 2019. Collected samples were sent for laboratory analysis. To assess potential vapor intrusion concerns, five temporary soil gas borings were installed to a depth of approximately 5 feet below ground surface (bgs) to collect soil gas samples. Two of the five borings were installed near the assumed location of the former aboveground storage tanks and the remaining three borings were installed within and near the existing aboveground storage tanks. To determine if past and present activities at the site have impacted subsurface soils, nine direct-push borings were advanced to 8 feet bgs. Five of the nine borings were located near the assumed location of the former aboveground storage tanks, and the remaining four borings were located within and near the existing aboveground storage tanks. Twenty-seven soil samples were retrieved from the nine direct-push borings. Additionally, six soil samples were collected near the scrapyard area using hand-sampling equipment. One boring was advanced north of the existing aboveground storage tanks with the intention of collecting groundwater samples. The boring was advanced until refusal to advance further, at a depth of approximately 35 feet bgs. A temporary PVC casing was placed in the borehole to facilitate groundwater collection and allowed to sit for over 4 hours. No groundwater was encountered; therefore, no groundwater samples were collected. Laboratory test results were compared to corresponding USEPA Regional Screen Levels, California DTSC Modified Screening Levels, and San Francisco Bay RWQCB Environmental Screening

Levels,[1] assuming a residential land use scenario. Refer to the Phase II ESA (Appendix H) for detailed information regarding the sampling and testing procedures and the analytical results.

In 2021, 145 soil samples were collected throughout the project site, with laboratory analysis conducted on 66 of the samples. Samples consisted of shallow soil samples from 26 locations along the existing pipeline corridor that traverses the central main canyon on the project site, 40 soil borings within the former and existing aboveground storage tank areas and scrapyard, and 33 temporary soil gas wells that were constructed within the soil borings. Samples were analyzed for VOCs, methane, and oxygen and compared to USEPA Regional Screening Levels for residential use (USEPA 2021b) and DTSC Control Screening Levels (DTSC 2020). The screening levels for soil vapor are calculated based on a ratio of the acceptable indoor air concentration to the soil gas concentration, referred to as an attenuation factor (AF). The DTSC's previous guidance related to site assessments for vapor intrusion concern (2011 Vapor Intrusion Guidance) recommends applying a default AF of 0.001 for new residential construction. In February 2020, DTSC released a public draft of Supplemental Guidance: Screening and Evaluation Vapor Intrusion, which applies an AF of 0.001 for new residential construction, though recommends using the USEPA generic AF of 0.03. Additionally, a California-based attenuation factor study was presented at the 2020 California Land Recycling Conference, and the study presented a more conservative AF than 0.001. The Supplemental Phase II ESA compares the measured soil gas concentrations to two screening levels—one based on the DTSC's AF of 0.001 for new residential construction and one based on the USEPA's generic AF of 0.03. The USEPA's generic AF of 0.03 is provided in the Supplemental Phase II ESA for informational purposes. For the purposes of the EIR analysis, based on the expected establishment of 0.001 AF for new residential construction, the EIR discussion relies on the AF of 0.001. Refer to the Supplemental Phase II ESA (Appendix I) for detailed information regarding the sampling and testing procedures and the analytical results.

4.7.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines a significant impact related to hazards or hazardous materials would occur if implementation of the proposed project would result in any of the following:

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

2. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

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

4. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

[1] The San Francisco Bay RWQCB has developed Environmental Screening Levels (ESLs) for over 100 chemicals found at sites with contaminated soil and groundwater. They are intended to help expediate the identification and evaluation of potential environmental concerns at contaminated sites. The ESLs are developed and maintained by the San Francisco Bay RWQCB, but other agencies and areas outside of the San Francisco Bay RWQCB may elect to use the ESLs for screening purposes.

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

4.7.5 Impact Analysis

4.7.5.1 Transport, Use, and Disposal of Hazardous Materials

Threshold 1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Materials and waste are generally considered hazardous if they are poisonous (toxicity), can be ignited by open flame (ignitability), corrode other materials (corrosivity), or react violently, explode, or generate vapors when mixed with water (reactivity). The term "hazardous material" is defined in the State Health and Safety Code (Chapter 6.95, Section 25501[o]) as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment. Hazardous waste is defined as any hazardous material that is abandoned, discarded, or recycled, as defined in the State Health and Safety Code (Chapter 6.95, Section 25125). The transportation, use, and disposal of hazardous materials, as well as the potential releases of hazardous materials to the environment, are closely regulated through many state and federal laws.

Construction. During the project construction period, hazardous substances typical of construction activities would be used to maintain and operate construction equipment (such as fuel, lubricants, adhesives, and solvents). These substances would be present at the project site during construction activities. The use of these materials could potentially result in significant impacts through accidental discharge associated with use and storage of hazardous materials. The transport, use, and disposal of hazardous materials and/or wastes would be conducted in accordance with applicable federal and state laws. In addition, implementation of the proposed project would require conformance with the NPDES Construction General Permit. Specifically, this would entail implementation of a SWPPP to address the use of hazardous materials during construction and the potential discharge of contaminants including construction-related hazardous wastes through the installation of appropriate BMPs. While specific BMPs would be determined during the SWPPP process, the suite of BMPs would include standard industry measures and guidelines contained in the NPDES Construction Permit text and Stormwater Best Management Practices Construction Handbook (California Stormwater Quality Association [CASQA] 2019). Project construction would result in potentially significant impacts associated with construction-related hazardous materials.

In addition to hazardous substances typically present during construction activities, the project would include decommission and removal of existing aboveground storage tanks and rerouting of pipelines and valves to new proposed tanks that would be constructed as part of the project. The decommissioning and removal of the three existing aboveground storage tanks would be conducted in accordance with applicable environmental regulations and the guidelines and requirements of the California Department of Conservation's Geologic Energy Management Division (CalGEM; formerly known as the Division of Oil, Gas, and Geothermal Resources). Actions associated with applicable environmental regulations would include testing of existing tanks for asbestos, with remediation, if necessary, conducted pursuant to the applicable local, state, and federal regulatory requirements; obtaining a replacement demolition permit from the South Coast Air Quality Management District (SCAQMD); and disposal of all materials and drained fluids per applicable regulations.

Construction of the new proposed tanks and associated pipelines would follow all applicable environmental regulations and CalGEM guidelines. A leak detection system is required for all new tanks. A Permit to Construct/Permit to Operate would be obtained from SCAQMD, and construction design plans would be submitted to the City for review and approval prior to the start of construction. After surveying, preparing, and grading the tank site, the tank foundations would be designed by a California-licensed professional Structural Engineer and constructed per CalGEM requirements for leak detection. The pipelines would also be installed per CalGEM requirements.

Operation. Operation of the proposed facilities would include the storage and use of household hazardous materials and wastes. Typical household hazardous materials associated with the residential land uses could include cleaning products, paints, solvents, adhesives, other chemical materials used in building maintenance and interior improvements, automotive lubricants, small combustion engine fuels and lubricants, expired pharmaceuticals, mercury thermometers, sharp or used needles, landscaping pesticides, pool chemicals, and electronic wastes from household and car batteries. No special permits would be required for such limited use or disposal of common agents and products. Any regulated materials would be properly handled, used, stored, transported, and/or disposed of in accordance with regulatory standards. Use of these common hazardous materials would not create a significant hazard to the public or the environment.

The proposed tanks on the project site are part of oil operations on adjacent property and would be operated and maintained by the adjacent landowners and/or oil operators. Oil leases continue in perpetuity as long as oil is being produced and payments are being paid to lease holder. The new tank farm is intended to stay for the duration the lease is in place. Optima would be required to prepare an SPCC Plan and would be required to file the plan with the USEPA. The SPCC is required to be certified by a Professional Engineer, and is required to be recertified every five years. Optima would continue to operate and manage the tank farm and the ancillary pipes/equipment. Optima would inherit the physical tanks and equipment inside the newly built tank farm and the underlying land would be owned by the proposed project's Home Owner's Association. Active oil production facilities in the State of California that have an oil storage capacity exceeding 3,000 barrels are required to have a SCP. The intent of a SCP is to prevent and remediate any potential surface spills of produced fluid. An existing SCP (Vasquez 2015) is in place for the production facility associated with the existing tanks at the project site and would be modified to address the removal of the existing tanks and the placement of the new tanks. Once constructed as part of the project, the proposed tanks would be leased to the oil operators associated with adjacent oil operations (as discussed above) and compliance with hazardous materials rules and regulations would become the responsibility of the tank operator. The proposed tanks would be surrounded by secondary containment features (a block containment wall), with adequate capacity to contain spills in combination with a sub-grade pump. In the event of a spill, liquids would flow into the sump and if the volume exceeded the capacity, the liquids when then be contained by the block wall secondary containment. The proposed pipeline associated with the tanks would contain numerous valves that can be shut to stop of the spread of potential spills or leaks. The proposed operator of the tanks would be responsible for complying with applicable rules and regulations for oil production facilities and associated tanks and piping and would be required to conform to the most current CalGEM regulations. The SCP contains procedures to follow in case of an accidental release, including containment, reporting, and cleanup measures. Routine inspections and maintenance of the tank would occur adhering to regulatory requirements. The proposed tanks would be labelled with appropriate functional description, identification number, tank service type, and a hazardous materials label. During regular maintenance, on-site personnel of adjacent oil operations would inspect the tanks and associated components for evidence of leakage, corrosion, or other forms of deterioration. In the event

leaks or other faults are detected, operators would immediately repair and fix the tanks as necessary to ensure proper operating conditions. The proposed operators would be required to comply with existing regulations in place for oil production facilities, including, but not limited to, CalGEM requirements for oil and gas pipelines and facilities (CCR, Title 14, Chapter 4, *Development, Regulation, and Conservation of Oil and Gas Resources*) and hazardous materials (including, but not limited to CCR, Title 22, Division 4.5, *Environmental Health Standards for the Management of Hazardous Waste* and the Hazard Materials Transportation Act). The proposed oil storage infrastructure that would be present on the site would result in potentially significant hazardous materials impacts, requiring mitigation.

4.7.5.2 Release of Hazardous Materials

Threshold 2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Soil gas and soil samples collected in 2019 at the project site exceeded screening levels for several hazardous materials. In the location of the former aboveground storage tanks, soil gas samples exceeded established screening levels for 1,3-butadine, benzene, and chloroform. In the existing aboveground storage tank area, soil gas samples exceeded screening levels for 1,3-butadine and benzene and soil samples exceeded screening levels for TPH. Further sampling conducted in 2021 indicated the presence of benzene and TCE in soil gas samples collected from the existing aboveground storage tank area; however, for the samples that exceeded residential screening thresholds, when the AF of 0.001 for new residential construction was applied, all benzene and TCE concentrations were below the corresponding residential screening levels. Soil samples collected in 2021 had detectable concentrations of TPH-diesel and TPH-motor oil, including samples from the existing and former aboveground storage tank areas and TCE and methylene chloride in the existing aboveground storage tank area. However, all detectable concentrations of TPH-diesel and TPH-motor oil, TCE, and methylene chloride were below corresponding residential screening levels. In 2021, soil samples along the existing pipeline alignment had detectable concentrations of TPH-diesel and TPH-motor oil, TCE, and methylene chloride; however, all detectable concentrations of TPH-diesel and TPH-motor oil, TCE, and methylene chloride were below corresponding residential screening levels. Proposed activities such as demolition of the existing tanks, pipeline realignment, and grading activities in these portions of the site are not expected to result in significant impacts for residential construction, based on the low concentration of detected VOCs in the 2021 sampling, the generally high oxygen content of the soil, and the anticipated new construction AF. The presence of hazardous materials in the soil gas and soil samples collected at the former and existing aboveground storage tank areas and the existing pipeline alignment is a less than significant impact.

Arsenic was detected in soil samples at the project site in levels exceeding screening levels; however, the level of arsenic detected in each sample was below the background arsenic soil concentration levels established by the DTSC for Southern California. As such, the presence of arsenic in multiple soil samples collected at the project site (from the scrapyard, and former and existing aboveground storage tanks areas) is a less than significant impact.

The scrapyard soil samples did not exceed established screening levels, but the soil samples reported detectable concentrations of TPH-diesel and TPH-motor oil, as well as heavy metals and TCE. Although each of these materials were below corresponding screening thresholds for residential use in both 2019 and 2021 sampling, the area near the storage shed in the scrapyard area had soils with visible surface

stains. Additionally, past soil testing at the debris trenches located to the north of the scrapyard has revealed the presence of TPH-diesel exceeding screening levels for residential uses. Construction activities for the proposed project would result in the removal of materials and movement of soils in both locations. Based on the known presence of TPH, heavy metals, TCE, and the observed staining at the scrapyard location, and the known presence of TPH-diesel in the construction debris trenches, the proposed grading and construction activities would result in the disturbance and potential release of these materials. Thus, the potential for the release of hazardous materials at the scrapyard and construction debris trenches during project grading and construction activities is considered a significant impact, requiring mitigation.

Trash and debris were observed at the project site. The project site contains structures including a large storage shed near the scrap yard area, one small shed (associated with a former gas plant) west of the aboveground storage tanks, and one mobile home. The age of the existing structures is unknown; however, if the structures were constructed prior to the 1980s, it is conceivable that asbestos-containing material (ACM), lead-based paint (LBP), and polychlorinated biphenyl (PCB) containing caulk may be present within structures. Additionally, above-ground power lines were observed within the project site, supported by wooden power poles. Power pole transformers have the potential to house PCBs. Implementation of the project would result in the removal of these existing structures. Due to the potential presence of ACM, LBP, and PCBs, the disturbance and removal of these structures would result in a potentially significant impact.

In addition, DTSC is overseeing the investigation of the property site under a SVA currently. If chemical concentrations were found to be unacceptable or potentially harmful to public health and final residential uses, a cleanup would occur under DTSC's oversight.

4.7.5.3 Hazards to Schools

Threshold 3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Butterfield Ranch Elementary School is located in the South Trail community to the north of the project site, at a distance of approximately one-quarter mile. There are no other schools located within one-quarter mile of the proposed project site.

The proposed project would involve the temporary use and/or storage of fuels, oils, and other potential hazardous materials during construction, and the limited use/storage of household cleaning products, landscaping pesticides, and pool chemicals during operation. The project's use of hazardous materials during construction would be handled in accordance with NPDES SWPPP requirements, as well as compliance with applicable federal, state, and local regulations associated with hazardous materials. Adherence to these applicable regulations would avoid exposure to construction-related and common residential hazardous materials from occurring to nearby schools.

During long-term operation of the project, typical household hazardous materials may be present, as described in Section 4.7.5.1. These regulated materials would be properly handled, used, stored, transported, and/or disposed of in accordance with regulatory standards. Use of these common hazardous materials during project operation would not create a significant hazard to schools. The proposed operator of the oil facilities would be responsible for complying with applicable rules and

regulations for oil production facilities and hazardous materials; however, the presence of the proposed oil storage infrastructure on the site would result in potentially significant hazardous materials impacts, requiring mitigation.

As discussed in Section 4.7.5.2, soil staining and hazardous materials are known to be present in the soil at the scrapyard and construction debris trench locations. Tank demolition, grading, and construction activities that would occur as a part of the proposed project would disturb soils at each of the identified locations, resulting in a potentially significant hazardous materials impact. If present, people at nearby schools could potentially be exposed to emissions of these hazardous materials during demolition and grading activities. Potential construction-related impacts on nearby schools would be significant, requiring mitigation.

4.7.5.4 Hazardous Materials Sites

Threshold 4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

A search of federal, tribal, state, and local environmental regulatory agency databases was conducted as part of the Phase I ESA effort for the project, as summarized in Section 4.7.1.1. The project site was not listed in any of the Standard Environmental Record source databases or any Additional Environmental Record source databases. No impact associated with listed hazardous materials sites would occur as a result of the project. Refer to discussions for thresholds 1-3 above for impact analysis related to hazardous materials at the project site.

4.7.5.5 Emergency Response and Evacuation Plans

Threshold 5: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The project could impact emergency access during both construction and operation. During construction, slow-moving construction vehicles could interfere with emergency response to the site or emergency evacuation procedures. The project site would initially be accessed from the existing dirt road off Mystic Canyon Drive, but would also be accessed from proposed extensions of Shady View Drive and Via La Cresta once initial site grading has been initiated and these road alignments graded for construction access on the site. The majority of construction traffic would access the site via Shady View Drive. All construction vehicles and equipment would be staged within previously disturbed areas within the existing project site boundaries. The City requires traffic control plans for any construction activity that will disrupt traffic flow on city streets and project conditions of approval would require that emergency access be maintained during construction.

Upon completion of construction, vehicular access to the project would be provided via the extensions of Shady View Drive and Via La Cresta, as well as 11 internal roadways proposed for the project. The project would include two access points into the development – the extensions of Shady View Drive and Via La Cresta. These access points are based on the locations of the existing termini of Shady View Drive and Via La Cresta, which were established in 1998 and 1990 with the development to the north of the project site. These two points of ingress and egress are approximately 1,000 feet apart (from Shady View Drive centerline to Via La Cresta centerline, at the project boundary). The 1,000-foot separation is less than the minimum required separation of 1,550 feet for the two project access points required by CVFD.

This separation deficiency is existing and nonconforming, and cannot be changed by the proposed project, as the area to the north of the project is developed with existing homes except for these two access points.

With the exception of two cul-de-sacs in the northeast corner of the project site, each project intersection provides two possible travel paths with several possible routes to the project access/exits points (Shady View Drive and Via La Cresta), refer to Figure 4.15-5 in Section 4.15, *Wildfire.* Residents of seven homes within the proposed development would have to travel more than 500 feet to reach a roadway where two travel paths are available. No residents would be required to travel more than 750 feet to reach an access point with two travel paths. Chapter 16.06 of the Municipal Code includes general development standards, including 16.06.160, which contains fire resistive design requirements and specifics regarding lengths of cul-de-sacs. Section 16.06.160 indicates that cul-de-sacs shall not exceed 350 feet in length, except that they may be extended as allowed by this subsection of the Municipal Code, or as approved by the CVFD. The subsection of the Municipal Code also indicates that one of the following measures, or combination of such measures may be used to mitigate the effect of creating cul-de-sacs up to 600 feet in length:

- Limitation of the total number of dwelling units which have access to the cul-de-sac to no more than 15, and restriction of further subdivision of parcels and construction of additional independent residential units which have access to the cul-de-sac. Such restrictions shall be imposed through the conditions of approval of the development project or other method as approved by the Community Development Director; or

- A continuous perimeter access road at least 20 feet in width is provided along the portion of the cul-de-sac exposed to fuel-modified areas such that it is drivable under normal conditions by firefighting vehicles, provides adequate maneuvering space for such vehicles, and is designed such that at least one point of access to the perimeter access road is taken from roads other than the cul-de-sac in question.

Additionally, this subsection of the Municipal Code contains requirements for cul-de-sac a minimum width. For private streets, which the project internal roadways would be, the cul-de-sac may have a minimum 26-foot-wide paved surface, providing no parking is allowed on the street. The project does not contain cul-de-sacs that have access to more than 15 dwelling units, and as such, would support the 600-foot cul-de-sac length identified by the Municipal Code. The project provides cul-de-sacs ranging from approximately 160 feet in length to approximately 510 feet in length. As such, the project would be consistent with the cul-de-sac standards contained in Municipal Code Section 16.06.160.

Construction of the tank site would include construction of new access routes to the tank site that connect with existing routes at the property line. The new tank access route would have two access points at the western property boundary, approximately 200 feet apart from each other at the property line. Additionally, emergency and fire access would be provided to the tank site via an access road that connects the tank site to the proposed extension of Via La Cresta in the northwest corner of the project site (refer to Figure 4.6-1).

On street parking would be restricted along some project roadways to provide fire lane access. These areas would be marked with “No Parking – Fire Lane” signs consistent with CVFD standards. Proposed locations for restricted on street parking to provide a fire lane include the southwestern side of the Via La Cresta extension, between Shady View Drive and B Street, the western side of D Street between Via

La Cresta and C Street, and the cul-de-sac portions of C Street, E-G Streets, and I-K Streets. Project roadways would be constructed consistent with City and CVFD requirements to ensure adequate emergency access.

The project's Fire Master Plan (Firesafe Planning Solutions, June 2020, Appendix P) contains the following measures to be implemented to ensure appropriate emergency access:

- Fire Department vehicular access roads must be installed and maintained in a serviceable manner prior to and during the time of construction.
- Fire apparatus roads shall be designed and maintained to support the imposed load of fire apparatus weighing 67,000 pounds and shall be surfaced so as to provide all-weather driving capabilities.
- All gates in construction fencing shall be equipped with either a knox box or breakaway padlock.
- Fire lane widths shall be measured from top face of the curb to top face of the curb for fire lanes with standard curbs and gutters and from flow-line for fire lanes with modified curb designs (e.g., rolled, ramped, etc.).
- Fire lane signs and red curbs shall meet the specifications shown in CVFD fire code and detail and shall be installed as described. Additional fire land markings may be required at the time of inspection depending on field conditions.
- A 26-foot wide, 13-foot, 6-inch vertical clearance shall be maintained at all times of fire access roads.

During the course of the City's and CVFD's required review of the proposed project's applications, the site plan would be reviewed to ensure that adequate access to and from the site and around the proposed buildings is provided for emergency vehicles. The project would comply with City and CVFD requirements for emergency vehicle access; however, the existing separation deficiency for the two project access points would result in a significant impact associated with emergency access.

In relation to an emergency response plan, the City's EOP outlines procedures for mass evacuation and shelter. The EOP identifies law enforcement as the local authority that would lead evacuations, with CVFD and the City's Public Works and Operations Department providing support. No specific evacuation routes are provided in the EOP; however, it would be expected that major roadways and thoroughfares in the City, such as SR-71 and Chino Hills Parkway, would be utilized in emergency evacuations. The project would construct roadways consistent with City and CVFD requirements to ensure adequate emergency access. The project does not propose construction activities or road closures along major street thoroughfares in the City. Compliance with City and CVFD requirements for access would ensure that the project would not result in significant impacts associated with an emergency response plan. Impacts would be less than significant.

4.7.6 Mitigation Measures

4.7.6.1 Transport, Use, and Disposal of Hazardous Materials

The proposed project would result in potentially significant impacts related to the transport, use, and disposal of hazardous materials at the project site during construction and long-term operation of the project. Implementation of mitigation measure HYD-1 (refer to Section 4.8 *Hydrology and Water Quality*), HAZ-1, and HAZ-2 would reduce this impact to below a level of significance.

Potentially significant impacts are identified for hazardous materials usage at the project site. Implementation of mitigation measure HYD-1 (discussed in more detail in Section 4.8 *Hydrology and Water Quality*), which requires the preparation of a project-specific SWPPP in conformance with all applicable requirements of the NPDES Construction General Permit (NPDES No. CAS000002, SWRCB Order 2009-0009-DWQ; as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ) and related City standards regarding the issues of erosion/sedimentation and construction-related hazardous materials, would reduce impacts to below a level of significance.

HAZ-1 **Pipeline Maintenance.** The operator of the adjacent oil operations shall conduct pipeline maintenance as required by CalGEM. Pipeline maintenance includes testing on all newly installed, repaired, or modified existing pipelines prior to starting or re-starting operations. Any pipeline having a leak of reportable quantity must successfully pass pressure-testing before returning to service. Additionally, CalGEM-regulated pipelines must be tested on a periodic basis. Active oil or gas pipelines located in high-risk area (high-risk areas include those within 300 feet from any public recreation area, residences, schools, hospitals, or businesses), such as environmentally sensitive, urban, and sensitive areas, require biennial testing after reaching the age of 10 years.

Acceptable testing methods include pressure testing, ultrasonic, and smart pigging. Approval from CalGEM is required before using a testing method other than pressure testing or ultrasonic testing to determine wall thickness. CalGEM recommends operators seek input from CalGEM when planning an ultrasonic test of a pipeline located in a high-risk area (NTO 2019-09). Operators may conduct pipeline leak inspection per CCR Title 14, Division 2, Chapter 4 Section 1774.1 and without notification to CalGEM as this activity is not testing. Furthermore, pipelines not located within high-risk areas are to be tested at a minimum per the interval specified by Cal-OSHA. Operators must notify the local CalGEM district office at least two days prior to any required pipeline testing. CalGEM does not require test notification for pipelines not located within high-risk areas, unless these pipelines are tested following a repair due to a reportable leak.

HAZ-2 **Tank Maintenance.** The operator of the adjacent oil operations shall conduct tank maintenance inspections as required by CalGEM, at least once a month on all in-service tanks associated with oil and gas production. Operators shall inspect the tanks for the following:

1. Leakage at base, seams, associated piping, tank shell plugs, or any other fitting that could leak;

2. Presence of corrosion or shell distortions;

3. General condition of the foundation, including any signs of settling or erosion that may undermine the foundation;

4. Condition of paint coatings, insulation systems, and tank grounding system components if present.

Monthly inspection findings shall be documented either on paper or electronically. The records shall be maintained and easily accessible so that a CalGEM inspector can review them. California requires that the walls or sides of in-service tanks be tested for thickness every five years, unless otherwise approved by the CalGEM State Supervisor of Oil and Gas. Operators must notify CalGEM two days or more prior to conducting required tank testing. Tank wall thickness testing shall be performed by a reputable tank inspection company using ultrasonic thickness-testing equipment to measure the wall thickness in various places. Using the smallest thickness measured from the various readings, the inspector can potentially determine the tank corrosion rate. If the corrosion rate can be determined, inspection time intervals, subject to approval by the CalGEM State Supervisor of Oil and Gas, may be extended, but must still be done at least once every 15 years. The minimum thickness for a tank shell is 0.06 inch. In-service tanks shall be internally inspected and tested to determine bottom plate thickness no less than once every 20 years. A tank is exempt from this requirement if: the tank is not an environmentally sensitive tank, it is not in an urban area, and is not located above subsurface fresh water; or the sub-base of the foundation of the tank has an impermeable barrier designed to prevent downward fluid migration and to allow leaks to drain away from the tank; or the tank has a properly installed, operating and maintained leak detection system. The internal inspection and bottom plate thickness testing is also usually conducted using ultrasonic thickness testing equipment by a reputable tank inspection company. For the bottom plate thickness testing, the inspector will take readings at various places. The smallest thickness measured from the various readings determines if the plate is still usable. The minimum bottom plate thickness shall meet the following criteria:

1. 0.10 inch for tank bottom/foundation design with no means of detection and containment of a bottom leak;

2. 0.05 inch for tank bottom/foundation design with adequate leak detection and containment of a bottom leak;

3. 0.05 inch in conjunction with a reinforced tank bottom lining, greater than 0.05 inch thick.

4.7.6.2 Release of Hazardous Materials

Implementation of the proposed project could result in a potentially significant hazards impact during demolition, grading, and construction activities associated with the release of hazardous materials. Implementation of mitigation measure HAZ-3 through HAZ-7 would reduce this impact to below a level of significance.

HAZ-3 Site/Soil Management Plan. Prior to issuance of a demolition or grading permit, the project applicant shall prepare a Site /Soil Management Plan (SMP). The SMP shall be developed for use during future grading work at the project site. The SMP shall establish guidelines to address potential areas of hazardous materials impact that could be encountered during demolition and

initial grading work, including the following areas of the project site: former and existing aboveground storage tanks, pipeline corridor, scrapyard, and the construction debris trenches. The SMP shall include protocols for the characterization and handling of excavated soil. The SMP shall be prepared and submitted to the City Engineer and/or Building Official for review and approval prior to the issuance of a demolition or grading permit.

HAZ-4 Scrapyard Soil Removal. Prior to the issuance of grading permits, the construction contractor shall complete the following activities in the vicinity of the scrapyard: scarify and remove the upper 6 inches of soil near the storage shed, within the scrapyard area (approximately 0.8 acre), resulting in the removal of approximately 645 cubic yards of soil. The removed soil shall be disposed of at a non-hazardous landfill or potentially be placed in future roadways or deep fill areas. Confirmation of soil removal and disposal shall be submitted to the City Engineer and/or Building Official.

HAZ-5 Construction Debris Trenches Soil Removal. Prior to the issuance of grading permits, the construction contractor shall remove all construction debris and soil within the construction debris trenches, in compliance with the Site Management Plan identified as mitigation measure HAZ-1. The soil within the trenches shall be excavated to at least native soil. Confirmation soil sampling shall be completed on the underlying native soils to confirm that underlying soil meets residential screening levels. The removed soil shall be disposed of at a non-hazardous landfill or potentially be placed in future roadways or deep fill areas. Confirmation of soil removal, disposal, and sampling results shall be submitted to the City Engineer and/or Building Official.

HAZ-6 Removal Action Workplan. Prior to the issuances of grading permits, the project applicant shall provide verification that a site investigation, under DTSC's oversight, has been completed for the project. If the site investigation reveals that site cleanup is needed after the completion of the site investigation, the project applicant shall prepare a Removal Action Workplan, under DTSC oversight. The project applicant shall complete the requirements of the Removal Action Workplan to the satisfaction of the DTSC, and shall provide verification to the City that the requirements of the Removal Action Workplan have been completed to the satisfaction of the DTSC.

HAZ-7 ACM, LBP, and PCB Investigations. Prior to implementing associated demolition operations, an evaluation of the potential occurrence of ACMs, LBP and/or PCBs shall be conducted for demolition/removal of pertinent on-site structures, including the large storage shed near the scrap yard area, one small shed (associated with a former gas plant) west of the aboveground storage tanks, and one mobile home and applicable power pole transformers. Specifically, the following investigations shall be required:

- With respect to ACMs, a survey shall be performed prior to demolition to determine the presence or absence of ACMs at the applicable noted on-site structures proposed for demolition and removal. Suspect materials that will be disturbed by Project activities shall be sampled and analyzed for asbestos content, or assumed to be asbestos containing. The survey shall be conducted by a person certified by Cal/OSHA pursuant to regulations implementing subdivision (b) of Section 9021.5 of the California Labor Code, and who has taken and passed a USEPA-approved Building Inspector Course. Evidence of survey completion shall consist of a signed and stamped statement submitted to the City from the person certified to complete the facility survey, indicating that the survey has been

completed and that either regulated asbestos is present or absent. If regulated ACMs are present, the statement shall describe the procedures that will be taken to remediate the hazard, including applicable regulations for demolition methods and dust suppression under SCAQMD Rule 1403, and proper handling and disposal under CCR Title 22, Division 4.5. Verification that the specified procedures were followed shall be provided to the City.

- With respect to LBP, a survey shall be performed by a California Department of Health Services (DHS) certified lead inspector/risk assessor to determine the presence/absence of LBP at the applicable noted on-site structures proposed for demolition and removal. Evidence of survey completion shall consist of a signed and stamped statement submitted to the City from the person certified to complete the facility survey, indicating that the survey has been completed and that either regulated LBP is present or absent. If regulated LBP is present, all demolition/ removal of lead-containing materials shall comply with applicable regulations for demolition methods and dust suppression. Lead containing materials shall be managed in accordance with applicable regulations including, at a minimum, the hazardous waste disposal requirements (CCR Title 22, Division 4.5); and the State Lead Accreditation, Certification and Work Practice Requirements (CCR Title 17, Division 1, Chapter 8). Verification that the specified procedures were followed shall be provided to the City.

- For PCBs, a survey shall be conducted prior to demolition to determine the presence or absence of PCBs in applicable power pole transformers and in structures proposed for demolition and removal. These surveys shall be conducted by qualified/certified personnel, such as federal and/or state-certified inspectors/assessors. Evidence of survey completion shall consist of a signed and stamped statement submitted to the City from the person certified to complete the facility survey, indicating that the survey has been completed and that either regulated PCBs are present or absent. If regulated PCBs are present, all related handling and disposal shall be conducted pursuant to applicable federal (e.g., 40 CFR Part 761), State (e.g., Title 22) and local (e.g., SBCFD) requirements. Verification that the specified procedures were followed shall be provided to the City.

4.7.6.3 Hazards to Schools

Implementation of the proposed project could result in a potentially significant hazards impact to people at nearby schools due to the routine transfer, use, and storage of hazardous materials during construction and operational activities and during demolition activities associated with release of soil contaminants. Implementation of mitigation measures HAZ-3 through HAZ-7 identified above would reduce this impact to below a level of significance by implementing a SMP to characterize excavated soil and provide protocols for handling of excavated soils, and through the removal of soil in areas with hazardous materials present. If determined to be necessary following the site investigation conducted under DTSC's oversight, the project applicant would prepare and implement a Removal Action Workplan to ensure removal of hazardous materials has occurred, to the satisfaction of the DTSC.

4.7.6.4 Hazardous Materials Sites

No significant impact related to listed hazardous materials sites would result from implementation of the proposed project. Therefore, no mitigation measures are required.

4.7.6.5 Emergency Response and Evacuation Plans

Potentially significant impacts are identified for emergency response and evacuation plans associated with the deficiency for minimum separation of project access points. Implementation of mitigation measure WLF-1 (discussed in more detail in Section 4.15, *Wildfire*), which requires that all structures within the proposed development be constructed per the 2019 California Residential Code Section R337 and be protected with National Fire Protection Association (NFPA) 13-D automatic fire sprinklers, would reduce impacts to below a level of significance.

4.7.7 Significance Determination

The significance of impacts related to hazards and hazardous materials before and after mitigation is summarized in Table 4.7-3, *Significance Determination Summary of Hazards and Hazardous Materials Impacts.* Implementation of the proposed project would result in potentially significant impacts related to the transport, use, and disposal of hazardous materials; the release of hazardous materials; and hazards to schools. With implementation of mitigation measures HYD-1, HAZ-1 through HAZ-7, and WLF-1, these impacts would be reduced to below a level of significance.

Table 4.7-3
SIGNIFICANCE DETERMINATION SUMMARY OF HAZARDS AND HAZARDOUS MATERIALS IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Transport, Use, and Disposal of Hazardous Materials	Potentially significant	HYD-1; HAZ-1 and HAZ-2	Less than significant
Release of Hazardous Materials	Potentially significant	HAZ-3 through HAZ-7	Less than significant
Hazards to Schools	Potentially significant	HAZ-3 through HAZ-7	Less than significant
Hazardous Materials Sites	No impact	None required	No impact
Emergency Response and Evacuation Plans	Potentially significant	WLF-1	Less than significant

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4.8 HYDROLOGY AND WATER QUALITY

This section of the EIR evaluates potential impacts associated with hydrology and water quality resulting from implementation of the proposed project. The following discussed is based, in part, on the Hydrology Analysis for Tentative Tract 20317 (Hunsaker & Associates Irvine, Inc. [Hunsaker & Associates] 2019) and the Preliminary Water Quality Management Plan (PWQMP; Hunsaker & Associates 2020b) prepared for the project, which are included as Appendices J and K of this EIR.

4.8.1 Existing Conditions

4.8.1.1 Hydrologic Setting

In California, the regulation, protection, and administration of water quality are carried out by the SWRCB. Due to the statewide variations in water quality and quantity, California is divided into nine regions for the purposes of regional administration of California's water quality control program, and each region has a RWQCB and Water Quality Control Plan. The project site is located in Region 8, the Santa Ana Region, which covers parts of southwestern San Bernardino County, western Riverside County, and northwestern Orange County. The Santa Ana Region includes the upper and lower Santa Ana River watersheds, the San Jacinto River watershed, and several other small drainage areas (RWQCB 1995).

The Santa Ana Region is divided into three hydrologic units – the Santa Ana River, San Jacinto Valley, and Los Angeles-San Gabriel River hydrologic units. The project site is located within the Santa Ana River Hydrologic Unit (HU), which includes seven hydrologic areas (HA), including the Lower Santa Ana River HA, Middle Santa Ana River HA Split, Lake Matthews HA, Colton-Rialto HA, Upper Santa Ana River HA, San Timoteo HA, and San Bernardino Mountain HA. Each hydrologic area is further divided into hydrologic subareas (HSA). The project site lies within the Chino Subarea HSA (Basin 801.21) of the Middle Santa Ana River HA (see Figure 4.8-1, *Project Location within Local Hydrologic Designations*). The main receiving water body in this HSA is the Santa Ana River.

4.8.1.2 Water Quality

Surface Waters

Storm flows are subject to variations in water quality due to local conditions such as runoff rates/amounts and land use. The main surface water occurring in the vicinity of the project is Chino Creek. The project site discharges to an existing storm drain system to the north and east. Runoff is conveyed easterly across SR-71, and then discharges to Chino Creek Reach 1B, Chino Creek Reach 1A, the Prado Basin Management Zone of the Santa Ana River, and Reach 3 of the Santa Ana River. Typical pollutant sources and loadings for various land use types provided in Table 4.8-1, *Summary of Typical Pollutant Sources for Urban Storm Water Runoff*, and Table 4.8-2, *Typical Loadings for Selected Pollutants in Runoff from Various Land Uses*.

Table 4.8-1
SUMMARY OF TYPICAL POLLUTANT SOURCES FOR URBAN STORM WATER RUNOFF

Pollutants	Pollutant Sources
Sediment and Trash/Debris	Streets, landscaping, driveways, parking areas, rooftops, construction activities, atmospheric deposition, drainage channel erosion
Pesticides and Herbicides	Landscaping, roadsides, utility rights-of-way, soil wash-off
Organic Compounds	Landscaping, streets, parking areas, animal wastes, recreation areas
Oxygen Demanding Substances	Landscaping, animal wastes, leaky sanitary sewer lines, recreation areas
Heavy Metals	Automobiles, bridges, atmospheric deposition, industrial areas, soil erosion, corroding metal surfaces, combustion processes
Oil and Grease/Hydrocarbons	Roads, driveways, parking lots, vehicle maintenance areas, gas stations, illicit dumping to storm drains
Bacteria and Viruses	Landscaping, roads, leaky sanitary sewer lines, sanitary sewer cross-connections, animal wastes, recreation areas
Nutrients (Nitrogen and Phosphorus)	Rooftops, landscaping, atmospheric deposition, automobile exhaust, soil erosion, animal wastes, detergents, recreation areas

Source: USEPA 1999

Table 4.8-2
TYPICAL LOADINGS FOR SELECTED POLLUTANTS IN RUNOFF FROM VARIOUS LAND USES
(lbs/acre/year)

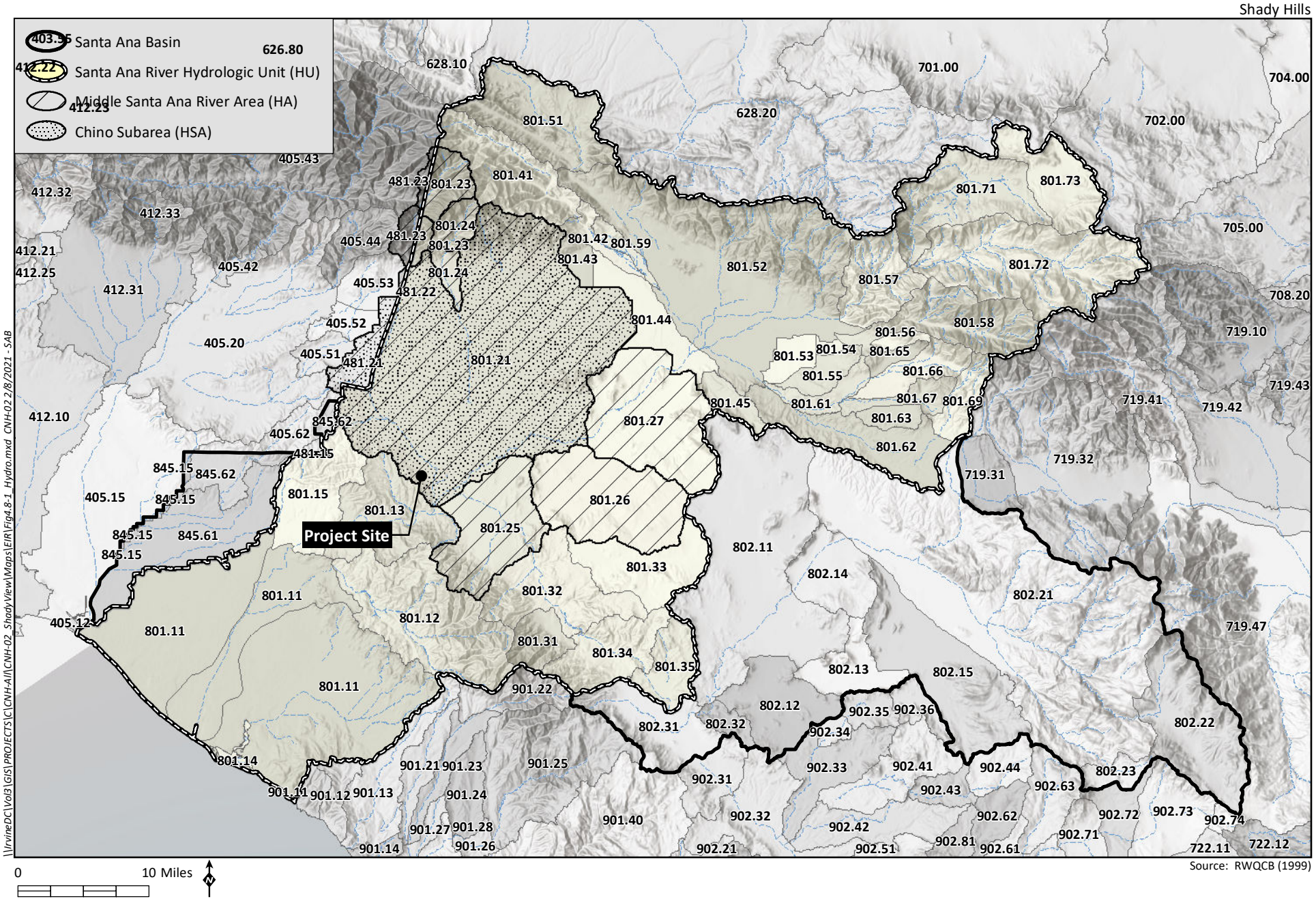
Land Use	TSS	TP	TKN	NH_3 - N	NO_2 + NO_3 - N	BOD	COD	Pb	Zn	Cu
Commercial	1000	1.5	6.7	1.9	3.1	62	420	2.7	2.1	0.4
Parking Lot	400	0.7	5.1	2	2.9	47	270	0.8	0.8	0.04
HDR	420	1	4.2	0.8	2	27	170	0.8	0.7	0.03
MDR	190	0.5	2.5	0.5	1.4	13	72	0.2	0.2	0.14
LDR	10	0.04	0.03	0.02	0.1	N/A	N/A	0.01	0.04	0.01
Freeway	880	0.9	7.9	1.5	4.2	N/A	N/A	4.5	2.1	0.37
Industrial	860	1.3	3.8	0.2	1.3	N/A	N/A	2.4	7.3	0.5
Park	3	0.03	1.5	N/A	0.3	N/A	2	0	N/A	N/A
Construction	6000	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: USEPA 1999
HDR = High Density Residential; MDR = Medium Density Residential; LDR = Low Density Residential
N/A = Not available; insufficient data to characterize; TSS = Total Suspended Solids; TP = Total Phosphorus; TKN = Total Kjeldahl Nitrogen;
NH_3 – N = Ammonia - Nitrogen; NO_2 + NO_3 – N = Nitrite + Nitrate - Nitrogen; BOD = Biochemical Oxygen Demand;
COD = Chemical Oxygen Demand; Pb = Lead; Zn = Zinc; Cu = Copper

Beneficial Uses

The Basin Plan establishes beneficial uses for surface waters in the Region. Beneficial uses are defined in the Basin Plan as "one of the various ways that water can be used for the benefit of people and/or wildlife." Existing and potential beneficial uses for applicable receiving waters near and downstream from the project site are summarized below:

- Chino Creek (Reaches 1A and 1B): Contact Water Recreation (REC-1), Non-contact Water Recreation (REC-2), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD) and Rare Threatened or Endangered Species (RARE). Chino Creek is excepted from the Municipal and Domestic Supply (MUN) beneficial use.



HELIX Environmental Planning

Project Location within Local Hydrologic Designations

Figure 4.8-1

- Prado Basin Management Zone: REC-1, REC-2, WARM, WILD, and RARE. Prado Basin Management Zone is excepted from the MUN beneficial use.

- Santa Ana River Reach 3: Agricultural Supply (AGR); Groundwater Recharge (GWR); REC-1; REC-2; WARM; WILD; RARE; and Spawning, Reproduction, and Development (SPWN). Santa Ana River Reach 3 is excepted from the MUN beneficial use.

Clean Water Act Section 303(d) Impaired Water Bodies and Total Maximum Daily Loads

Under Section 303(d) of the Clean Water Act, states, territories, and authorized tribes are required to develop a list of impaired waters. Waters on the list do not meet water quality standards even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires establishment of priority rankings for waters on the lists and development of action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality. The Santa Ana RWQCB is responsible for developing the 303(d) list for the Santa Ana Region.

The receiving waters for the project site that are currently listed as impaired (based on the 2014–2016 303[d] List) include Chino Creek Reach 1B for chemical oxygen demand and nutrients; Chino Creek Reach 1A for nutrients; Prado Basin Management Zone for pH; and Santa Ana River Reach 3 for copper and lead. Applicable TMDLs include indicator bacteria for Chino Creek Reaches 1A and 1B, and Santa Ana River Reach 3.

4.8.1.3 Groundwater

Groundwater is defined as subsurface water that occurs beneath the water table in soils and geologic formations that are fully saturated. Groundwater bearing formations sufficiently permeable to transmit and yield substantial quantities of water are called aquifers. A groundwater basin is defined as a hydrogeologic unit containing one large aquifer or several connected and interrelated aquifers. Groundwater within the Chino Subarea HSA (Basin 801.21) consists of the Chino Groundwater Basin. In the City, a small portion of the Chino Groundwater Basin extends into lowlands along the eastern periphery of the City. The Chino Groundwater Basin is a single basin that has been divided into five groundwater management zones and into three sub-basins. The Chino Groundwater Basin is one of the largest groundwater basins in Southern California, containing approximately 5 million acre-feet (AF) of water in storage, with an additional unused storage capacity of approximately 1 million AF. Operation of the Chino Groundwater Basin is governed by a 1978 court judgement and agreement that allots a "base water right" to entities that contribute to production of groundwater in the basin. The City actively participates in the Optimum Basin Management Plan (OBMP) to ensure that water supplies and water quality within the Basin are continually monitored (City 2015c). Identified existing or potential beneficial uses of groundwater within the Chino Groundwater Basin include MUN, AGR, Industrial Service Supply (IND), and Industrial Process Supply (PROC).

According to the Preliminary Geotechnical Review prepared for the project (included as Appendix E of this Draft EIR), no free groundwater was encountered during subsurface field evaluations, which explored at a depth of approximately 60 feet. The active drainage that runs west to east on the site appears to be an ephemeral drainage with intermittent water flow based on seasonal conditions. Samples were collected at depth within the center of the active wash and no permanent water table was encountered in the drainage (LGC Geotechnical 2020b). Seasonal fluctuations of groundwater elevations should be expected over time, as groundwater levels fluctuate with the seasons. Local zones

of perched groundwater may be present within near-surface deposits due to local seepage or during rainy seasons.

4.8.1.4 Drainage

The existing condition of the project site is vacant and natural, and although there are some minor impervious areas present at the project site, such as the existing ASTs, scrapyard, and storage shed, for hydrology purposes, the project site is considered to be 100 percent pervious. There are six drainage areas within the project site. Drainage areas A and B comprise the majority of the project site, including an off-site canyon watershed, and confluence downstream of the project site and discharge to an existing 8-foot by 6-foot reinforced concrete box storm drain across SR-71. Drainage areas C and D discharge into the existing storm drain systems for the South Trail community to the north. Drainage area C discharges into an existing 27-inch storm drain along Coyote Street and drainage area D discharges into an existing 42-inch storm drain at the northeast corner of the project site. The existing storm drains for the South Trail community to the north (Parcel Map No. 10141) joins the existing 8-foot by 6-foot reinforced concrete box that crosses SR-71, as described above. Drainage areas E and F discharge into the existing storm drain systems crossing SR-71. Drainage area E discharges into an existing 72-inch corrugated steel pipe and drainage area F discharges into an existing 24-inch arch pipe. All runoff is then discharged to Chino Creek (Reaches 1B and 1A), the Prado Basin Management Zone, and Reach 3 of the Santa Ana River.

The existing drainage conditions within the project site and adjacent areas are shown on Figure 4.8-2, *Existing Condition Hydrology Map*, below. Peak flows under existing drainage pattern conditions total 757.8 cubic feet per second (cfs) for the entire project site in the 100-year storm scenario. Drainage area B accounts for the majority of the flow, with 535.5 cfs for a 100-year storm. Drainage areas A and C through F have 100-year storm peak flows ranging from 8.1 to 109.1 cfs.

4.8.1.5 Flood Hazards

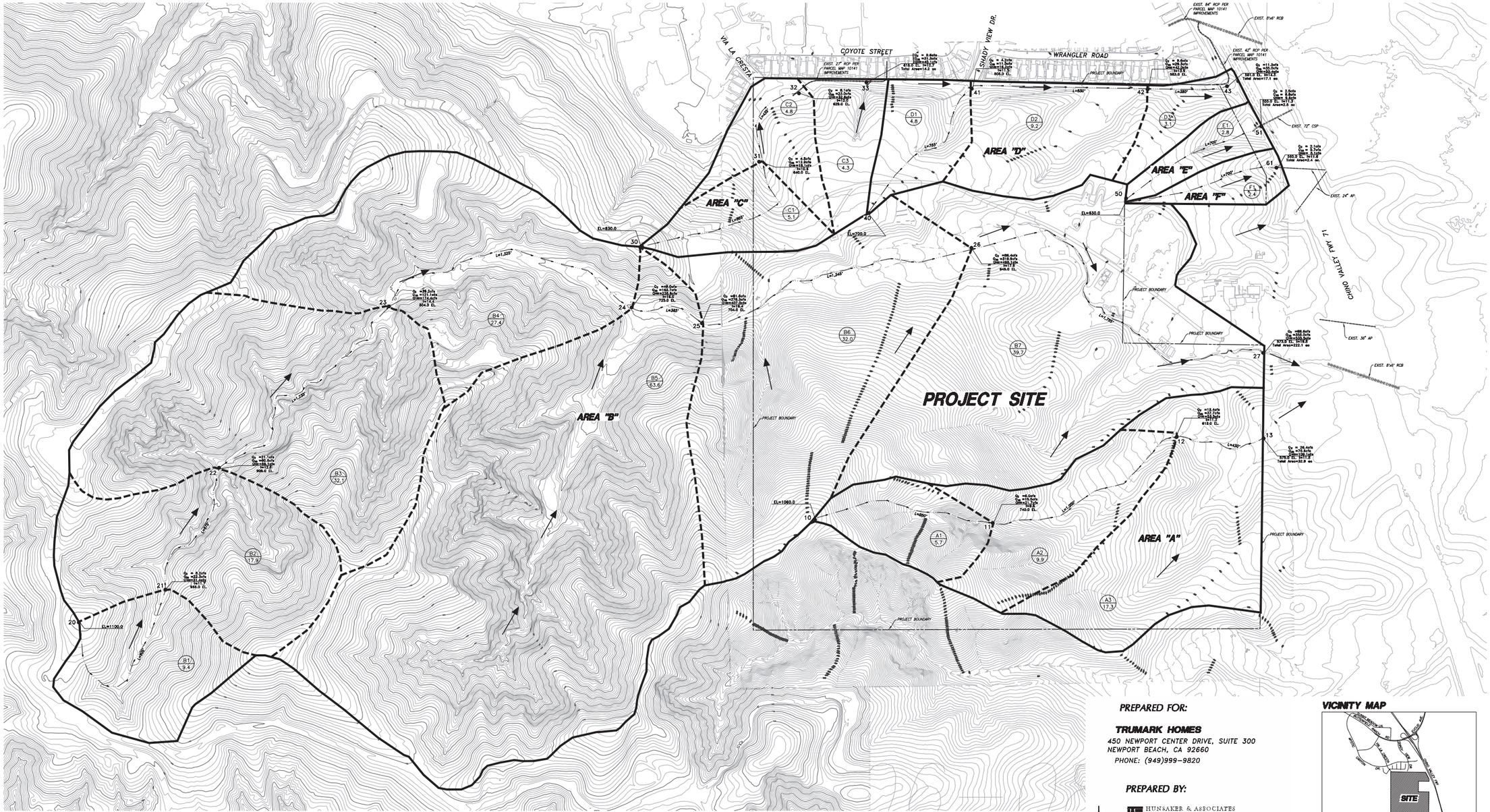
The Federal Emergency Management Agency (FEMA) has mapped flood hazards within the project site and vicinity. The majority of the project site is designated as “Zone D,” which means it is within an area where flood hazards are undetermined, but flooding is possible (FEMA 2008).

4.8.2 Regulatory Setting

4.8.2.1 Federal

Clean Water Act/National Pollutant Discharge Elimination System Requirements

The project is subject to applicable elements of the CWA, including the NPDES. Specific NPDES requirements associated with the project include conformance with the following: (1) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit, NPDES No. CAS000002, SWRCB Order 2009-0009-DWQ; as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ); (2) NPDES Permit and Waste Discharge Requirements for the San Bernardino County Flood Control District, the County of San Bernardino, and the Incorporated Cities of San Bernardino County within the Santa Ana Region (Municipal Permit, NPDES No. CAS 618036, Order No. R8-2010-0036). In California, USEPA has delegated authority for implementing NPDES requirements to the SWRCB and RWQCB, with these permits described below under state standards.



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Source: Hunsaker & Associates (2020)

National Flood Insurance Program

The National Flood Insurance Act of 1968 established the National Flood Insurance Program in order to provide flood insurance within communities that were willing to adopt floodplain management programs to mitigate future flood losses. This Act also required the identification of all floodplain areas and the establishment of flood-risk zones within those areas. The Flood Disaster Protection Act of 1973 expanded the National Flood Insurance Program by substantially increasing limits of coverage authorized under the program, and by requiring known flood-prone communities to participate in the program and to adopt adequate flood plan ordinances. This Act also made the purchase of flood insurance mandatory for property owners who are being assisted by federal programs, agencies, or institutions in the acquisition or improvement of land or facilities located in identified areas having special flood hazards. The National Flood Insurance Program has been further amended by subsequent reform acts. FEMA is the primary agency responsible for administering programs and coordinating with communities to establish effective floodplain management standards. FEMA is responsible for preparing Flood Insurance Rate Maps, which delineate both the special flood hazard areas and the risk premium zones applicable to the community.

4.8.2.2 State

Water Quality Control Plan for the Santa Ana River Basin

The Santa Ana River Basin is the smallest of the nine regions in the state, encompassing approximately 2,800 square miles, including parts of southwestern San Bernardino County, western Riverside County, and northwestern Orange County. The Santa Ana Region includes the upper and lower Santa Ana River watersheds, the San Jacinto River watershed, and several other small drainage areas. The boundaries of the Santa Ana River Basin are established by hydrologic divides that separate watersheds, with the exception of the boundary between the Los Angeles and Santa Ana Regions, which is based on the Los Angeles County Line. Since the county line only approximates the hydrologic divide, part of the Pomona area drains into the Santa Ana Region, and in Orange County, part of the La Habra area drains into the Los Angeles Region. The RWQCB prepared the Water Quality Control Plan for the Basin Plan (Basin Plan), which establishes water quality standards for the ground and surface waters of the region. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain water quality standards. The Basin Plan also defines beneficial uses and water quality objectives for ocean waters, enclosed bays and estuaries, inland surface waters, and groundwaters in the basin. Water quality objectives seek to protect the most sensitive of the beneficial uses designated for a specific water body.

NPDES Construction General Permit

Construction activities exceeding one acre (or meeting other applicable criteria) are subject to pertinent requirements under the Construction General Permit. This permit was issued by the SWRCB, pursuant to authority delegated by the USEPA. Specific conformance requirements include implementing a SWPPP, an associated Construction Site Monitoring Program (CSMP), employee training, and minimum BMPs, as well as a Rain Event Action Plan (REAP) for applicable projects (e.g., those in Risk Categories 2 or 3). Under the Construction General Permit, project sites are designated as Risk Level 1 through 3 based on site-specific criteria (e.g., sediment erosion and receiving water risk), with Risk Level 3 sites requiring the most stringent controls. Based on the site-specific risk level designation, the SWPPP and related plans/efforts identify detailed measures to prevent and control the off-site discharge of pollutants in

storm water runoff. Depending on the risk level, these may include efforts such as minimizing/ stabilizing disturbed areas, mandatory use of technology-based action levels, effluent and receiving water monitoring/reporting, and advanced treatment systems (ATS). Specific pollution control measures require the use of best available technology economically achievable (BAT) and/or best conventional pollutant control technology (BCT) levels of treatment, with these requirements implemented through applicable BMPs. While site-specific measures vary with conditions such as risk level, proposed grading, and slope/soil characteristics, detailed guidance for construction-related BMPs is provided in the permit and related City standards (as outlined below), as well as additional sources including the *EPA National Menu of Best Management Practices for Storm Water Phase II – Construction*, and California Stormwater Quality Association (CASQA) *Storm Water Best Management Practices Handbooks*. Specific requirements for the project under this permit would be determined during SWPPP development, after completion of site development plans and application submittal to the SWRCB.

To obtain coverage under the Construction General Permit, the project applicant is required to submit a Notice of Intent, along with other required documents such as the SWPPP, to both the City and the RWQCB. The Notice of Intent includes general information on the types of construction activities that will occur on the site. It is the responsibility of the designated Legally Responsible Person to obtain coverage under the permit prior to site construction. An annual report must be submitted to the SWRCB each September 1 until a Notice of Termination is filed when construction is complete.

NPDES Municipal Permit

The Municipal Permit implements a regional strategy for water quality and related concerns and mandates a watershed-based approach that often encompasses multiple jurisdictions. The overall permit goals include: (1) providing a consistent set of requirements for all co-permittees; and (2) allowing the co-permittees to focus their efforts and resources on achieving identified goals and improving water quality, rather than just completing individual actions (which may not adequately reflect identified goals). Under this approach, the co-permittees are tasked with prioritizing their individual water quality concerns, as well as providing implementation strategies and schedules to address those priorities. Municipal Permit conformance entails considerations such as receiving water limitations (e.g., Basin Plan criteria as outlined below), waste load allocations (WLAs), and numeric water quality-based effluent limitations (WQBELs). Specific efforts to provide permit conformance and reduce runoff and pollutant discharges to the maximum extent practicable (MEP) involve methods such as: (1) using jurisdictional planning efforts (e.g., discretionary general plan approvals) to provide water quality protection; (2) requiring coordination between individual jurisdictions to provide watershed-based water quality protection; (3) implementing appropriate BMPs, including LID measures, to avoid, minimize, and/or mitigate effects such as increased erosion and off-site sediment transport (sedimentation), hydromodification[1] and the discharge of pollutants in urban runoff; and (4) using appropriate monitoring/assessment, reporting, and enforcement efforts to ensure proper implementation, documentation, and (as appropriate) modification of permit requirements. The City has implemented regulations to ensure conformance with these requirements, as outlined below under local standards.

[1] Hydromodification is generally defined in the Municipal Permit as the change in natural watershed hydrologic processes and runoff characteristics (interception, infiltration and overland/groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act established the principal California legal and regulatory framework for water quality control. The Porter-Cologne Water Quality Control Act is embodied in the California Water Code. The California Water Code authorizes the SWRCB to implement the provisions of the federal CWA. The State of California is divided into nine regions governed by RWQCBs. The RWQCBs implement and enforce provisions of the California Water Code and the CWA under the oversight of the SWRCB. The City is located within the purview of the Santa Ana RWQCB (Region 8). The Porter-Cologne Act also provides for the development and periodic review of Basin Plans that designate beneficial uses of California's major rivers and other surface waters and groundwater basins and establish water quality objectives for those waters.

4.8.2.3 Local

Chino Hills General Plan

The Conservation and Safety Elements of the General Plan (City 2015a) identify several applicable goals, policies, and actions related to hydrology and water quality. Goals, policies, and actions related to hydrology and water quality that are applicable to the proposed project include the following:

- *Policy CN-4.3:* Protect water quality.
- *Action CN-4.3.1:* Protect water resources from urban runoff and other potential pollution sources through implementation of best stormwater management practices and area-wide Urban Storm water Runoff Programs.
- *Action S-1.1.10:* Require new development to minimize peak runoff as required by the Municipal Code.
- *Goal S-2:* Protect the community from flooding hazards.
- *Action S-2.2.2:* Require that the potential environmental drainage impacts of new construction be assessed and mitigated, including impacts that privately owned and operated storm drains adjacent to slopes and canyon areas would have on City and County-maintained drains.
- *Action S-2.2.3:* Require property owners to install and maintain storm drains on their properties as necessary to address drainage related to their property.
- *Action S-2.2.8:* Require measures to be undertaken to control runoff from construction sites.
- *Action S-2.2.9:* Require prompt revegetation and/or construction of newly graded sites to control erosion.
- *Action S-2.2.10:* Limit grading operations during the rainy season.

The project's consistency with these goals, policies, and actions are discussed in Section 4.9, *Land Use*.

Chino Hills Municipal Code

Municipal Code Chapter 13.16, *Storm Drain System*, prohibits all non-permitted discharges to the municipal storm drain system. This prohibition applies to the discharge to municipal storm drains from spills, dumping, or disposal of materials other than stormwater. This regulation is intended to reduce pollutants in stormwater discharges to the maximum extent practicable and to ensure compliance with the NPDES permits.

Municipal Code Chapter 15.12, *Floodplain Damage Prevention and Floodplain Management*, adopts floodplain management regulations that require protection against flood damage at the time of construction; restricts alteration of natural floodplains, stream channels, and natural protective barriers; controls construction and development activities that may increase flood damage; and controls flood barriers that could unnaturally divert flood waters or increase flood hazards in other areas.

Municipal Code Chapter 16.54.010, *Erosion and Sediment Control*, is intended to eliminate and prevent accelerated erosion that has led to, or could lead to, degradation of water quality, loss of fish habitat, damage to property, loss of topsoil and vegetation cover, disruption of water supply, increased danger from flooding and the deposition of sediments and associated nutrients.

4.8.3 Methodology and Assumptions

Potential hydrology and water quality impacts resulting from implementation of the proposed project were evaluated based on relevant information from Appendices J and K, as well as a review of relevant hydrology and water quality plans and maps. As recommended in the San Bernardino County Hydrology Manual, the Rational Method was used to calculate the design discharge for the local drainage areas since the watershed area to the proposed storm drain systems is less than 640 acres (one square mile). Synthetic Unit Hydrograph Method was used to calculate the storm runoff volumes. The Rational Method Calibration Coefficient was used to adjust the peak flow rates to match the peak flow rates generated by the Rational Method. Hydrologic calculations to determine the 2-year, 25-year, and 100-year discharges at critical locations throughout the project site was performed using the San Bernardino County Rational Method.

4.8.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines a significant impact related to hydrology and water quality would occur if implementation of the proposed project would result in any of the following:

1. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

2. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

3. Would the project substantially alter the existing drainage pattern of the Project Site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

    a. Result in substantial erosion or siltation on- or off-site? or

b. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? or

c. 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? or

d. Impede or redirect flood flows?

4. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to Project inundation?

5. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

4.8.5 Impact Analysis

4.8.5.1 Water Quality

Threshold 1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Potential project-related water quality impacts are associated with both short-term construction activities and long-term operation and maintenance, as described below.

Construction Impacts

Potential water quality impacts related to project construction include erosion/sedimentation, the use and storage of construction-related hazardous materials (e.g., fuels, etc.), and generation of debris from demolition activities.

Erosion and Sedimentation

Project-related excavation, grading, and construction activities could potentially result in associated erosion and sedimentation effects. Construction activities would involve the removal of surface stabilizing features such as vegetation, soil excavation and movement, and redeposition of excavated material as fill in development areas. Project-related erosion could result in the deposition of sediment into downstream receiving waters, with associated water quality effects such as turbidity and transport of other pollutants that tend to adhere to sediment particles (e.g., hydrocarbons).

While graded, excavated, and filled areas associated with construction activities would be stabilized through efforts such as compaction and installation of hardscape and landscaping, erosion potential would be higher in the short-term than for existing conditions. Proposed development areas would be especially susceptible to erosion between the beginning of grading/construction and the installation of structures/pavement or establishment of permanent cover in landscaped areas. All graded areas that would not be developed immediately would remain subject to the SCAQMD Rule 403, NPDES Construction General Permit, and City's Erosion Management and Storm Water Management Ordinances until permanently stabilized in accordance with the standards contained within these regulations.

Short-term water quality effects from project-related erosion and sedimentation could potentially affect downstream waters and associated wildlife habitats. These potential impacts would be addressed through conformance with City storm water standards and the related NPDES Construction General Permit. This would include implementing an authorized SWPPP for proposed construction, including (but not limited to) erosion and sedimentation BMPs. This is a potentially significant impact, requiring mitigation.

Construction-related Hazardous Materials

Project construction would involve the on-site use and/or storage of hazardous materials such as fuels, lubricants, solvents, concrete, paint, and portable septic system wastes. The accidental discharge of such materials during construction could potentially result in significant impacts if these pollutants reach downstream receiving waters, particularly materials such as petroleum compounds that are potentially toxic to aquatic species in low concentrations. As described in Section 4.8.1.2, identified impairments in downstream receiving waters include metals and nutrients, with pollutants affecting these impairments to potentially be generated during construction from sources such as vehicle and equipment operations. Project construction would result in potentially significant impacts associated with construction-related hazardous materials. Implementation of a SWPPP would be required under City and NPDES guidelines as previously described and would include measures to avoid potential impacts related to the use and potential discharge of construction-related hazardous materials.

Demolition-related Debris Generation

Implementation of the project would involve the demolition of existing on-site uses including the scrapyard storage shed and three above-ground storage tanks (ASTs). These activities would generate construction debris, potentially including particulates (e.g., from pavement removal), concrete, asphalt, glass, metal, paint, insulation, fabric, and wood. The introduction of demolition-related debris into local drainages or storm drain systems could result in downstream water quality impacts, potentially including pollutants contributing to identified downstream water quality impairments. This is a potentially significant impact, requiring mitigation.

Operational Impacts

The project includes new development involving the creation of 10,000 square feet or more of impervious surfaces collectively over the entire site, includes hillside development of 5,000 square feet or more which are located on areas with known erosive soil conditions or where the natural slope is 25 percent or more, and includes parking areas of 5,000 square feet or more exposed to storm water. Based on these development categories, as identified in the PWQMP, project development would require the use of biotreatment BMPs and hydromodification control BMPs, in addition to preventative LID site design practices and source control BMPs. The proposed BMPs for the project are illustrated in Figure 4.8-3, *Preliminary Water Quality Management Plan*, and discussed in more detail below.

Urban pollutants accumulate in areas such as streets, parking areas, and drainage facilities, and are picked up in runoff during storm events. Runoff within the project site would be generated from construction of impervious surfaces, with corresponding pollutant loading potential. Accordingly, long-term operation could result in the on- and off-site transport of urban pollutants and associated effects per current regulatory standards, such as increased turbidity, oxygen depletion, and toxicity to attendant species in downstream receiving waters. As a result, based on the described conditions and related CWA Section 303(d) impaired water listings outlined in Section 4.8.1.2, implementation of the

LEGEND

- TRACT BOUNDARY
- NAP — NOT A PART
- DRAINAGE MANAGEMENT AREA BOUNDARY
- DA#-# / ACRE — DISCHARGE AREA – DRAINAGE MANAGEMENT AREA DESIGNATION AND ACREAGE
- EXISTING STORM DRAIN SYSTEM
- PROPOSED STORM DRAIN SYSTEM (PRIVATE) MAINTAINED BY HOA
- PROPOSED LOW FLOW & WQ STORM DRAIN SYSTEM (PRIVATE) MAINTAINED BY HOA
- FLOW DIRECTION (ONSITE)
- FLOW DIRECTION (OFFSITE)
- PROJECT LANDSCAPING AREA WITH BMPS: N3 COMMON AREA LANDSCAPE MANAGEMENT; S6 PROTECT SLOPES; S13 HILLSIDE LANDSCAPING; HOA MAINTAINED
- N15 STREET SWEEPING PRIVATE STREETS
- EXISTING CATCH BASIN (PUBLIC)
- PROJECT CATCH BASIN WITH BMPS: S1 (SD-13) STORM DRAIN STENCILING; N14 CATCH BASIN INSPECTION; MAINTAINED BY HOA
- PROPRIETARY BIOFILTRATION MODULAR WETLAND SYSTEM HOA MAINTAINED
- LOW FLOW & WQ DIVERSION STRUCTURE HOA MAINTAINED
- PROJECT DISCHARGE POINT/ POINT OF COMPLIANCE
- ENERGY DISSIPATER

DA-DMA SUMMARY

DA-DMA	AC	IMP ACRE AT 0.65(1)	Q intensity (0.135 cfs/imp acre)	MWS sizing
1-1	0.206	0.134	0.018	4' X 4'
1-2	0.202	0.131	0.018	4' X 4'
2-1	18.21	11.837	1.598	8' X 16' (qty. 3)
3-1	39.7	25.805	3.484	10' X 20' (qty 5)
Total	58.318			

65% IMPERVIOUS AREA USED TO DETERMINE DCV AND Q_{BMP} BASED ON TYPICAL LAND USE VALUES FOR MEDIUM DENSITY RESIDENTIAL (CONSERVATIVE ESTIMATE).

GRAPHIC SCALE 0 60 120 240

Source: Hunsaker & Associates (2020)

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Preliminary Water Quality Management Plan

Figure 4.8-3

project could potentially result in long-term water quality impacts under current regulatory standards. The project PWQMP identifies measures to address potential long-term pollutant generation from implementation of the project, based on procedures identified in the City storm water standards and related NPDES Municipal Permit. Specifically, the project design would conform to applicable City and NPDES storm water standards to address these concerns, with such conformance to include the use of appropriate post-construction LID site design practices, source control, biotreatment BMPs, and hydromodification control BMPs. Specific proposed BMPs are identified in the project PWQMP (Appendix K of this Draft EIR) and include applicable requirements from the City's Municipal Code and the NPDES Municipal Permit, which is administered by the RWQCB. These measures are summarized below, followed by a discussion of associated monitoring and maintenance activities.

Source Control BMPs

Source control BMPs are intended to avoid or minimize the introduction of pollutants into storm drains and natural drainages to the MEP by reducing on-site pollutant generation and off-site pollutant transport. Specific source control BMPs are identified in the project PWQMP. These include education of property owners, tenants, and occupants of stormwater BMPs; activity restrictions; common area landscape management; BMP maintenance; common area litter control; common area catch basin inspection; street sweeping private streets and parking lots; storm drain stenciling and signage; use of efficient irrigation systems and landscape design, water conservation, smart controllers and source control; finish grade of landscaped areas at a minimum of 1-2 inches below top of curb, sidewalk, or pavement; protection of slopes and channels to provide energy dissipation; and hillside landscaping. All of the proposed source control BMPs would help to improve long-term water quality within and downstream from the project site by avoiding or minimizing pollutant generation and exposure to storm flows at the source.

LID Site Design Practices

LID site design BMPs are intended to avoid, minimize, and/or control post-development runoff, erosion potential and pollutant generation to the MEP. The LID process employs design practices and techniques to effectively capture, filter, store, evaporate, detain, and infiltrate runoff close to its source. Specific LID site design BMPs are identified in the project PWQMP. These strategies/measures include efforts to minimize impervious areas, maximize natural infiltration capacity, preserve existing drainage patterns and time of concentration, disconnect impervious areas, protect existing vegetation and sensitive areas, revegetate disturbed areas, and stake off areas that will be used for landscaping to minimize compaction during construction. All of the proposed LID site design BMPs would help reduce long-term urban pollutant generation by minimizing runoff rates and amounts, retaining permeable areas, increasing on-site filtering, and reducing erosion/sedimentation potential.

Biotreatment BMPs

Biotreatment BMPs are designed to reduce stormwater volume to the MEP, treat stormwater using a suite of treatment mechanisms characteristic of biologically active systems, and discharge water to the downstream storm drain system. Biotreatment BMPs can include treatment mechanisms such as media filtration through biologically-active media, vegetative filtration, biologically-mediated transformation, and other processes to remove or reduce suspended and dissolved constituents. The project proposes the use of flow-based proprietary biotreatment BMPs, consisting of modular wetland systems to address storm water pollutants from the project's development areas.

The selection and design of the proposed BMPs were based on applicable site-specific conditions and City requirements, including the identification of associated Drainage Management Areas (DMAs) within the site. Specifically, three DMAs were identified on site. The proposed biotreatment BMPs would operate as part of a "treatment train" in concert with the LID site design and source control BMPs described above. Runoff from each DMA would be conveyed as gutter flow prior to discharging to project catch basins and the proposed storm drain system. Runoff is then conveyed to the modular wetland systems. At the modular wetland systems, runoff would be conveyed through a pre-treatment chamber, where debris, fine particles, oil and grease, and other materials are removed. Runoff is then conveyed to the biofiltration portion of the BMP, consisting of proprietary filtration media and select vegetation that work together to further remove runoff pollutions via filtration and plant/microbial uptake. This runoff is then discharged to the storm drain system.

Hydromodification Control BMPs

The proposed debris basins (with detention included in one basin) would be designed to address potential hydromodification impacts. Specifically, discharge from the hydromodification storage facility would be subject to appropriate flow regulation to meet applicable hydromodification requirements, prior to discharging off site. As a result, the project would comply with applicable hydromodification requirements.

Post-construction BMP Monitoring/Maintenance Schedules and Responsibilities

Identified BMPs include physical structures such as debris basins, modular wetlands, and signs/stencils that require ongoing monitoring and maintenance. Pursuant to requirements in the City Storm Water Management Ordinance and the related NPDES Municipal Permit, the owner/permittee would be required to enter into a written Maintenance Agreement with the City for applicable facilities and implement an associated Operation and Maintenance Plan. Specifically, this process would entail identifying and documenting maintenance responsibilities, funding sources, activities, and schedules to ensure proper BMP function in perpetuity.

Based on the implementation of the project design elements, post-construction BMPs, related maintenance efforts, and required conformance with City storm water standards (including the NPDES Construction General and Municipal permits), the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Water quality impacts would be less than significant.

4.8.5.2 Groundwater Supplies and Recharge

Threshold 2 *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

Groundwater Supplies

Approximately half the City's water supply historically comes from the Chino Groundwater Basin, which includes City groundwater and desalted groundwater purchased from the Inland Empire Utilities Agency (IEUA). According to the City's 2020 Urban Water Management Plan (UWMP), however, City groundwater currently provides none of the total City water supply but is projected to provide up to 4,158 AF per year starting in 2025 (City of Chino Hills, 2015d). The City actively participates in the

Optimum Basin Management Plan (OBMP) to ensure that water supplies and water quality within the Basin are continually monitored. The UWMP projects future water demands and supplies for the City to year 2045 assuming build-out according to the City's existing General Plan that includes the residential density allocated to the project site, which is consistent with the density proposed under the project. As shown in Tables 7-5 through 7-7 of the City's 2020 UWMP, there is sufficient water supply to meet projected demands through 2045, assuming both a dry year and multiple dry years (a worst-case scenario). While groundwater production from City wells to meet the City's water needs is projected to increase over time to approximately 12 percent of total future water supplies, the UWMP projections confirm that the City's annual groundwater allocation from the Chino Basin would be sufficient. Because the growth associated with the project has been anticipated in the City's General Plan, and therefore also in the demand projections in the City's 2020 UWMP, the project would not result in a demand for water supplies (including groundwater) beyond that anticipated in the UWMP such that a decrease in groundwater supplies would result from project implementation. Impacts in this regard would therefore be less than significant.

Groundwater Recharge

As noted previously, the amount of impervious area within the project site would increase upon project completion, with approximately 66.6 percent (86.5 acres) of the project site covered with pervious surfaces and approximately 33.4 percent (43.3 acres) of the project site covered with impervious surfaces. The project would also include new landscaping along the perimeter of the development portion of the project site as well as between the planning areas. Open space areas would cover approximately 80.8 acres, consisting of 1.48 acres of private landscaping, approximately 45 acres of natural (undisturbed) open space, 27 acres of manufactured/restored open space, and 6.9 acres of stormwater detention basins. Stormwater detention basins would be located along the southwestern edge of the development portion of the site, while catch basins with storm drain stenciling would be located throughout the developed portions of the project site, which would connect to low-flow water quality diversion structures and biofiltration modular wetland systems at the east end of the site, to treat runoff from developed areas on-site and capture and naturally filter contaminants from the site's stormwater runoff. Overall, the proposed large amount of natural and restored open space would allow for groundwater infiltration and groundwater recharge, though at an incrementally lower rate due to the overall reduction in impervious surface area on-site. Nonetheless, the proposed new planting areas and other BMPs including detention basins, diversion structures, and biofiltration modular wetlands would slow water, thereby providing increased benefits for groundwater recharge. The project would, therefore, not impede sustainable groundwater management of the basin. Therefore, this impact would be less than significant.

4.8.5.3 Drainage Pattern Alteration

Threshold 3 *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff; or impede or redirect flood flows?*

Drainage Patterns

As described in Section 4.8.1.4, the project site currently includes six drainage areas (drainage areas A-F; refer to the discussion in Section 4.8.1.4 for existing drainage patterns at the site). Project implementation would result in modification of the existing on-site drainage pattern through proposed grading and construction. The proposed project would provide on-site drainage improvements and four debris basins, one of which would provide detention volume in addition to debris volume. Following project construction, the project site would consist of five drainage areas (B-F). Drainage areas A and B (from the existing condition) would create one drainage area (drainage area B) and would discharge into the discharge point associated with drainage area B in the existing condition. Drainage areas C and D would discharge into the existing storm drain system for the South Trail community to the north. Drainage areas E and F would continue discharging into the existing storm drain systems crossing SR-71. The proposed drainage conditions within the project site and adjacent areas are shown in Figure 4.8-4, *Proposed Condition Hydrology Map*, below.

On-site flows would continue to be directed to the identified discharge points and would discharge to Chino Creek Reach 1B and 1A, the Prado Basin Management Zone, and Reach 3 of the Santa Ana River, similar to the existing condition. Based on the described considerations, overall post-development drainage patterns would be similar to existing conditions and less than significant impacts associated with drainage patterns would occur.

Drainage Rates

Peak discharge rates were calculated for the 2-year, 25-year, and 100-year storms under the existing and proposed drainage patterns on the project site to determine potential impacts related to surface runoff. The results of the calculations are shown in Table 4.8-3, *Drainage Discharge Under Existing and Proposed Conditions*.

With implementation of the proposed project, the peak discharge under the 100-year storm event would decrease for drainage areas A, C, E, and F (with flows for discharge area A being redirected to discharge area B). While the peak discharge under the 100-year storm event increases by 5.4 cfs for discharge area B and by 12.1 cfs for discharge area D, increased peak flows in discharge areas B and D are due to increased drainage area in the proposed condition as compared to the existing condition. Additionally, overall peak flows for the proposed project are reduced by 123.6 cfs for the 100-year storm event as compared to the existing condition. The debris/detention basin would be provided to limit the peak discharge for the 100-year storm, with an overall volume of approximately 12.08 AF, consisting of 4.09 AF for debris volume, and 7.99 AF for storm flow detention volume. Additionally, flow throughout the project site would be collected by a system of on-site storm drainage infrastructure that has been sized for the 100-year storm. Therefore, the design of the storm drain system for the project would have sufficient capacity to convey the 100-year storm event without causing flooding of the proposed streets and development. Impacts related to drainage rates and storm drain system capacity would be less than significant.

H:\GIS\PROJECTS\C\ChinoHillsCity_01194\CNH-02_ShadyView\Maps\EIR\Fig4.8-4_ProposedConditionHydro.indd CNH-02 10/15/2021 SAB

Source: Hunsaker & Associates (2020)

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Proposed Condition Hydrology Map

Figure 4.8-4

Table 4.8-3
DRAINAGE DISCHARGE UNDER EXISTING AND PROPOSED CONDITIONS

	Existing Condition				Proposed Condition (Detention in Debris Basin 1)				Difference			
Discharge Area	**Surface Area (acres)**	**2-year (cfs)**	**25-year (cfs)**	**100-year (cfs)**	**Surface Area (acres)**	**2-year (cfs)**	**25-year (cfs)**	**100-year (cfs)**	**Surface Area (acres)**	**2-year (cfs)**	**25-year (cfs)**	**100-year (cfs)**
A	32.9	26.4	76.6	109.1	0.0	0.0	0.0	0.0	-32.9	-26.4	-76.6	-109.1
B	222.1	82.3	346.6	520.9	260.3	81.2	346.7	526.3	38.2	-1.1	0.1	5.4
A and B Subtotal	255	108.7	423.2	630	260.3	81.2	346.7	526.3	5.3	-27.5	-76.5	-103.7
C	14.2	11.2	32.1	45.7	7.8	5.9	17.3	25.0	-6.4	-5.3	-14.8	-20.7
D	17.1	11.3	35.0	50.4	21.5	14.5	42.5	62.5	4.4	3.2	7.5	12.1
C and D Subtotal	31.3	22.5	67.1	96.1	29.3	20.4	59.8	87.5	-2.0	-2.1	-7.3	-8.6
E	2.8	2.5	6.8	9.6	0.8	0.8	2.4	3.5	-2.0	-1.7	-4.4	-6.1
F	2.4	2.1	5.7	8.1	1.1	0.4	1.9	2.9	-1.3	-1.7	-3.8	-5.2
Total	291.5	135.8	502.8	743.8	291.5	102.8	410.8	620.2	0.0	-33.0	-92.0	-123.6

Source: Hunsaker & Associates 2019
cfs = cubic feet per second

Increase in Impervious Areas

Development of the project would result in the construction of impervious surfaces such as structures and pavement, which can increase both the rate and amount of runoff within and from a site by reducing infiltration capacity and concentrating flows. Such conditions can potentially generate impacts related to local flooding hazards (e.g., if storm drain capacities are exceeded), erosion and sedimentation (e.g., if increased runoff rates or amounts occur in local receiving waters), and/or local groundwater recharge rates if impervious areas are increased. The site is undeveloped and pervious. Implementation of the project would result in the placement of approximately 43.3 acres of total paved and impervious areas (covering approximately 33.4 percent of the project site). However, as discussed above, the storm drain system designed for the project would have sufficient capacity to convey the 100-year storm event. Thus, associated drainage impacts related to an increase in impervious areas would be less than significant.

4.8.5.4 Inundation Hazards

Threshold 4: In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to Project inundation?

Per Figure 5-7 of the Chino Hills General Plan (City, 2015a), the project site is not located within a known flood hazards zone or in proximity to an open water body, and the site is approximately 25 miles from the Pacific Ocean at the closest point. The project site is not located within the delineated flood boundaries of the Prado Basin to the east of the site and based on the distance from the site to the ocean there would be no potential for tsunamis to affect the project. While there is a two-million-gallon reservoir (water tank) located on a hillside approximately 3,000 feet to the west-northwest of the project site, the enclosed tank would not pose a risk to life or property associated with seiche effects during a seismic event. Based on the location of the project site relative to flood hazard areas, open water bodies, and the Pacific Ocean, impacts associated with potential inundation from these hazards would be very low to negligible. As such, impacts in this regard would be less than significant.

4.8.5.5 Water Quality Plans

Threshold 5: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The project site is located within the Chino Subarea HSA (Basin 801.21) of the Middle Santa Ana River HA. The receiving waters for the project site that are currently listed as impaired (based on the 2014 – 2016 303[d] List) include Chino Creek Reach 1B for chemical oxygen demand and nutrients; Chino Creek Reach 1A for nutrients; Prado Basin Management Zone for pH; and Santa Ana River Reach 3 for copper and lead. Applicable TMDLs include indicator bacteria for Chino Creek Reaches 1A and 1B, and Santa Ana River Reach 3. Runoff from the project site would be collected by the on-site storm drain system, treated in accordance with the water quality regulations, and then discharged off site. The proposed project would implement a site-specific SWPPP pursuant to the NPDES Construction General Permit and the City's storm water standards and would adhere to applicable requirements outlined in the project PWQMP, as described in Section 4.8.5.1. The project would also comply with all storm water quality standards during construction and operation, as detailed in Section 4.8.5.1. Conformance with the Basin Plan water quality objectives would be demonstrated through compliance with applicable regulations

and implementation of construction and post-construction BMPs. Thus, the project would be consistent with the Basin Plan.

The project would not directly involve groundwater use or impede groundwater recharge, as there is no groundwater present at the project site. As discussed in Section 4.1.8.3, the City actively participates in the OBMP to ensure that water supplies and water quality in the Basin are continually monitored. As such, implementation of the proposed project would not conflict with or obstruct implementation of a sustainable groundwater management plan. Impacts would be less than significant.

4.8.6 Mitigation Measures

4.8.6.1 Hydrology and Water Quality

The project would result in potentially significant impacts associated with water quality during construction. Implementation of mitigation measures HYD-1 would reduce this impact to level a level of significance. Hydrology and water quality impacts during long -term operation would be less than significant.

HYD-1 Storm Water Pollution Prevention Plan. Prior to project implementation, a project-specific SWPPP shall be prepared and implemented, in conformance with all applicable requirements of the NPDES Construction General Permit (NPDES No. CAS000002, SWRCB Order 2009-0009-DWQ; as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ) and related City standards regarding the issues of erosion/sedimentation and construction-related hazardous materials.

While final BMPs would be determined as part of the noted NPDES/SWPPP process based on site-specific parameters, they are likely to include standard industry measures and guidelines from sources including the City's Erosion Management and Storm Water Management Ordinances and Construction General Permit. While project-specific erosion and sedimentation BMPs would be determined during the SWPPP process based on site characteristics, they would include standard industry measures and guidelines from the City's Erosion Management and Storm Water Management Ordinances and the NPDES Construction General Permit administered by the RWQCB. Typical erosion and sediment control BMPs that may be required in the project SWPPP include: (1) seasonal grading restrictions during the rainy season; (2) preparation and implementation of a CSMP and, if applicable, a REAP to provide enhanced erosion and sediment control measures prior to predicted storm events; (3) use of erosion control/stabilizing measures such as geotextiles, mats, fiber rolls, or soil binders; (4) use of sediment controls to protect the site perimeter and prevent off-site sediment transport, including measures such as inlet protection, silt fencing, fiber rolls, gravel bags, temporary sediment basins, street sweeping, stabilized construction access points and sediment stockpiles, and use of properly fitted covers for sediment transport vehicles; (5) compliance with local dust control measures; (6) appropriate BMP performance monitoring and as-needed maintenance; and (7) implementation of additional BMPs as necessary to ensure adequate erosion/sediment control and regulatory conformance.

Typical BMPs associated with construction-related hazardous materials that may be required in the project SWPPP include the following: (1) minimizing and properly locating (e.g., away from drainages/storm drains) hazardous material use/storage areas; (2) providing appropriate

covers/enclosures, secondary containment (e.g., berms), monitoring/maintenance, and inventory control (e.g., delivery logs/labeling) for hazardous material use/storage areas; (3) restricting paving operations during wet weather and providing appropriate sediment control downstream of paving activities; (4) utilizing properly designed and contained washout areas for materials including concrete, drywall, and paint; (5) properly maintaining all construction equipment and vehicles, and providing appropriate containment for associated fueling and maintenance operations; (6) providing training to applicable construction employees on the proper use, handling, storage, disposal, and notification/cleanup procedures for construction-related hazardous materials; (7) storing appropriate types and quantities of containment and cleanup materials on site; (8) implementing appropriate solid waste containment, disposal, and recycling efforts; and (9) properly locating, maintaining, and containing portable wastewater facilities.

While detailed BMPs would be determined as part of the NPDES/SWPPP process based on project-specific parameters, BMPs specific to demolition-related debris generation, they are likely to include the following types of standard industry measures and guidelines from sources including the City's Erosion Management and Storm Water Management Ordinances and Construction General Permit: (1) recycle appropriate (i.e., non-hazardous) construction debris for on- or off-site use whenever feasible; (2) properly contain and dispose of construction debris to avoid contact with storm water; (3) use dust-control measures such as watering to reduce particulate generation for pertinent locations/activities (e.g., concrete removal); and (4) implement appropriate erosion prevention and sediment control measures downstream of all demolition activities.

4.8.6.2 Groundwater Supply and Recharge

No significant impacts related to groundwater supply and recharge would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.8.6.3 Drainage Patterns

No significant impacts related to drainage patterns would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.8.6.4 Inundation Hazards

No significant impacts related to flood hazard areas, seiche effects, or tsunamis would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.8.6.5 Water Quality Plans

No significant impacts related to water quality plans would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.8.7 Significance Determination

The significance of hydrology and water quality impacts before and after mitigation is summarized in Table 4.8-4, *Significance Determination Summary of Hydrology and Water Quality Impacts*. Implementation of the proposed project would result in potentially significant impacts to water quality

during construction. The implementation of mitigation measure HYD-1 would reduce this potentially significant impact to a less than significant level. Impacts related to water quality during operation, groundwater supply and recharge, drainage pattern alterations, and water quality plans would be less than significant with adherence to applicable regulatory/industry standards and codes, including NPDES requirements and the hydrologic design measures incorporated into the project.

Table 4.8-4
SIGNIFICANCE DETERMINATION SUMMARY OF HYDROLOGY AND WATER QUALITY IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Water Quality	Potentially significant	HYD-1	Less than significant
Groundwater Supply and Recharge	Less than significant	None required	Less than significant
Drainage Pattern Alteration	Less than significant	None required	Less than significant
Water Quality Plans	Less than significant	None required	Less than significant

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4.9 LAND USE

This section of the EIR discusses applicable land use policies and evaluates potential land use impacts associated with implementation of the proposed project. It references planning and environmental information contained in other sections of this EIR, as applicable.

4.9.1 Existing Conditions

4.9.1.1 On-site Land Uses

The project site is mostly vacant, but contains several minor uses, including three existing aboveground oil storage tanks, oil pipelines, scrapyard and storage area, split wood storage, soil piles, two trenches containing construction debris, and access roads. The three tanks include an emergency oil/water tank, an oil/water wash tank, and an oil stock tank. The emergency tank is not currently in operation. Each of the existing three tanks on site have a 1,000-oil-barrel (42,000 gallons) capacity. The three tanks are owned by Optima Conservation Resources Exploration, LLC and are associated with oil exploration activities on adjacent property to the west and northwest.

The adjacent oil operations are part of a facility that consists of two land leases (the Abacherli and Langstaff leases) and produces 5 to 25 barrels of oil and 3 to 8 barrels of water per day. The Abacherli lease is located west and northwest of the project site, and the Langstaff lease is located approximately one mile southwest of the project site. The oil operations on the Abacherli lease include twelve actively producing wells. Various pipelines (approximately 4 inches in diameter) collect extracted crude oil from the Abacherli lease facilities on adjacent property to the west and pipe them to the three tanks on the project site. These pipelines traverse the central main canyon that transects the project site from west to east. The pipelines are on the ground surface, or in some cases, just below ground surface (refer to Figure 2-1). A concrete slab with beehives is located on the northwestern portion of the project site. Beehives are owned and operated as a family business on property owned by the seller's family. Hives shall be relocated to another property owned by the family in the vicinity of the project site.

The project site is designated Low Density Residential and Agriculture/Ranches in the City's General Plan (City 2015a and 2015b; refer to Figure 2-3) and is zoned Low Density Residential (R-S) and Agriculture/ Ranches (R-A *40-acre minimum lot size) (refer to Figure 2-4).

4.9.1.2 Surrounding Land Uses

Uses to the north include existing single-family residential uses with a General Plan Land Use designation of Low Density Residential and Medium Density Residential and zoned Planned Development (PD) 57-174 (single-family homes). Hills, with approximate peak elevations ranging from 1,050 to 1,200 feet above mean sea level (amsl) and approximate base elevations ranging from 700 to 860 feet amsl, are located west of the project site. These hills, consisting of vacant land and scattered oil wells, have Agriculture/Ranches and Public Open Space land use designations, and are zoned PD 57-174 (custom lots and open space lots) and Agriculture/Ranches (R-A *40-acre minimum lot size). Oil facilities to the west include well sites that connect with the existing on-site tanks (refer to Figure 2-2), as well as the West Mahala lease, which is not related to the facilities on the project site.

Chino Hills State Park is located west of the project site, beyond the adjacent vacant land and oil uses, approximately 1.7 mile from the project boundary. Vacant land consisting of hills with elevations ranging

from approximately 560 to 1,140 feet amsl are located to the south of the project site. These hills to the south have a land use designation of Agriculture/Ranches and are zoned Agriculture/Ranches (R-A *40-acre minimum lot size). To the east (within the square cut-out parcel) is one single-family home consisting of several buildings and a wireless communications facility on land designated Low Density Residential and zoned Low Density Residential (R-S). There is a strip of vacant land to the east of the project site and the adjacent single-family residential structure and wireless communications facility, between the project site boundary and SR-71. This strip of land is outside of the City of Chino Hills and is in unincorporated Riverside County. Riverside County designates this parcel as Open Space-Conservation (OS-C) land uses, with Watercourse, Watershed, and Conservation Areas (W-1) zoning.

4.9.2 Regulatory Setting

Land use plans applicable to the proposed project that include goals and policies intended to reduce or avoid environmental effects include the City's General Plan and Development Code, SCAQMD Air Quality Management Plan, and the Water Quality Control Plan for the Santa Ana River Basin. In addition, the regional planning context is provided in SCAG's RTP/SCS. The applicable land use plans, ordinances, and regulations are described below.

4.9.2.1 Local Regulations

SCAG Regional Transportation Plan/Sustainable Communities Strategy

The 2020 RTP/SCS (SCAG 2020) is a major planning document for the regional transportation and land use network. It balances the region's future mobility and housing needs with economic, environmental, and public health goals. This long-range Plan, required by the state of California and the federal government, is updated by SCAG every four years as demographic, economic, and policy circumstances change. The goals of the 2020 RTP/SCS fall into four core categories: economy, mobility, environment, and health/complete communities. The 2020 RTP/SCS includes the following goals:

- Encourage regional economic prosperity and global competitiveness.
- Improve mobility, accessibility, reliability, and travel safety for people and goods.
- Enhance the preservation, security, and resilience of the regional transportation system.
- Increase person and goods movement and travel choices within the transportation system.
- Reduce greenhouse gas emissions and improve air quality.
- Support healthy and equitable communities.
- Adapt to a changing climate and support an integrated regional development pattern and transportation network.
- Leverage new transportation technologies and data-driven solutions that result in more efficient travel.
- Encourage development of diverse housing types in areas that are supported by multiple transportation options.

- Promote conservation of natural and agricultural lands and restoration of habitats.

In addition to long-term projections, the Regional Plan includes an SCS, in compliance with Senate Bill (SB) 375. The purpose of the SCS is to help the SCAG region meet the GHG emissions reductions set by the CARB. The Regional Plan has a horizon year of 2045, and projects regional growth and the construction of transportation projects over this time period.

Chino Hills General Plan

The adopted Chino Hills General Plan is a long-term planning document that guides growth and development in Chino Hills by establishing goals, policies, and actions that reflect the city's vision for the future, with a planning horizon of 2035. Through the General Plan, Chino Hills defines a path that recognizes the city's many assets, including its high quality of life, beautiful surrounding hillsides, and excellent location adjacent to SR-71. The General Plan includes eight elements that comply with general plan guidelines established by the California Government Code (Section 65302). The Land Use Element designated all lands within the City for specific uses such as housing, commercial, industrial, and open space uses. The Land Use Element also provides development regulations for each land use category and overall land use policies for the City. Other elements of the General Plan include Circulation; Housing; Conservation; Safety; Parks, Recreation, and Open Space; Noise; and Economic Development. The following discussion summarizes each element that is relevant to the project. In addition, applicable goals within each element pertaining to the project are evaluated in detail as presented in Table 4.9-1*, General Plan Goals, Objectives, and Policies Consistency Evaluation*. Because of its length, Table 4.9-1 is placed at the end of this section.

Land Use Element

The Land Use Element regulates the type and intensity of development by land use area. The Land Use Element describes the proposed general distribution, location, and extent of land uses within the City, including housing, business, industry, open space, recreation facilities, educational facilities, public buildings and grounds, solid and liquid waste facilities, flood hazard areas, agricultural land, and other categories of public and private uses of land. The Land Use Element supports the City's vision to preserve and enhance high quality, balanced development; the rural character of the natural environment; ample private and public services; sustainable land use patterns; community character; and healthy living.

The Land Use Element is the driving element of the General Plan. Because it establishes the type, intensity, and pattern of land uses, it both shapes and is shaped by housing, transportation, noise, air quality, infrastructure, public services, natural resources, safety, open space, and recreation issues. The Land Use Element contains a Land Use Map that identifies the location of each land use designation within the City. The Land Use Map designates the project site as Low Density Residential and Agriculture/Ranches. The Low Density Residential land use designation includes areas proposed for development with single-family detached housing with a 6 dwelling unit per acre maximum. On large parcels, this development would be concentrated in more developable areas with large contiguous areas left as open space. The Agriculture/Ranches designation permits residential development on very large lots (5 acres in size or more), with 0.2 dwelling units per acre maximum.

Circulation Element

The Circulation Element identifies the circulation network necessary to support the Land Use Plan contained in the Land Use Element of the General Plan, facilitating the efficient movement of people and goods. The Circulation Element establishes standards for design and operation of the City's roadway system, defines the transportation system needed to meet those standards and identifies transit services and bikeways necessary to meet the needs of City residents. It examines the existing transportation network and provides policy direction for implementing the City's future transportation network. A key feature of the Circulation Element is the classification of the streets based on function. Within the City, three functional classifications are identified: arterial, collector, and local. Public infrastructure including water, sewer, storm drainage, electricity, natural gas, and telecommunication infrastructure is also discussed in the Circulation Element.

Housing Element

The Housing Element reflects the City's efforts to identify and plan for the City's existing and projected housing needs. The Housing Element presents policies and programs to continue the City's effort in meeting its Regional Housing Needs Assessment allocation for the 2021-2029 period, and prepare for the subsequent planning period. It provides an assessment of both current and future housing needs and identifies opportunities and constraints in meeting such needs. The Housing Element establishes housing goals, policies, and actions to support the City's Housing Plan and its efforts to address issues identified in the assessment. The Housing Element contains the following goals:

- Provide a range of housing types to meet the needs of existing and future residents;
- Maintain and enhance the quality of existing residential neighborhoods;
- Develop housing that is sensitive to environmental issues;
- Provide support services to meet the special housing needs of the City's residents; and
- Promote equal opportunities to access housing for all persons regardless of age, race, religion, sex, marital status, sexual orientation, ancestry, national origin, color, familiar status, or disability.

Conservation Element

The Conservation Element addresses the protection and management of the City's natural and cultural resources, including scenic visual resources, trees, hillsides, biological resources, agricultural land, mineral resources, water, air quality, cultural resources, and energy conservation. The Conservation Element supports the City's vision to preserve natural resources, promote energy conservation, and protect cultural resources. Major topics addressed in the Conservation Element include existing biological resources, air quality, energy conservation, GHG emissions, solid waste management, and cultural and paleontological resources. The Element identifies programs and policies the City has in place to promote conservation of its natural resources, energy conservation, and protection of its cultural resources.

Safety Element

The Safety Element addresses the natural and human-made hazards affecting the City, including seismic, geologic, flood and inundation, fire, and hazard materials. The Safety Element also includes a discussion of Citywide emergency preparedness Safety Plan, consisting of the City's Emergency Operations Plan, hazard overlay districts, fire suppression capabilities, emergency medical services, and police services. The purpose of the Safety Element is to identify and where possible, reduce the impact of natural and human-made hazards that may threaten the health, safety, and property of the City. Existing conditions are described along with the goals, policies, and actions to protect the community from unreasonable risks caused by natural and human-made hazards. The goals of the Safety Element include protecting the community of geologic and flooding hazards, achieving adequate emergency service, minimizing the risk from fire hazards and hazardous materials, and maintaining plans for emergency response.

Parks, Recreation, and Open Space Element

The purpose of the Parks, Recreation, and Open Space Element is to guide the development of future park and recreation facilities and programs, and the preservation, acquisition, management, and use of open space in the City. The Element addresses current needs and the needs projected for City build-out in relation to parks, recreation, and open space. The Parks, Recreation, and Open Space Element works in concert with the Parks Master Plan, which is the implementation program for acquisition, development and use of future park and recreation facilities and programs. The Element addresses a number of topics, including open space, facilities, trails, recreation programs, community participation, aesthetic environment, and resource management. The three major goals of the Element, which are supported by additional focused goals, objectives, and policies, include: (1) preserving the rural character of the City's open space; (2) providing a high quality life for all City residents; and (3) protecting the natural environment.

Noise Element

The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. The Noise Element provides a systematic approach to identifying and appraising excessive noise in the City, quantifying noise levels, addressing excessive noise exposure, and community planning for the regulation of noise. The Noise Element includes policies, standards, criteria, programs, diagrams, a reference to action items, and maps related to protecting public health and welfare from excessive noise. The Noise Element identifies the existing and future noise environment within the City and quantifies the community noise environment in terms of noise exposure contours for future transportation activities. These contours serve as the basis for the noise-land use compatibility guidelines (refer to Table 4.10-3 in this EIR) to ensure that new development and redevelopment are protected from unwarranted noise and do not contribute to unacceptable levels of noise within the community. The two goals identified in the Noise Element, which include supporting policies and actions, are to manage existing noise sources, and to limit new noise conflicts.

Economic Development Element

The Economic Development Element defines the City's primary policies related to the creation and maintenance of a diversified economic base. Primary issues addressed in this Element include shopping and service opportunities, new businesses and employment creation, and increased and diversified city revenues. The Economic Development Element outlines goals, policies, and actions toward achieving the ideal economic base for the City. The ideal economic base would provide a full range of retail shipping,

services, and employment for its residents and would provide a stable tax revenue structure for the City that would shield it from the impacts of cyclical trends in the local and regional economy.

Chino Hills Development Code

The City of Chino Hills Development Code, Title 16 of the Municipal Code, and the Zoning Map serve as the primary implementation tools of the General Plan. The Development Code is intended to provide the legislative framework to enhance and implement the goals, policies, plans principles, and standards of the General Plan. Zoning implements the General Plan by further clarifying appropriate uses, stating where they may be located, as well as establishing standards to be met when developing property within the City. The City is divided into different zoning designations. Regulations and requirements contained in the Development Code uniformly govern the use, placement, spacing, and size of land and buildings. The City's Development Code sets forth these regulations and requirements and defines the City's zoning districts.

The project site is zoned Low Density Residential and Agriculture/Ranches (R-A *40-acre minimum lot size). The Low Density Residential (R-S) zone district is a single-family zone which permits detached residences at a density of up to six units per gross acre. Development at this density requires full urban levels of service and public improvements. The Agriculture/Ranches zone district provides for the preservation of large lot residential uses with related agricultural operations. The minimum lot size is five acres, with a maximum density of 0.2 units per acre. Permitted accessory uses in the Agriculture/Ranches zone district include equestrian facilities, agricultural uses, and cattle grazing.

In addition to development regulations established by the City's base zones, seven overlay districts have been applied to particular areas of the City where supplemental policies relative to special land uses and environmental or safety conditions have been established. These overlay districts include Biotic Resources, Geologic Hazard, Fire Hazard, Small Lot, Scenic Resources, Flood Hazard Areas, and Equestrian and Large Animal. The project site is located within the Biotic Resources, Geologic Hazard, Fire Hazard, and Scenic Resources Overlay Districts.

The Biotic Resources Overlay District applies to areas of the City that have been identified by a state or federal agency as habitat for plants or animals officially listed as threatened, endangered, or sensitive by the state of California and/or the federal government. Chapter 16.28 of the Municipal Code details the requirements of the Biotic Resources Overlay District. Proposed development within the Biotic Resources Overlay District requires appropriate surveys of biological resources to assess the potential for special-status species or habitat to occur.

The Fire Hazard Overlay District is established to mitigate against the threat of wildfire. Chapter 16.22 of the Municipal Code sets forth standards which would provide additional opportunity for firefighting vehicles to have access into wildland interface areas and to prevent structures from becoming a barrier between firefighting requirement/personnel and wildland areas. New construction within the Fire Hazard Overlay District must meet the requirements and all applicable standards adopted by the Chino Valley Fire District, Section 7A of the Building Code, and the requirements of Municipal Code Chapter 16.06.160, *Fire Resistive Design Requirements*, unless the requirements of the Fire Hazard Overlay District are more restrictive. This chapter contains building separation standards for buildings in the Overlay District, requiring structures on separate lots to have exterior wall separations from any structure on adjoining lots of at least 30 feet, with provisions for alternate measures. Alternative measures that achieve the same level of protection as the 30 feet of separation may be substituted,

subject to approval by the CVFD and the City's Community Development Director. Chapter 16.22 also contains regulations for fuel modification areas. Chapter 16.22 also contains the following regulations for fuel modification areas:

16.22.040 – Regulations for the fuel modification areas.

A. A permanent fuel modification area is required around development projects or portions of such projects for the purpose of fire protection. The required width of the fuel modification area shall be determined by the Chino Valley Fire District as deemed necessary to mitigate fire hazards, but in no case shall it be less than one hundred (100) feet in width as measured from the development perimeter. The width of the fuel modification area shall be determined based upon:

    1. The natural ungraded slope of the land within the project and in areas adjacent to the project;

    2. Fuel loading;

    3. Access to the project and access directly to the fuel-modified area;

    4. The on-site availability of water that can be used for firefighting purposes.

B. Adequate provisions shall be made for the continual maintenance of such areas, and such areas shall be designated as common open space rather than private open space.

C. Fuel modification areas shall also incorporate soil erosion and sediment control measures to alleviate permanent scarring and accelerated erosion.

D. When development projects are phased, required fuel modification areas shall be in place prior to the first certificate of occupancy.

E. Perimeter Access to Fuel Modification Area.

    1. Development projects shall provide for adequate vehicular access for firefighting vehicles to the development perimeter of the project along the portion of the development perimeter that is adjacent to either an existing or proposed fuel-modification area. The development shall provide for the continual maintenance of the areas intended to provide such access enduring that the access ways are unobstructed and maintained in good condition. Perimeter access should be provided through one of the following two measures unless otherwise improved by the Chino Valley Fire District.

        a. The provision of an existing or proposed road along the development perimeter, or portion thereof that is exposed to a wildland urban interface, open space or fuel modified area, and which is accessible to firefighting equipment. Such a road shall be paved with all-weather material and is capable to supporting firefighting equipment, shall be at least twenty (20) feet in width and shall not exceed a grade of twelve (12) percent, unless otherwise approved by the Chino Valley Fire District.

b. Development projects shall provide access ways, at least twelve (12) feet in width, with grade of twelve (12) percent, and capable of supporting firefighting vehicles, between the development perimeter and proposed or existing streets. Access ways shall be spaced at intervals of no more than an average of three hundred fifty (350) feet along each street.

The Geologic Hazard Overlay District applies to potentially active seismic faults and areas where landslides, liquefaction hazards, or other geologic hazards are known or suspected to occur. The Chino Fault has been determined by the State of California to be an active fault, and an Earthquake Fault Zone was established around the Chino Fault in May 2003 (City 2015a). The Chino Fault transects the central and western portions of the project site and an Earthquake Fault Zone has been delineated on the project site by the State of California in accordance with the Alquist-Priolo Earthquake Fault Zoning Act. Chapter 16.24 of the Municipal Code establishes requirements for geologic reports for all land use applications and development permits proposed within the Geologic Hazard Overlay District and contains development standards for development proposed within the overlay district. The following are standards contained the Chapter 16.24 that are applicable to the proposed project:

- All structures used for human occupancy, other than single-family wood frame structures, shall be set back from any fault, including the Chino Hills fault, as indicated in site-specific geotechnical reports.

- Utility lines and streets shall not be placed within the construction setback area of a hazardous fault except for a crossing which can be made perpendicular to the fault trace or as recommended by the project geologist and approved by the reviewing authority.

- The following conditions apply to areas subject to landslide hazards:

  (1) All facilities and street should be sited in a manner which minimizes erosion potential.

  (2) Natural vegetation shall be retained and protected where possible. Where inadequate vegetation exists, additional landscaping shall be provided. Any additional landscaping shall be compatible with the local environment and capable of surviving with a minimum of maintenance and supplemental water.

  (3) The development should be designed to minimize water run-off. Provisions should be made to effectively accommodate any increased run-off.

  (4) Measures shall be taken to offset the possible effects of landslides. A detailed geologic report identifying these measures shall be required prior to the issuance of building permits.

  (5) All proposed facilities located within landslide hazard areas shall be constructed in a manner to minimize or eliminate subsidence damage.

The Scenic Resources Overlay District provides development standards that will protect, preserve, and enhance the aesthetic resources of Chino Hills, including Exceptionally Prominent Ridgelines, Prominent Ridgelines, Prominent Knolls, and Associated Primary View Points. Design considerations can be incorporated into development projects to allow the preservation of unique natural resources, roadside views, and scenic corridors. The Scenic Resources Overlay District is currently defined by the Municipal Code (Chapter 16.30, *Scenic Resources Overlay District*) as:

a. Areas within two hundred (200) feet on both sides of the ultimate road right-of-way of state and city-designated scenic highways, including those designated by the state as candidates for a scenic highway designation.

b. Prominent ridgelines, view windows, and viewsheds as defined and mapped in the Municipal Code.

Chapter 16.30 of the Municipal Code contains development standards for land use within the Scenic Resources Overlay District, including standards related to site design and building placement, access drives, landscaping, parking and storage areas, undergrounding of utilities, and grading.

4.9.3 Methodology and Assumptions

Potential land use impacts resulting from implementation of the proposed project were evaluated based on consistency of the proposed project with the applicable environmental goals and policies contained in the RTP/SCS, General Plan, Zoning Ordinance, AQMP, Basin Plan, and other relevant land use plans, policies, and regulations.

4.9.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines, a significant land use impact would occur if implementation of the proposed project would result in any of the following:

1. Would the project physically divide an established community?

2. Would the project 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?

4.9.5 Impact Analysis

4.9.5.1 Community Division

Threshold 1: Would the project physically divide an established community?

[Note to City: The discussion presented below regarding physical division vis-à-vis new roadway connections to existing streets has been included per City request.] The project site is located in the southeastern portion of the City, with the City's corporate boundary and the San Bernardino County/Riverside County boundary line adjacent to the east of the project site. Land uses surrounding the project site consist of single-family residential uses to the north, vacant land consisting of hills and scattered oil wells to the west (with Chino Hills State Park further west of the site, beyond the adjacent lands), vacant land consisting of hills to the south, and a strip of vacant land, and SR-71 to the east. An adjacent single-family residential structure and wireless communications facility are also located east of the project site. The construction of residential uses on the project site would not physically divide an established community, as the project site is surrounded by mostly vacant land to the west, south, and east, with SR-71 also to the east. However, the development of the proposed project would connect to existing local streets, which could result in potential disruptions to the established residential community adjacent to the north of the project site.

Uses along Shady View Drive consist entirely of residential uses, with two multi-family residential developments on the east side of Shady View Drive, south of Butterfield Ranch Road, and the remaining uses along Shady View Drive consisting of single-family residential uses. The multi-family residential uses are accessed via driveways off of Shady View Drive. None of the single-family residential uses along Shady View Drive are accessed via Shady View Drive; the back of the residences face Shady View Drive, with concrete block walls, vegetation, and some slopes separating the residential units from Shady View Drive. Single-family residences are located along Via La Cresta, with most of the residential uses along Via La Cresta accessing their driveways from Via La Cresta.

Construction activities would result in the movement of vehicles and materials through the residential development adjacent to the north of the project site, as the project site would be accessed via the existing Via La Cresta and Shady View Drive. The majority of construction traffic would access the site via Shady View Drive. Shady View Drive has an Average Daily Traffic (ADT) count of 2,830 (City 2008a) between Butterfield Ranch Road and the end of Shady View Drive (the northern project boundary). Construction traffic would add daily trips along Shady View Drive, with the majority of those trips occurring at the beginning and end of the construction work day, which are generally outside of a.m. and p.m. peak traffic hours. Construction trips would vary depending on the phase of construction, and would be temporary during the construction period. The City requires (as a condition of project approval) traffic control plans for any construction that would disrupt traffic flow on City streets, as discussed in Section 4.12, *Transportation*. Given the temporary nature of construction activities, the implementation of a traffic management plan for construction activities and that construction trips would occur outside of the peak a.m. and p.m. peak traffic hours, impacts associated with dividing an established community due to project construction traffic would be less than significant.

The project does not include widening of existing roads, vacation of existing streets, or other components that would physically divide an existing community. During operation of the project, residents would access the project site from Shady View Drive and Via La Cresta, both of which would be extended into the project site to provide access to the project. The extension of these existing roadways from their current terminus into the project site would not result in the division of an existing community, but rather, would extend the existing community incrementally to the south.

4.9.5.2 Consistency with Environmental Policies of Adopted Land Use Plans

Threshold 2: Would the project 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?

Consistency with SCAG Regional Transportation Plan/Sustainable Communities Strategy

The 2020 RTP/SCS forecasts the number of people, households, and jobs expected in the SCAG region at the jurisdictional level through the plan horizon year of 2045. This forecast helps determine where expected growth might occur and is prepared with participation and input from local jurisdictions. The forecast uses several major data sources, including land use and General Plan data from local jurisdictions. The 2020 RTP/SCS Jurisdiction-Level Growth Forecast identifies a projected population of 92,800 for the City in 2045. The project would be developed consistent with the existing General Plan and zoning land use designations, and thus, is included in the growth projections for the City identified in the 2020 RTP/SCS. The project site is not within a Neighborhood Mobility Area, Priority Growth Area, SCAG Job Center, Transit Priority Area, or High Quality Transit Area, as identified in the 2020 RTP/SCS. As

the project is consistent with the City's General Plan, and thus, population projections utilized for development of the RTP/SCS, the project would not result in a conflict with or create inconsistencies with the RTP/SCS.

Consistency with General Plan

The project would be consistent with applicable environmental goals, objectives, and policies contained in the General Plan as described below and outlined in Table 4.9-1, *General Plan Goals, Policies, and Actions Consistency Evaluation*.

The General Plan designates the project site with Low Density Residential and Agriculture/Ranches land uses. The site is divided approximately in half between the two land use designations, with the boundary beginning at the northwest corner of the project site and proceeding diagonally across the site to the southeast corner. The portion of the site located north and east of the diagonal line is designated Low Density Residential and the portion of the site located south and west of the diagonal line is designated Agriculture/Ranches (refer to Figure 2-3). The Low Density Residential designation is for areas proposed for development with conventional single-family detached housing (with 6 dwelling units per acre maximum). Development at this density requires full urban levels of service and public improvements. Proposed development includes single-family housing, and associated amenities, at a density of 2.41 dwelling units per acre within the portion of the project zoned Low Density Residential. The proposed project is consistent with the intended uses in the Low Density Residential land use designation. The Agriculture/Ranches land use designation permits residential development on very large lots, five acres in size or more. Agriculture is also permitted as a primary uses within this land use designation. Clustering of development is encouraged in the Agriculture/Ranches land use designation and the designation has a permitted maximum density of 0.2 dwelling units per acre. For the portion of the project site within the Agriculture/Ranches land use designation, proposed uses include four debris/detention basins and the proposed tank site. Other small areas of landscaped lot and manufactured slopes are proposed in the Agriculture/Ranches land use designation portion of the project site. The remainder of the portion of the site within the Agriculture/Ranches land use designation would be maintained as existing open space. No disturbance or construction activities would occur within the approximately 45-acre existing open space portion of the project site. The land uses that would occur within the Agriculture/Ranches-designated portion of the site would be consistent with intended uses in the Agriculture/Ranches land use designation.

General Plan goals, objectives, and policies aimed at reducing or avoiding environmental effects applicable to the proposed project are contained in various Elements. As shown in Table 4.9-1, the project would be consistent with most of the applicable goals, objectives, and policies from the General Plan Land Use Element; Circulation Element; Housing Element; Conservation Element; Safety Element; Parks, Recreation, and Open Space Element; Noise Element; and Economic Development Element. However, a minor inconsistency with a policy pertaining to the provision of bus turn-outs has been identified as shown in the Table 4.9-1. A conflict between a project and an applicable plan is not necessarily a significant impact under CEQA, unless the inconsistency will result in an adverse physical change to the environment that is a "significant environmental effect" as defined by CEQA Guidelines Section 15382. Generally, plans reflect a range of competing interests and agencies are given great deference to determine consistency with their own plans. A proposed project should be considered consistent with a general plan or elements of a general plan if it furthers one or more policies and does not obstruct other policies. Generally, given that land use plans reflect a range of competing interests, a project should be consistent with a plan's overall goals and objectives, but need not be in perfect

conformity with every plan policy. As demonstrated in Table 4.9-1, the project is consistent with overarching objectives of the General Plan, including land use designations; preservation of aesthetic features including Prominent Ridgelines; preservation of biological, cultural, and natural resources; and traffic and transportation requirements; among others. The identified inconsistency is that the project does not provide a bus turn-out in the residential neighborhood, consistent with General Plan Action C-3.1.3. The proposed project is located more than six (6) miles from the nearest public bus route; additionally, OmniTrans, the transit agency serving San Bernardino Valley, is not planning to extend fixed route service to the southern area of the City. This inconsistency does not result in a significant environmental impact.

Consistency with the Development Code

Zoning classifications are generally aligned with General Plan land use designations that are linked to a General Plan land use map. In turn, the development code typically defines the development standards for properties within the classification. The project site is zoned Low Density Residential and Agriculture/Ranches (R-A *40-acre minimum lot size; refer to Figure 2-4). The proposed residential uses would be constructed in the portion of the site zoned Low Density Residential, while the portion of the site zoned Agriculture/Ranches would have limited development including the proposed tank site, debris basins, and some manufactured slope areas. The majority of land zoned Agriculture/Ranches on the project site (approximately 45 acres) would be natural open space uses without development.

Table 4.9-2, *Development Standards and Proposed Project Comparison*, lists the residential zone district development standards for the R-S zone, and what is provided by the proposed project. Table 4.9-2 does not list development standards for the Agriculture/Ranches zoning designation, as the project does not propose any buildings within the portion of the site with the Agriculture/Ranches zoning designation. As shown in Table 4.9-2, the proposed project is consistent with the development standards contained in the Development Code.

Table 4.9-1
DEVELOPMENT STANDARDS AND PROPOSED PROJECT COMPARISION

Development Standard Description for Low Density Residential (R-S)	Required	Proposed Project
Minimum lot size	7,200 square feet	7,200 square feet
Minimum lot width	50-foot minimum, 60-foot average	60 feet
Maximum lot coverage by buildings	40 percent	40 percent
Maximum density	6 dwelling units per acre	2.41 dwelling unit per acre
Maximum building height	35 feet	26 feet, 7 inches (+/-)
Minimum front yard setback – Primary structure	20 feet minimum, 22 feet average	20 feet minimum, 22 feet average
Minimum front yard setback – Garage	19 feet minimum	22 feet
Minimum side yard setback – Collector street	25 feet	N/A; there are no collector streets within the development
Minimum side yard setback – Local street	15 feet	15 feet
Minimum side yard setback – Other side	7 feet minimum and an aggregate of 20 feet per lot	7 feet minimum; 20 feet building to building
Minimum rear yard setback	15 feet	15 feet

Sources: City of Chino Hills Municipal Code; Hunsaker & Associates 2020a

As discussed in Section 4.9.2.1, the project site is located within four overlay districts established by the Development Code – the Biotic Resources, Geologic Hazard, Fire Hazard, and Scenic Resources Overlay Districts. The Development Code requires the preparation of a report identifying all biotic resources on the site and on adjacent parcels that could be impacted proposed development at the site. A Biological Resources Assessment (HELIX 2022b) has been prepared for the project and is the basis for the analysis of the proposed project's impacts to biological resources (refer to Section 4.3, Biological Resources). The preparation of the Biological Resources Assessment satisfies the Development Code requirement for a biological resource report for projects located within the Biotic Resources Overlay District.

The project does not meet the building separation standards of 30 feet separation from structure to structure identified in the City Development Code for structures within the Fire Hazard Overlay District (Municipal Code Section 16.22.030); however, the Municipal Code provides for alternative measures in lieu of the 30-foot separation. All structures proposed for the project would be separated by a minimum of 20 feet and would incorporate the specific measures identified in Section 4.15, *Wildfire*. As part of the project approval process, the City and Chino Valley Fire District (CVFD) would review project plans for compliance with applicable city, CVFD, and California fire codes, National Fire Protection Association (NFPA) standards, and applicable building codes. The City's review process prior to project approval would ensure compliance with applicable Development Code requirements for structures within the Fire Hazard Overlay District.

A site-specific geologic report has been prepared for the proposed project and is the basis of analysis, along with the Fault Evaluation, for the existing setting and environmental impact analysis contained in Section 4.5, *Geology and Soils*. As discussed in the aforementioned section of this EIR, mitigation measure GEO-1 requires a structural setback of 50 feet between all habitable structures and the surveyed location of the active fault at the project site and is therefore, consistent with the Geologic Hazard Overlay District requirement for setbacks as indicated in site-specific geotechnical reports. Section 16.24 of the Municipal Code states that utility lines and streets shall not be placed within the construction setback area of a hazardous fault except for a crossing which can be made perpendicular to the fault trace or as recommended by the project geologist and approved by the reviewing authority. An approximately 550-foot section of the extension of Via La Cresta and proposed water and storm drains within the extension of Via La Cresta are within the 50-foot construction setback area identified for the Geologic Hazard Overlay District and these components are parallel to the fault and not perpendicular; however, the Municipal Code includes the restriction of 50 feet, or as recommended by the project geologist and the reviewing authority. As part of the project approval process, the project, including the placement of Via La Cresta and associated utilities in proximity to the onsite fault, would be subject to the City's review and approval process prior to project approval. Through the City's approval process, the project would be reviewed for safety and consistency with the City's Municipal Code and the recommendations of the site-specific geologic report, including the requirements for the Geologic Hazard Overlay District, ensuring consistency with the City's requirements. Chapter 16.24 of the Municipal Code contains conditions that apply to areas subject to landslide hazards. The project incorporates measures to minimize erosion potential (refer to Sections 4.5, *Geology and Soils* and Section 4.8, *Hydrology and Water Quality*, for detailed discussions regarding minimizing erosion) and measures to minimize run-off (refer to Section 4.8, *Hydrology and Water Quality*). Additionally, approximately 45 acres of the project site would be maintained as existing open space, meaning natural vegetation would be retained and protected in this area. Open space areas where natural vegetation cannot be retained would be landscaped. Landscaping would be provided in open space areas throughout the development, including on manufactured slopes, slope access areas, landscape buffers, and landscaped open space lots within the proposed residential development. As detailed in Section 4.5,

Geology and Soils, the project would incorporate measures specified in the project-specific Geotechnical Review for design cut, fill grading, and remedial grading and would be constructed consistent with CBC requirements to ensure impacts associated with landslides would remain less than significant. Similarly, compliance with the Geotechnical Review recommendations and CBC requirements would minimize impacts associated with subsidence damage. As demonstrated, through the City's review and approval process, the proposed project would comply with the standards identified in Chapter 16.24 of the Municipal Code for the Geologic Hazard Overlay District.

According to Figure 15-1 of the Development Code, *City of Chino Hills Ridgelines & Knolls Map* (refer to Figure 4.1-2), a Prominent Ridgeline extends onto the project site in the southwestern portion of the project site (refer to Figure 4.1-3). As no development is proposed within this portion of the project site, the development standards listed in Chapter 16.30 would not apply. No building placement, access drives, landscaping, parking or storage areas, or utilities would be placed on or near the Prominent Ridgeline, and no grading would occur in this portion of the site.

As the project would conform to the applicable policies and development standards identified in the Development Code, and would comply with the requirements of each of the four overlay districts applicable to the project site, the project would not result in a conflict with or create inconsistencies with the Development Code.

Conclusion

The proposed project would be consistent with existing applicable local and regional land use plans, policies, and regulations as discussed above. Therefore, the project would not 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. Impacts related to consistency with environmental policies of adopted land use plans would be less than significant.

4.9.6 Mitigation Measures

4.9.6.1 Community Division

No significant land use impacts related to the physical division of an established community would result from implementation of the proposed project. Therefore, no mitigation measures are required.

4.9.6.2 Consistency with Environmental Policies of Adopted Land Use Plans

No significant land use impacts related to consistency with environmental policies of adopted land use plans would result from implementation of the proposed project. Therefore, no mitigation measures are required.

4.9.7 Significance Determination

The significance of land use impacts before and after mitigation is summarized in Table 4.9-2, *Significance Determination Summary of Land Use Impacts*. Implementation of the proposed project would not result in any significant land use impacts. Impacts related to community division and consistency with environmental goals of adopted land use plans would be less than significant, and no mitigation is required.

Table 4.9-2
SIGNIFICANCE DETERMINATION SUMMARY OF LAND USE IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Community Division	Less than significant	None required	Less than significant
Consistency with Environmental Goals of Adopted Land Use Plans	Less than significant	None required	Less than significant

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Table 4.9-1
GENERAL PLAN GOALS, OBJECTIVES, AND POLICIES CONSISTENCY EVALUATION

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
CITY OF CHINO HILLS GENERAL PLAN		
Land Use Element		
Goal LU-1: Protect Chino Hills' Natural Environment	The project would retain 45 acres of natural open space on the approximately 130-acre project site. No construction or disturbance is proposed within the 45- acre natural open space area. The project includes mitigation measures, where necessary, to protect existing biological and cultural resources at the project site. The project would implement measures to protect water quality and drainage improvements to minimize impacts from flooding.	Yes
Policy LU-1.1: Preserve Chino Hills' rural character by limiting intrusion of development into natural open spaces.	The project proposes residential development within the portion of the site designated for residential land uses in the General Plan. The project includes the provision of approximately 80.8 acres of open space on the approximately 130-acre project site, including the preservation of a 45-acre portion of natural open space on the southern and western portions of the project site.	Yes
Action LU-1.1.2: Discourage new development from obstructing public views of extremely prominent ridgelines, prominent ridgelines, knolls, significant open space, or important visual resources as identified in the Municipal Code.	A Prominent Ridgeline extends onto the project site in the southwestern portion of the site. The southwestern portion of the site is within the 45-acre natural open space area of the project, and no development would occur on or directly adjacent to the Prominent Ridgeline. The project would not result in alterations or modifications to the onsite Prominent Ridgeline nor would it result in significant impacts associated with obstructing public views of the Prominent Ridgeline.	Yes
Action LU-1.1.3: Ensure that new development conforms to the unique and natural setting of each area and site, retaining the character of existing landforms and preserving significant native vegetation.	The project would result in development of a large percentage of the project site; however, 45 acres of natural open space would be retained, including a large hillside in the southwest portion of the project site which contains a Prominent Ridgeline. Vegetation on the project site consists primarily of disturbed areas, non-native species, burned habitat, and California sagebrush scrub. The project would retain 45 acres of natural open space and would preserve native vegetation in that portion of the site.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action LU-1.1.4: Continue to require ridgelines and natural slopes to be dedicated and maintained as open space as required by the Municipal Code.	A large hillside is present in the southwest portion of the site and a Prominent Ridgeline extends into the site in this area. The southern and western portion of the site is designated for natural open space and no development would occur within or adjacent to the hillside and ridgeline. The slopes and ridgelines within the 45-acre natural open space area would be retained in their current condition and would be preserved via an open space easement or deed restriction.	Yes
Action LU-1.1.5: Maintain open space requirements for new development based on the slope of the land as required by the Municipal Code; and require that a percentage of required open space be left in its natural state.	A slope analysis prepared for the project, pursuant to Chino Hills Municipal Code § 16.08.070, determined that the project is required to provide 72.3 acres of open space, including 51.83 acres of natural open space. The project would include a total of approximately 80.8 acres of open space, consisting of open space areas within the residential portion of the site, manufactured and restored open space areas, undisturbed natural open space in the southwest portion of the site, and debris basins. A total of 72.4 acres of natural open space would be provided within the project, including the 45.4 acres of undisturbed natural open space and 27 acres of manufactured/restored natural open space.	Yes
Action LU-1.1.6: Cluster development where appropriate to minimize grading, and roadway and driveway intrusions into sensitive habitat areas, open spaces, and Chino Hills State Park. Prohibit development in areas adjacent to Chino Hills State Park (for example, ridgelines), which would result in urban runoff to the watershed of the Park.	The project would include development on the northeastern portion of the site, with 45 acres in the southwestern portion of the site remaining as natural open space. The project is located approximately 1.7 miles from Chino Hills State Park. The project incorporates measures to minimize erosion potential (refer to Sections 4.5, *Geology and Soils* and Section 4.8, *Hydrology and Water Quality*, for detailed discussions regarding minimizing erosion) and measures to minimize run-off (refer to Section 4.8, *Hydrology and Water Quality*).	Yes
Action LU-1.1.9: Promote preservation of natural features such as streams, rock outcroppings, and unique vegetation clusters.	The project includes preservation of 45 acres of natural open space in the southwestern portion of the site, which contains hillside areas and a Prominent Ridgeline. The project would preserve these unique natural features.	Yes
Action LU-1.1.10: Use dedicated open space, as opposed to built barriers, as a buffer between development areas, wherever possible.	The project includes areas of dedicated open space to provide buffer areas. The project would include eight landscaped open space lots (including a pocket park and a bocce ball court), two landscape buffer areas, and two slope access areas within the residential development	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
	area, totaling 1.48 acres of open space. Manufactured and restored open space areas would consist of manufactured slopes, two landscape lots with slope access, two landscape buffer areas, and slope access and would cover approximately 27 acres. These manufactured and restored open space areas would be located along the northern and eastern property boundaries, around the proposed tank location, and adjacent to the southwest of the existing fault line in the central portion of the project site. The project incorporates MSE walls along portions of the eastern and northern project boundaries. While open space is the preferred buffer, per this policy, the policy states "wherever possible." The project incorporates MSE in portions of the project boundary for stabilization of manufactured slopes. MSE walls would include plantable cells in the wall and would contain surrounding landscape to soften appearances.	
Action LU-1.1.11: Require contour grading and encourage grading techniques that simulate the varied gradients and rounded contours of natural landforms.	The project incorporates contour grading techniques as part of the proposed manufactured slopes occurring along the project boundaries and southwest of the extension of Via La Cresta. Manufactured slopes along portions of the eastern and northern project boundaries would incorporate MSE walls, where necessary. MSE walls would include plantable cells in the wall and would contain surrounding landscape to soften appearances.	Yes
Action LU-1.1.14: Discourage development intrusions on biological resources.	The project is preserving 45 acres of natural open space in the southwest portion of the site and includes mitigation measures, where necessary, to protect existing biological resources at the project site.	Yes
Action LU-1.1.15: Retain natural drainage courses in all cases where an independent hydrologic review of a specific development project finds that such preservation of natural drainage is physically feasible and where preservation of the natural feature will not render the subject project economically unviable.	A project specific Hydrology Analysis was prepared for the project (refer to Section 4.8, *Hydrology and Water Quality*). Project implementation would result in modification of the existing on-site drainage pattern through proposed grading and construction. The proposed project would provide on-site drainage improvements. On-site flows would continue to be directed to the identified discharge points and would discharge to Chino Creek Reach 1B and 1A, the Prado Basin Management Zone, and Reach 3 of the Santa Ana River, similar to the existing condition. Based on the described considerations, overall	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
	post-development drainage patterns would be similar to existing conditions.	
Action LU-1.1.16: Use designated fuel modification zones to buffer natural areas and new residential development.	The project would incorporate fuel modification zones as required by the City's Municipal Code and the Chino Valley Fire District (CVFD). Through the routine plan check conducted by CVFD, CVFD would confirm the project meets applicable fire codes, including sufficient fuel modification requirements.	Yes
Policy LU-1.2: Preserve and enhance the aesthetics resources of Chino Hills, including the City's unique natural resources, roadside views, and scenic resources.	The project includes preservation of 45 acres of natural open space in the southwestern portion of the site, which contains hillside areas and a Prominent Ridgeline. Roadside views of the project site are available from several north/south oriented roadways in the southern portion of the residential development located to the north of the project site. Partial views are available from other roadways in the residential development to the north. Portions of the project site are visible to motorists on SR-71; however, these views are limited in duration for motorists and partially obstructed by topography and intervening vegetation.	Yes
Action LU-1.2.1: Continue to protect City-designated extremely prominent ridgelines, prominent ridgelines, and knolls from intrusion by development.	A prominent ridgeline extends onto the project site in the southwestern portion of the site but is within the 45-acre natural open space area of the project. No development would occur on or adjacent to the prominent ridgeline and the project would not intrude on the prominent ridgeline. The project would preserve the portion of the ridgeline present on the project site as designated open space.	Yes
Action LU-1.2.2: Require buildings to be designed and to utilize materials and colors to blend with the natural terrain in hillside areas and adjacent to public open spaces, extremely prominent ridgelines, prominent ridgelines, knolls, or important visual resources as identified in the Municipal Code.	The project includes residences with five distinct architectural themes: Spanish Heritage, Rancho Adobe, Farm Heritage, French Country, and Italianate. Additional colors, materials, and reversed plans for each architectural style would provide more visual variation throughout the proposed residential development. Building materials and colors would be selected and subject to City review and approval prior to implementation of the project.	Yes
Action LU-1.2.3: In conjunction with project development, contour disturbed areas that are to be retained as open space to blend with natural slopes, and revegetate the open space with native plants.	The project incorporates contour grading techniques as part of the proposed manufactured slopes occurring along the project boundaries and southwest of the extension of Via La Cresta. The project includes landscaping of manufactures slopes and open space areas (except the	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
	45 acres of natural area to be preserved, which would remain in its current undisturbed state). Slopes would be landscaped with groundcover, shrubs, and trees using a plant palette reviewed and approved by the City.	
Action LU-1.2.4: Minimize the visual bulk of new development through implementation of the City residential and non-residential design guidelines.	The project would implement City residential design guidelines and would be subject to the City's design and review process prior to implementation of the project.	Yes
Action LU-1.2.6: Dedicate and maintain landscaped areas as required by the City.	Landscaping would be maintained in good condition by the Homeowners Association (HOA), consistent with the City's Development Code requirements for landscape and irrigation maintenance schedules.	Yes
Action LU-2.1.3: For new developments, provide appropriate buffers between traffic-intensive land uses and roadways and residential uses.	SR-71 is located east of the project site. The eastern project boundary is located at varying distances from SR-71, ranging from 100 to 800 feet. The elevation differences, including the manufactured slopes, walls, and landscaping along the project's eastern boundary provide a buffer for the proposed development from SR-71. Other adjacent uses and roadways are not considered traffic-intensive.	Yes
Action LU-2.2.1: To protect environmental and visual resources within Agriculture/Ranches and Rural Residential properties, residential lots may be clustered and minimum lot size reduced provided the overall residential density of the property is not increased.	While a portion of the project site is designated for Agriculture/ Ranches land use, no residential development is proposed within the Agriculture/Ranches land use portion of the site.	Yes
Policy LU 3-2: Minimize traffic, noise, and other nuisance intrusions in residential neighborhoods.	The project incorporates mitigation measures, where necessary, to reduce significant impacts associated with traffic and noise on the project site and adjacent residential development to the north.	Yes
Action LU-3.2.1: Locate assembly and other neighborhood serving facilities on the perimeter of residential neighborhoods with access to a collector street.	The proposed recreation center would be located at the intersection of Shady View Drive, and Via La Cresta, along the southwestern boundary of the project site. While Shady View Drive and Via La Cresta are not collectors, they are the main roads within the proposed development and would provide access into and out of the project.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action LU-3.2.2: Provide sidewalks along all streets in residential neighborhoods; and where possible, provide sidewalks in internal green belts.	The project includes the provision of sidewalks along the extensions of Shady View Drive and Via La Cresta, as well as along the eleven new private streets.	Yes
Policy LU 4-1: Promote high quality development.	The project includes five distinct architectural themes, which would provide for visual variation throughout the proposed development, yet still provide a coordinated, unifying style. The project would be developed consistent with the standards detailed in the City's Development Code and would be subject to review and approval by the City prior to implementation. These measures would ensure the proposed project is high quality.	Yes
Action LU 4.1.3: Screen negative views through site planning, architectural, and landscaping devices.	The project incorporates landscaping throughout the site to soften the appearance of project components, such as manufactured slopes. The project incorporates a variety of architectural styles for the proposed development, to provide visual variety. Additionally, utilitarian uses, such as the required debris basins and the tank site, have been situated southwest of Via La Cresta, outside of the proposed residential area. Landscaping, including 24-inch box trees at the base of the slope southwest of the extension of Via La Cresta, would provide visual screening of the slopes associated with the debris basins and tank site.	Yes
Action LU 4.1.3: Implement policies that require residential development to be designed at a scale that is in harmony with surrounding uses and the environment.	The project would be subject to City's design review and approval to ensure the project is designed at a scale in harmony with the surrounding uses and the environment.	Yes
Policy LU-4.2: Utilize extensive landscaping to beautify Chino Hills' urbanized areas.	The project includes the provision of landscaping throughout the developed portions of the project site. Proposed landscaping includes a variety of trees, shrubs, and groundcover. Trees would be planted along project roadways. Trees, shrubs, and groundcover would be placed at the manufactured and restored open space areas of the project (including landscaped lots, the pocket park, and manufactured slopes), the recreation center, the debris/retention basin areas, at the tank site, and in the 50-foot Earthquake Fault Zone setback. Project landscaping would be installed and maintained consistent with the requirements of the City's Development Code.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action LU-4.2.2: Require landscaping to be continuously maintained in good condition.	Landscaping would be maintained in good condition by the HOA, consistent with the City's Development Code requirements for landscape and irrigation maintenance schedules.	Yes
Action LU-4.2.3: Promote landscape materials that consist of drought-resistant plant varieties complementary to the area.	The project includes the use of climate-appropriate, drought-tolerant, low water use, non-invasive plant landscaping.	Yes
Policy LU-5.1: Promote infill, mixed use, and higher density development.	The project is consistent with the designated land use and zoning densities for the portion of the site designated for residential uses.	Yes
Action LU-5.1.5: Encourage development to incorporate pedestrian and bicycle trails, fitness areas, and /or other facilities that promote healthy living.	The project incorporates a number of elements that promote healthy living, including a community recreation center with swimming pool, six landscaped lots with grass areas for recreational use, a pocket park, a bocce ball court with seating. Additionally, unimproved walking/hiking trails would be provided in the 45-acre natural open space in the southwest portion of the project site.	Yes
Circulation Element		
Action C-1.1.1: Achieve and maintain a minimum Level of Service D on all roadway links and at all roadway intersections, with the exception of intersections within one-half mile of the SR-71 Freeway, where a minimum Level of Service E shall be maintained.	A Traffic Study has been prepared for the project. The results of the Traffic Study are summarized in Section 4.12, *Transportation*. The project would incorporate transportation improvements to ensure impacts to area roadways would be mitigated.	Yes
Action C-1.1.2: Maintain San Bernardino County Congestion Management Program (CMP) highway system roadway links and intersections at Level of Service E.	A Traffic Study has been prepared for the project. The results of the Traffic Study are summarized in Section 4.12, *Transportation*. The project would incorporate transportation improvements to ensure impacts to area roadways would be mitigated. As discussed in Section 4.12, impacts would be mitigated to a less than significant level.	Yes
Action C-1.1.3: Require traffic impact analyses or traffic studies for private and public projects to ensure that discretionary development projects do not cause roadway congestion in excess of acceptable levels of service within Chino Hills, or on CMP roadway links or intersections.	A Traffic Study has been prepared for the project. The results of the Traffic Study are summarized in Section 4.12, *Transportation*. The project would incorporate transportation improvements to ensure impacts to area roadways would be mitigated.	Yes
Action C-1.1.4: Require new development to provide for all roads within their boundaries and to pay their fair share of planned roadway improvement costs.	The proposed project includes the provision of 11 private streets to provide access to throughout the proposed development. The project also includes the extension of Via La Cresta and Shady View Drive from their existing termini in the Butterfield Ranch development, located north of the project. The project would incorporate transportation	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
	improvements to ensure impacts to area roadways would be mitigated.	
Policy C-1.2: Create a safe, efficient, and neighborhood-friendly street system.	The project proposes the extension of Shady View Drive and Via La Cresta, and the construction of eleven internal, private roadways. Roadways would be constructed consistent with City requirements to ensure adequate emergency access and would provide for a safe and efficient street system.	Yes
Action C-1.2.1: Minimize through traffic in residential neighborhoods through a variety of land use controls and traffic control devices.	Project access would be provided by Shady View Drive and Via La Cresta, which traverse through the residential neighborhood to the north of the project. The project would incorporate transportation improvements to ensure impacts to area roadways and associated traffic through the residential neighborhood to the north of the project site would be mitigated.	Yes
Action C-1.2.4: Design local streets to primarily provide access to homes and other property.	The project includes the extension of Shady View Drive and Via La Cresta to provide access into the proposed residential development, and includes the provision of eleven private streets to provide access throughout the development.	Yes
Action C-1.2.5: Require all development projects to meet mandatory standards with regard to vertical and horizontal alignments, access control, rights of way, cross-sections, intersections, sidewalks, curbs and gutters, cul de sacs, driveway widths and grades, right of way dedication and improvements, and curb cuts for the disabled.	The proposed project would comply with mandatory road standards, as established by the City Engineering Department. The project plans and specifications would be subject to City review and approval, ensuring compliance with mandatory standards.	Yes
Action C-1.2.7: Provide adequate sight distances for safe vehicular movement at a road-s design speed and at all intersections as consistent with City and Caltrans standards.	The extensions of Shady View Drive and Via La Cresta as well as the new internal private streets would be conditioned to be designed in accordance with applicable City standards, including the provision of adequate sight distances.	Yes
Action C-1.2.8: Prohibit direct driveway access from individual residents to major arterials, major highways, secondary highways, and collectors.	The project does not propose direct access to major arterials, major highways, secondary highways, or collectors. All residences would have direct driveway access on one of the eleven private project roadways or the extensions of Shady View Drive and Via La Cresta. The project plans and specifications would be subject to City review and approval, ensuring compliance with mandatory standards.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action C-1.2.9: Require driveway placement to be primarily designed for safety and, secondarily, to enhance circulation.	The extensions of Shady View Drive and Via La Cresta as well as the new internal private streets would be conditioned to be designed in accordance with applicable City standards, including the placement of driveways. The project plans and specifications would be subject to City review and approval, ensuring compliance with mandatory standards.	Yes
Action C-1.2.10: Plan access and circulation of each development project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles.	The project has been planned to accommodate vehicles (including emergency vehicles and trash trucks) as well as pedestrians and bicycles.	Yes
Action C-1.2.11: Require adequate off-street parking for all developments.	Off-street parking for the proposed residential development is provided consistent with the requirements of the City's Development Code. Specifically, Municipal Code Section 16.34.060 identifies the number of parking spaces required by use. The project is required to provide 739 off-street parking spaces, and the project provides 739 off-street parking spaces. On street parking within the proposed development would occur consistent with City Engineering standards, as required by Chino Hills Municipal Code Section 16.34.070. On street parking would be restricted along some project roadways to provide fire lane access. These areas would be marked with "No Parking – Fire Lane" signs consistent with CVFD standards.	Yes
Action C-3.1.3: Require bus turn-outs in residential, commercial, and industrial public use areas.	While the project includes a community recreation center, which would be a residential public use area for the residents of the project, the project does not include bus-turn outs. The project is located within proximity to public transit stops provided by OmniTrans.	No
Action C-4.1.3: Encourage the use of alternative fuel vehicles and the construction of infrastructure to charge/fuel alternative fuel vehicles.	All residential units would be fitted with EV-capable infrastructure.	Yes
Policy C-5.1: Provide adequate infrastructure improvements in conjunction with development.	The project includes the installation of infrastructure improvements to support the residential development. Wet and dry utilities would be extended to the site and would be placed in project roadways.	Yes
Action C-5.1.1: Plan and design new roadways and expansion/completion of existing roadways to allow for co-location of water, sewer, storm drainage, communications, and energy facilities within the road right of way.	The proposed extensions of Shady View Drive and Via La Cresta, and the eleven private streets have been designed to allow for co-location of water, sewer, storm drainage, communications, and energy facilities within the road right-of-way.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action C-5.1.2: Require private and public development projects to be responsible for providing road improvements along all frontages abutting a public street right of way in accordance with the design specifications for that roadway.	The project would incorporate required roadway improvements as identified in Section 4.12, *Transportation.*	Yes
Action C-5.1.3: Require private and public development projects to be responsible for providing traffic control devices and wet and dry utility improvements necessary to meet the needs of the project, and to properly integrate into the established and planned infrastructure systems.	The project would incorporate required roadway improvements as identified in Section 4.12, *Transportation*, to ensure impacts to area roadways and associated traffic through the residential neighborhood to the north of the project site would be mitigated.	Yes
Housing Element		
Goal H-1: Provide a range of housing types while maintain the City's overall low density character.	The project involves the construction of single-family residences to help fulfill regional housing needs.	Yes
Policy H-1.1: Provide a variety of residential opportunities in the City, including large lot estates, low density single-family homes, medium density townhomes, and high density condominiums and apartments.	While the project does not provide multiple types of housing, the project involves the construction of single-family residences to help contribute to residential opportunities in the City.	Yes
Policy H-1.3: Require compatible design to minimize the impact of new residential development on existing residences.	The project would implement City residential design guidelines and would be subject to the City's design and review process prior to implementation of the project.	Yes
Goal H-3: Ensure that new housing is sensitive to the natural environment.	The project has been designed and sited to preserve portions of the project site containing biological resources, a hillside, and a Prominent Ridgeline.	Yes
Policy H-3.1: Provide for clustering of housing to preserve environmentally sensitive areas and open space corridors.	The project has been designed to focus the development of the project in the north and eastern portion of the site, with the 45 acres in the southwestern portion of the site being preserved as open space in its natural setting. The clustering of residential development on the north and eastern portions of the site preserves environmentally sensitive areas associated the southwestern portion of the site.	Yes
Policy H-3.2: Evaluate residential proposals within hillside areas in terms of potential impacts to landforms and viewsheds. Hillside residential development should be limited to very low density.	The project has been sited and designed to preserve 45 acres in the southwest portion of the site, including a Prominent Ridgeline present on the site. As discussed in Section 4.1, *Aesthetics*, the project would	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
	not result in significant impacts associated with viewsheds and public views of the Prominent Ridgeline.	
Policy H-3.3: Encourage the use of energy conservation devices and passive design concepts which make use of the natural climate to increase energy efficiency and reduce housing costs.	The proposed project would be designed to achieve 2022 Title 24 energy standards, or the code in place at the time building permit applications are submitted, at a minimum, through implementation of energy-reduction measures, such as energy-efficient lighting and appliances, water-efficient appliances and plumbing fixtures, water-efficient landscaping and irrigation, and the on-site generation of renewable solar energy.	Yes
Conservation Element		
Goal CN-1: Preserve Chino Hills' Rural Character	The project proposes residential development within the portion of the site designated for residential land uses in the General Plan. The project includes the provision of approximately 80.8 acres of open space on the approximately 130-acre project site, including the preservation of a 45-acre portion of natural open space on the southwestern portion of the project site.	Yes
Policy CN-1.1: Preserve and protect Chino Hills' rural and natural scenic qualities.	The project proposes residential development within the portion of the site designated for residential land uses in the General Plan. The project includes the provision of approximately 80.8 acres of open space on the approximately 130-acre project site, including the preservation of a 45-acre portion of natural open space on the southwestern portion of the project site.	Yes
Action CN-1.1.1: Protect identified extremely prominent ridgelines, prominent ridgelines, and knolls.	A prominent ridgeline extends onto the project site in the southwestern portion of the site (Figure 15-1 of the Development Code, *City of Chino Hills Ridgelines & Knolls Map*). The project proposes maintaining approximately 45 acres of natural open space in the southern and western portions of the site. No development would occur on or adjacent to the prominent ridgeline.	Yes
Action CN-1.1.2: Preserve the character of natural open spaces by integrating existing natural features into new development.	The project includes preservation of 45 acres of natural open space in the southwestern portion of the site, which contains hillside areas and a Prominent Ridgeline.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action CN-1.1.6: Encourage natural contour grading.	The project incorporates contour grading techniques as part of the proposed manufactured slopes occurring along the project boundaries and southwest of the extension of Via La Cresta.	Yes
Action CN-1.1.7: Use existing trees and additional tree planting to blend new development and manufactured slopes with the natural setting, especially in highly visible locations.	The project includes the provision of landscaping, including trees, on project manufactured slopes.	Yes
Action CN-1.1.8: Preserve existing significant trees where feasible, and extensively plant new trees consistent with City tree policies.	The project site contains a number of protected native trees (including oak trees) and other significant trees along the northern property boundary and in the central portion of the property. A number of these existing trees would need to be removed as part of project grading and site preparation activities; however, any such removals would be subject to applicable tree permit conditions including replacement on- or off-site. in addition, the project includes landscaping throughout the graded and developed portions of the project site. Trees would be placed on the manufactured slopes on the northern and eastern project boundaries, and on the slopes southwest of the extension of Via La Cresta. Project streets would be landscaped, with trees lining the roadways. The open space lots and recreation center would be landscaped, including the placement of trees throughout.	Yes
Policy CN-1.2: Preserve and protect Chino Hills' biological resources.	The project includes preservation of 45 acres of natural open space in the southwestern portion of the site. The project includes mitigation measures BIO-1 through BIO-7 to protect existing biological resources at the project site.	Yes
Action CN-1.2.1: Preserve natural open spaces that act as wildlife corridors.	Based on the undeveloped nature of much of the land surrounding the project site, the project has the potential to interfere with the movement of native resident wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. The project includes preservation of 45 acres of natural open space in the southwestern portion of the site and incorporates mitigation measures BIO-1 through BIO-7 to protect existing biological resources at the site, including those utilizing the site as a wildlife corridor (mitigation measure BIO-6).	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action CN-1.2.2: Discourage new development in areas that contain sensitive, rare, or endangered species, oak woodlands, chaparral, and riparian habitats.	The project includes preservation of 45 acres of natural open space in the southwestern portion of the site. The project includes mitigation measures BIO-1 through BIO-7 to protect existing biological resources at the project site.	Yes
Action CN-1.2.3: Preserve oak woodlands, riparian areas, and freshwater marshes to the maximum extent feasible.	The project includes mitigation measures BIO-1 through BIO-7 to protect existing biological resources at the project site, including mitigation measure BIO-5 to mitigate for impacts to sensitive vegetation communities/habitats.	Yes
Action CN-1.2.5: Limit channeling of streams to the minimal improvements necessary for flood control as determined by a City-approved project-specific hydrologic analysis and encourage these improvements to have a natural appearance.	A project specific Hydrology Analysis was prepared for the project (refer to Section 4.8, *Hydrology and Water Quality*). On-site flows would continue to be directed to the identified discharge points and would discharge to Chino Creek Reach 1B and 1A, the Prado Basin Management Zone, and Reach 3 of the Santa Ana River, similar to the existing condition. Based on the described considerations, overall post-development drainage patterns would be similar to existing conditions.	Yes
Action CN-1.2.6: Require biological resources surveys prior to proposed development within the Biotic Resources Overlay District and in other areas where there is a potential for special-status species or habitat to occur.	The project site is located within the Biotic Resources Overlay District. A Biological Resources Assessment (HELIX 2022b) has been prepared for the project and is the basis for the analysis of the proposed project's impacts to biological resources (refer to Section 4.3, *Biological Resources*).	Yes
Action CN-1.2.7: Require a wildlife movement study for any project, including any new or extended roadway, potentially adversely affecting wildlife movement. This shall include identification of, and if warranted mitigation to protect, existing habitat linkages, wildlife corridors, wildlife movement in the vicinity, and crossing structures at freeways and major roadways; and recommended project design changes and avoidance, minimization, and mitigation measures to offset potentially significant adverse impacts to wildlife movement. For a new or extended roadway that is anticipated to result in a significant adverse impact to wildlife movement, require project design changes and/or avoidance minimization, and/or mitigation measures which could include, but not be limited to: construction of wildlife crossings (e.g. underpass, overpass), fencing to guide wildlife, native plant restoration, and/or a lighting plan (to ensure that any	As part of the Biological Resources Assessment for the project, an analysis of potential impacts to wildlife movement was conducted. The project includes mitigation measures BIO-1 through BIO-7 to protect existing biological resources at the project site.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
new lighting does not deter wildlife through remaining habitat linkages).		
Goal CN-2: Protect Chino Hills' cultural resources.	A Cultural Resources Survey (HELIX 2022c) was conducted for the proposed project to protect cultural resources. The project incorporates mitigation measure CUL-1, which implements an archaeological and Native American construction monitoring program during ground-disturbing activities at the project site. This mitigation would reduce potentially significant impacts associated with the discovery of unknown buried cultural resources to a less than significant level. Additionally, the project incorporates additional mitigation measures related to Native American monitoring (TCR-1); the discovery of TCRs, human remains, and/or grave goods (TCR-2); and procedures for burials, funerary remains, and grave goods (TCR-3) to reduce potentially significant impacts to TCR to a less than significant level. Refer to discussion in Section 4.4, *Cultural Resources* and Section 4.13, *Tribal Cultural Resources*.	Yes
Policy CN-2.1: Protect Chino Hills archaeological resources.	An evaluation of the project's potential impacts to archaeological resources was conducted as part of the Cultural Resources Survey. Implementation of the project could result in potentially significant impacts to unknown archaeological resources; however, mitigation measure CUL-1 would implement an archaeological and Native American construction monitoring program during ground-disturbing activities at the project site. This mitigation would protect existing unknown cultural resources at the project site, if any are present. Refer to discussion in Section 4.4, *Cultural Resources*.	Yes
Action CN-2.1.1: Require appropriate archaeological surveys as part of the environmental review process where archaeological resources may be present.	Archaeological surveys were conducted at the project site as part of the Cultural Resources Survey effort for the project. The project incorporates mitigation measure CUL-1, which implements an archaeological and Native American construction monitoring program during ground-disturbing activities at the project site. This mitigation would reduce potentially significant impacts associated with the discovery of unknown buried cultural resources to a less than significant level. Refer to discussion in Section 4.4, *Cultural Resources*.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action CN-2.1.2: Require on-site inspections by a qualified archaeological during grading activities where archaeological resources may be present.	Archaeological surveys were conducted at the project site as part of the Cultural Resources Survey effort for the project. The project incorporates mitigation measure CUL-1, which implements an archaeological and Native American construction monitoring program during ground-disturbing activities at the project site, to protect existing cultural resources at the project site. Refer to discussion in Section 4.4, *Cultural Resources*.	Yes
Action CN-2.1.3: Where archaeological resources are found during development activities, require identified archaeological materials to be preserved, restored, cataloged, and/or transmitted to the appropriate repository or as otherwise directed by a qualified professional archaeologist.	The project incorporates mitigation measure CUL-1, which implements an archaeological and Native American construction monitoring program during ground-disturbing activities at the project site, to protect existing cultural resources at the project site, including measures to reduce significant impacts associated with the discovery of archaeological resources during development activities. Refer to discussion in Section 4.4, *Cultural Resources*.	Yes
Action CN-2.1.4: Consult with local Native American tribes as required to avoid impacts on archaeological resources.	The Cultural Resources Survey effort included contacting the NAHC for a Sacred Lands File search and a list of Native American contacts. The local Native American community was then contacted as part of the Cultural Resources Survey and during AB 52 Consultation. Additionally, the project incorporates additional mitigation measures related to Native American monitoring (TCR-1); the discovery of TCRs, human remains, and/or grave goods (TCR-2); and procedures for burials, funerary remains, and grave goods (TCR-3) to reduce potentially significant impacts to TCR to a less than significant level. Refer to Section 4.13, *Tribal Cultural Resources* for detailed information regarding Native American consultation.	Yes
Policy CN-2.2: Protect Chino Hills' paleontological resources.	The Sycamore Canyon Member of the Tertiary Puente Formation, which is the bedrock unit present at the project site, is late Miocene in age and has previously yielded paleontological resources within the City. The proposed project includes a mitigation measure to minimize potentially significant impacts associated with paleontological resources. Mitigation measure GEO-2 contains a number of steps to protect paleontological resources that may be present at the site, including the requirement for a paleontological monitor during all initial cutting, grading, or excavation of previously undisturbed areas,	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
	as well as measures to follow in the event of a potential paleontological find.	
Action CN-2.2.1: Require appropriate paleontological surveys as part of the environmental require process where paleontological resources may be present.	According to the City's General Plan, based on the numerous fossil findings in Chino Hills, the entire City is considered sensitive for paleontological resources. As such, the project includes mitigation measure GEO-2, which requires paleontological monitoring during project construction and provides measures to be implemented if paleontological resources are discovered during project construction.	Yes
Action CN-2.2.2: Where paleontological resources are found during development activities, require on-site inspections by a qualified paleontologist during grading activities where paleontological resources may be present.	Due to the bedrock unit present at the project site (Sycamore Canyon Member of the Tertiary Puente Formation), the proposed project includes a mitigation measure (mitigation measure GEO-2) requiring a qualified paleontological monitor to be present during all initial cutting, grading, or excavation of previously undisturbed areas. The mitigation measure includes measures for suspending operations in the area if a fossil is found, and a paleontologist to evaluate the significance of the find.	Yes
Action CN-2.2.3: Require identified paleontological materials to be preserved, restored, cataloged, and/or transmitted to the appropriate repository or as otherwise directed by a qualified professional paleontologist.	Mitigation measure GEO-2 requires encountered fossils to be evaluated by a qualified paleontologist and if determined to be a significant fossil, requires the find to be salvaged, recorded, cleaned, and curated in accordance with current professional paleontological standards. Mitigation measure GEO-2 also requires the following within 30 days of completion of ground-disturbing activities: a letter stating that no fossils were found, or if fossils were found, a report prepared by the qualified paleontologist documenting the mitigation program.	Yes
Policy CN-2.3: Protect Chino Hills' potential historical resources.	A Cultural Resources Survey was conducted for the project. The project would not result in significant impacts to historical resources. Refer to discussion in Section 4.4, *Cultural Resources*.	Yes
Action CN-2.3.5: For structures over 45 years old, review available City building records and make a determination regarding the structures potential historical significance prior to permitting its demolition or substantial alteration.	A Cultural Resources Survey was conducted for the project. No structures of historical significance were found at the project site and the project would not result in significant impacts associated with historical resources. Refer to discussion in Section 4.4, *Cultural Resources*.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Goal CN-3: Promote sustainable practices that conserve natural resources and reduce greenhouse gas emissions.	The proposed project would be designed to achieve 2022 Title 24 energy standards, or the code in place at the time building permit applications are submitted, at a minimum, through implementation of energy-reduction measures, such as energy-efficient lighting and appliances, water-efficient appliances and plumbing fixtures, water-efficient landscaping and irrigation, and the on-site generation of renewable solar energy. The proposed residential units would also be fitted with EV-capable infrastructure.	Yes
Policy CN-3.1: Endorse green building design in new and existing construction.	The project would be designed to achieve 2022 Title 24 energy standards, or the code in place at the time building permit applications are submitted, at a minimum, through implementation of energy-reduction measures, such as energy-efficient lighting and appliances, water-efficient appliances and plumbing fixtures, water-efficient landscaping and irrigation, and the on-site generation of renewable solar energy. The proposed residential units would also be fitted with EV-capable infrastructure.	Yes
Action CN-3.1.1: Implement green building policies that promote increased use of energy efficient, alternative energy, recycled materials, renewable resources, local materials, water efficiency, and pollution reduction.	The project would be designed to achieve 2022 Title 24 energy standards, or the code in place at the time building permit applications are submitted, at a minimum, through implementation of energy-reduction measures, such as energy-efficient lighting and appliances, water-efficient appliances and plumbing fixtures, water-efficient landscaping and irrigation, and the on-site generation of renewable solar energy. The proposed residential units would also be fitted with EV-capable infrastructure.	Yes
Goal CN-4: Ensure adequate water supply and delivery.	Based on the availability of existing water infrastructure to serve the project and the adequate water supply projected for the City and expected General Plan growth (which includes the development of the project site consistent with existing General Plan land use designations), the project would not result in the need for new or expanded water facilities (refer to discussion in Section 4.14, *Utilities*).	Yes
Goal CN-4: Promote water conservation.	The project includes the provision of measures to promote water conservation, including the use of low-flow water fixtures and the use of drought-tolerant, low water use, non-invasive plant landscaping.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action CN-4.1.2: Promote use of drought-tolerant plant materials and low-water-usage irrigation systems.	The project includes the use of drought-tolerant, low water use, non-invasive plant landscaping with smart technology irrigation controls to reduce water usage.	Yes
Action CN-4.1.4: Continue to use reclaimed water for non-potable water supplies wherever not precluded by public health considerations.	The project is not located within the portion of the City that connects to the City's reclaimed water system, and as such, does not incorporate reclaimed water. The project does, however, include the use of low-flow water fixtures and the use of drought-tolerant, low water use, non-invasive plant landscaping.	N/A
Policy CN-4.3: Protect water quality.	The project would implement construction BMPs and require conformance with City storm water standards and associated requirements (including the NPDES Construction General and Municipal permits), minimizing potential water quality impacts during construction. During project operation, the development would require the implementation of applicable biotreatment and hydromodification control BMPs, in addition to LID site design and source control BMPs. Furthermore, the project design would conform to applicable City and NPDES storm water standards.	Yes
Action CN-4.3.1: Protect water resources from urban runoff and other potential pollution sources through implementation of best stormwater management practices and area-wide Urban Storm water Runoff Programs.	The project would implement construction BMPs and require conformance with City storm water standards and associated requirements (including the NPDES Construction General and Municipal permits), minimizing potential water quality impacts during construction. During project operation, the development would require the implementation of applicable biotreatment and hydromodification control BMPs, in addition to LID site design and source control BMPs. Furthermore, the project design would conform to applicable City and NPDES storm water standards.	Yes
Goal CN-5: Provide for adequate and efficient solid waste disposal.	The project would generate solid waste during construction activities and would generate household waste during long-term operation of the project. The project would be serviced by the City's contracted waste hauler for residential trash hauling. The project would be conditioned to comply with all regulations related to solid waste such as the California Integrated Waste Management Act and City recycling programs.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Policy CN-5.1: Meet the city's solid waste disposal needs, while maximizing opportunities for waste reduction and recycling.	The project would be conditioned to comply with all regulations related to solid waste such as the California Integrated Waste Management Act and City recycling programs.	Yes
Action CN-5.1.1: Implement the city's Source Reduction and Recycling Element as required by the California Integrated Waste Management Act.	The project would be conditioned to comply with all regulations related to solid waste such as the California Integrated Waste Management Act and City recycling programs.	Yes
Action CN-5.1.2: Publicize and educate the public about waste reduction techniques and facilities.	The project would be conditioned to comply with all regulations related to solid waste such as the California Integrated Waste Management Act and City recycling programs.	Yes
Goal CN-6: Promote clean air to reduce adverse effects on human health and the environment.	The project would comply with SCAQMD rules to reduce air pollution emissions from construction activities, including rules 402 (Nuisance), 403 (fugitive dust), and 1113 (architectural coatings). The project would implement mitigation measures, where necessary, to protect air quality and to reduce adverse effects on human health and the environment.	Yes
Policy CN-6.3: Reduce air pollution emissions from construction activities.	The project would comply with SCAQMD rules to reduce air pollution emissions from construction activities, including rules 402 (Nuisance), 403 (fugitive dust), and 1113 (architectural coatings). The project would implement mitigation measures, where necessary, to protect air quality and to reduce adverse effects on human health and the environment.	Yes
Action CN-6.3.1: Require preparation of air quality analyses of construction-related air quality impacts using the latest available air emissions model or other analytical method determined in conjunction with SCAQMD for all projects subject to CEQA. If such analyses identify potentially significant regional or local air quality impacts, require the incorporation of appropriate mitigation to reduce such impacts.	A project-specific air quality impact analysis that includes analysis of construction-related air quality impacts has been prepared for the project and is the basis of the analysis contained in Section 4.2, *Air Quality*. The project would implement mitigation measures, where necessary, to protect air quality and to reduce adverse effects on human health and the environment.	Yes
Action CN-6.3.2: Encourage large construction projects to mitigate diesel exhaust emissions though the use of alternative fuels and control devices.	The project would implement mitigation measures, where necessary, to protect air quality and to reduce adverse effects on human health and the environment.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action CN-6.3.3: Require dust abatement actions for all new construction and redevelopment projects.	The project would comply with SCAQMD Rule 403 to reduce fugitive dust associated with the proposed project, as described in Section 4.2, *Air Quality*.	Yes
Policy CN-6.4: Reduce air pollution emissions from new development.	The proposed project would be designed to achieve 2022 Title 24 energy standards, or the code in place at the time building permit applications are submitted, at a minimum, through implementation of energy-reduction measures, such as energy-efficient lighting and appliances, water-efficient appliances and plumbing fixtures, water-efficient landscaping and irrigation, and the on-site generation of renewable solar energy. The project incorporates sustainability features, including the provision of electrical-vehicle-capable infrastructure, to reduce air quality emissions. Additionally, the project would implement mitigation measures, where necessary, to protect air quality and to reduce adverse effects on human health and the environment.	Yes
Action CN-6.4.1: Require preparation of air quality analyses that analyze operational air quality impacts using the latest available air emissions model or other analytical method determined in conjunction with SCAQMD for all projects subject to CEQA. If such analyses identify potentially significant regional or local air quality impacts, require the incorporation of appropriate mitigation to reduce such impacts.	A project-specific air quality impact analysis that includes analysis of operational-related air quality impacts has been prepared for the project and is the basis of the analysis contained in Section 4.2, *Air Quality*. The project would implement mitigation measures, where necessary, to protect air quality and to reduce adverse effects on human health and the environment.	Yes
Safety Element		
Goal S-1: Protect the community from geologic hazards.	The proposed project would be designed and constructed in compliance with the CBC, which contains specific structural requirements for seismic safety. Recommendations from the Geotechnical Review would be required as project conditions of approval and incorporated into the construction contract specifications. Proper engineering, and adherence to the Geotechnical Review recommendations and CBC guidelines would minimize the risk from the project associated with geologic hazards.	Yes
Policy S-1.1: Regulate development in high-risk seismic, landslide and liquefaction hazard areas to avoid exposure to hazards.	An Earthquake Fault Zone is present on the project site and some portions of the project site are susceptible to landslides. Liquefaction risk at the site was determined to be low. The proposed project would be designed and constructed in compliance with the CBC, which	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
	contains specific structural requirements for seismic safety. Recommendations from the Geotechnical Review would be required as project conditions of approval and incorporated into the construction contract specifications. Proper engineering, and adherence to the Geotechnical Review recommendations and CBC guidelines would minimize the risk from the project associated with geologic hazards present at the project site.	
Action S-1.1.1: Observe prudent land use planning in the Fault Hazard Zone delineated for the Chino Fault, restricting high occupancy and emergency operation facilities and limiting residential development.	No structures are proposed within the 50-foot setback for the Chino Fault.	Yes
Action S-1.1.2: Conduct site-specific studies on soils, seismicity, and groundwater conditions to evaluate potential for liquefaction and related ground failure phenomena in canyon floors and the alluvial flatlands.	A Preliminary Geotechnical Review and a Fault Evaluation were prepared for the project, the results of which are summarized in Section 4.5, *Geology and Soils*. The site-specific geotechnical studies addressed the potential for liquefaction and ground failure phenomena (refer to Section 4.5 for the impact analysis).	Yes
Action S-1.1.6: Discourage any grading beyond that necessary to create adequate and stable building pads.	Grading proposed for the project is limited to that necessary to develop the proposed uses on adequate and stable building pads, and consistent with the requirements identified in the Preliminary Geotechnical Review to satisfy soil/ground preparation to address geotechnical and building code standards.	Yes
Action S-1.1.7: Require all development to conform to the grading guidelines contained in the City Development Code.	The project would conform to and comply with applicable requirements contained in the City Development Code, including those in Chapter 16.50, *Grading Regulations.*	Yes
Action S-1.1.8: Require fault zones to be clearly identified on tract and parcel maps to increase public awareness of fault rupture hazards.	The Chino Fault zone and 50-foot structural setback associated with the fault zone are delineated on the site plan and tentative tract map.	Yes
Action S-1.1.9: Within geologic hazard overlay areas, require development to minimize landscape irrigation.	The project site is located within the Geologic Hazard Overlay District. The project includes landscaping throughout the development. The project includes the use of climate-appropriate, drought-tolerant, low water use, non-invasive plant landscaping, which would serve to minimize landscape irrigation.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action S-1.1.10: Require new development to minimize peak runoff as required by the Municipal Code.	The project would minimize peak runoff, as required by the Municipal Code, through the construction of an on-site storm drainage system. Peak discharge rates would be reduced as compared to the existing condition.	Yes
Goal S-2: Protect the community from flooding hazards.	The project would minimize flood hazards through the provision of drainage improvements, including an on-site storm drain system and four debris/detention basins, which would accommodate a 100-year storm event. Refer to Section 4.8, *Hydrology and Water Quality.*	Yes
Action S-2.2.2: Require that the potential environmental drainage impacts of new construction be assessed and mitigated, including impacts that privately owned and operated storm drains adjacent to slopes and canyon areas would have on City and County-maintained drains.	The project includes the construction of on-site drainage improvements, including a storm drain system and four debris/detention basins. With implementation of project storm drain improvements, overall peak flows at the project site during a 100-year storm event would be reduced by 123.6 cubic feet per second. The environmental impacts of the proposed drainage system are included in the overall environmental impacts for the project, analyzed in this EIR.	Yes
Action S-2.2.3: Require property owners to install and maintain storm drains on their properties as necessary to address drainage related to their property.	The project includes the construction of on-site drainage improvements, including a storm drain system and four debris/detention basins. As discussed in Section 4.8, *Hydrology and Water Quality*, drainage impacts associated with the project would be less than significant.	Yes
Action S-2.2.8: Require measures to be undertaken to control runoff from construction sites.	The project would implement a SWPPP during construction and would implement related BMPs to control runoff during construction activities. Refer to Section 4.8, *Hydrology and Water Quality* for additional information regarding potential BMPs.	Yes
Action S-2.2.9: Require prompt revegetation and/or construction of newly graded sites to control erosion.	Developed areas would be stabilized through installation of hardscape or landscaping. All graded areas that would not be developed immediately would remain subject to the SCAQMD Rule 403, NPDES Construction General Permit, and City's Erosion Management and Storm Water Management Ordinances until permanently stabilized in accordance with the standards contained within these regulations.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action S-2.2.10: Limit grading operations during the rainy season.	The project would comply with the requirements of the City's Municipal Code, including Section 16.05.030, *Grading Guidelines Applicable to all Projects*, and Section 16.54, *Erosion and Sediment Control*.	Yes
Goal S-3: Achieve adequate emergency service.	The project would require the provision of fire and police protection services to the project site. The proposed project is consistent with the General Plan, and therefore, is consistent with the General Plan population projections that are the basis for determining future service demands for fire and police protection. As discussed in Section 4.11, *Public Services*, the project would not result in the need for new or altered fire or police facilities.	Yes
Policy S-3.1: Ensure that new development has sufficient fire protection, police, and emergency medical services available.	As discussed in Section 4.11, *Public Services*, the project is located in an area that would be served by the CVFD for fire and emergency medical services, and by the Chino Hills Police Department for police protection services. As discussed in Section 4.11, *Public Services*, the project would not result in the need for new or altered fire or police facilities.	Yes
Action S-3.1.1: Require the review of development proposals to determine impacts on emergency services and ensure developments meet appropriate safety standards.	The project would require the provision of fire and police protection services to the project site. As part of the City's development review process, the project would be reviewed by the City and CVFD to ensure the project meets appropriate safety standards.	Yes
Action S-3.1.2: Provide police services that are responsible to citizens' needs to ensure a safe and secure environment for people and property in the community.	The project would require the provision of fire and police protection services to the project site. As discussed in Section 4.11, *Public Services*, the project would not result in the need for new or altered fire or police facilities.	Yes
Goal S-4: Minimize the risk from fire hazards.	Through the routine plan check conducted by CVFD, CVFD would confirm the project meets applicable fire codes, including sufficient fire flow, fuel modification requirements, and emergency access for fire engines and crews. The project would incorporate measures, as described in Section 4.15, *Wildfire*, to minimize the risk of fire hazards.	Yes
Policy S-4.1: Maintain the water distribution system to deliver the fire flow requirements set in the City adopted Fire Code.	Through the routine plan check conducted by CVFD, CVFD would confirm the project meets applicable fire codes, including sufficient fire flow, fuel modification requirements, and emergency access for fire engines and crews.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action S-4.2.1: Continue to implement and enforce fuel modification zones.	The project would incorporate fuel modification zones as required by the City's Municipal Code and the CVFD. Through the routine plan check conducted by CVFD, CVFD would confirm the project meets applicable fire codes, including sufficient fuel modification requirements.	Yes
Action S-4.2.2: Encourage residents to plant and maintain fire-retardant slope cover to reduce the risk of brush fire in areas adjacent to canyons.	The project would incorporate fuel modification zones as required by the City's Municipal Code and the Chino Valley Fire District. Through the routine plan check conducted by CVFD, CVFD would confirm the project meet applicable fire codes, including sufficient fire flow, fuel modification requirements, and emergency access for fire engines and crews.	Yes
Action S-4.2.3: Maintain stringent site design and maintenance standards for areas with high fire hazard potential.	The project would incorporate fuel modification zones as required by the City's Municipal Code and the CVFD. Through the routine plan check conducted by CVFD, CVFD would confirm the project meets applicable fire codes, including sufficient fire flow, fuel modification requirements, and emergency access for fire engines and crews.	Yes
Action S-4.2.6: Work with the Fire District to enforce all existing codes and ordinances regarding fire protection, building inspection, and vegetation management.	Through the routine plan check conducted by CVFD, CVFD would confirm the project meets applicable fire codes, including sufficient fire flow, fuel modification requirements, and emergency access for fire engines and crews.	Yes
Action S-4.2.7: Maintain evacuation plans for areas in greatest danger of fire.	The City's Emergency Operations Plan outlines procedures for mass evacuation and shelter. The project would construct roadways consistent with City and CVFD requirements to ensure emergency access. The project does not propose construction activities or road closures along major thoroughfares in the City.	Yes
Goal S-5: Minimize the risk from hazardous materials.	Minor amounts of hazardous materials would be present at the project site during construction and operation of the proposed residential development. The transport, use, and disposal of hazardous materials and/or wastes associated with the project would be conducted in accordance with applicable federal and state laws. In addition to hazardous substances typically present during construction activities, the project would include decommission and removal of existing aboveground storage tanks and rerouting of pipelines and valves to the new proposed tanks. The decommissioning and removal of the three	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
	existing aboveground storage tanks would be conducted in accordance with applicable environmental regulations and the guidelines and requirements of the California Department of Conservation's Geologic Energy Management Division. The proposed oil tank and associated pipelines would be part of oil operations on adjacent property and would be operated and maintained by adjacent landowners/operators. The oil tank and associated pipelines would be constructed and operated in compliance with applicable regulations and would provide adequate secondary containment measures to ensure risks from hazardous materials are minimized. Pipeline and tank maintenance are required by mitigation measures HAZ-1 and HAZ-2.	
Policy S-5.1: Minimize risk to life and property from production, use, and storage of hazardous materials and waste.	The use and storage of hazardous materials on the project site would be those consistent with construction operations and minor amounts associated with residential uses, as discussed in Section 4.7, *Hazards and Hazardous Materials*, and would be handled in accordance with applicable federal and state laws. The decommissioning and removal of the three existing aboveground storage tanks would be conducted in accordance with applicable environmental regulations and the guidelines and requirements of the California Department of Conservation's Geologic Energy Management Division. The proposed oil tank and associated pipelines would be part of oil operations on adjacent property and would be operated and maintained by adjacent landowners/operators. The oil tank and associated pipelines would be constructed and operated in compliance with applicable regulations and would provide adequate secondary containment measures to ensure risks from hazardous materials are minimized. Pipeline and tank maintenance are required by mitigation measures HAZ-1 and HAZ-2.	Yes
Action S-5.1.1: Continue to enforce fire and building code provisions regarding secondary containment; segregation of chemicals to reduce reactivity during a release; sprinkler and alarm systems; and monitoring, venting, and automatic shut-off systems on all new developments.	The project would incorporate applicable fire and building code provisions. The proposed oil tanks would be surrounded by secondary containment features (a block containment wall), with adequate capacity to contain spills in combination with a sub-grade pump. The project applicant is required to submit project plans to CVFD for review and approval with respect to applicable fire protection and hazardous materials standards contained.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Policy S-5.2: Control the transportation of toxic, explosive, or other hazardous materials.	The transport of small quantities of hazardous materials to and from the project site would occur during construction of the proposed project. Hazardous materials used during construction would be materials typical of construction activities, such as fuels and lubricants for machinery. The transport and use of these materials at the project site would be conducted in accordance with applicable federal and state laws.	Yes
Policy S-5.3: Monitor and enforce regulations to ensure adequate clean-up of hazardous materials and waste.	As discussed in Section 4.7, *Hazards and Hazardous Materials*, hazardous materials are known to be present in the soil at the scrapyard and construction debris trench locations. Construction activities that would occur as a part of the project would disturb soils at the identified locations. The project includes mitigation (mitigation measures HAZ-3 through HAZ-5) to ensure the soil at each of these locations is cleaned up prior to the start of construction activities.	Yes
Action S-5.3.1: Require all new developments occurring within areas previously utilized for oil production to mitigate any hazards associated with the oil fields.	The project site has been investigated for potential contamination, as detailed in Section 4.7, *Hazards and Hazardous Materials.* Hazardous materials are known to be present in the soil at the scrapyard and construction debris trench locations. Construction activities that would occur as a part of the project would disturb soils at the identified locations. The project includes mitigation measures (measures HAZ-3 through HAZ-5) to reduce impacts associated with potential contamination from previous uses at the site.	Yes
Action S-5.3.3: Confirm that existing toxics are contained, removed, and/or remediated as required by applicable federal and state standards.	The project site has been investigated for potential contamination, as detailed in Section 4.7, *Hazards and Hazardous Materials.* The project includes mitigation measures (measures HAZ-3 through HAZ-5) requiring the preparation of a Site Management Plan for grading at the project site and soil removal at the scrapyard and construction debris trenches portions of the site. Compliance with the mitigation identified, which includes submittal of documentation to the City for review and approval prior to the issuance of demolition or grading permits, would confirm existing toxics are contained, removed, and/or remediated.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Parks, Recreation, and Open Space Element		
Objective 2-1: Provide at least 5 acres of improved public park land per 1,000 residents (minimum 5 acres in size useable).	The project, with a projected population of 536 people would require approximately 2.7 acre of parkland to meet the General Plan standard of 5 acres per 1,000 residents; however, the General Plan FEIR indicates that the future parks and recreation facilities identified in the Parks, Recreation, and Open Space Master Plan would be sufficient to meet the needs of residential anticipated at General Plan buildout, even if they do not meet the General Plan parkland to resident ratio. The project applicant would be required to pay a Quimby Act fee and the City's Park and Recreation Facilities fee prior to occupancy, pursuant to City requirements. These fees would help reduce potential impacts of future development on parks and recreational services and would offset the project-related increase in demands on parks.	Yes
Noise Element		
Action N-1.1.7: Incorporate sound attenuation measures in residential developments to achieve the City's standards. Such sound attenuation measures may include noise barriers, replacing existing windows and doors with sound-rate assemblies, insulating exterior walls and attics, and/or installing forced air ventilation.	A Noise Analysis was prepared for the project and is the basis on the analysis contained in Section 4.10, *Noise*. The project includes mitigation measures NOI-1 through NOI-3 to reduce noise impacts to a less than significant level. The project would incorporate noise reduction features as described in Section 4.10, *Noise.*	Yes
Goal N-2: Limit new noise conflicts.	A Noise Analysis was prepared for the project and is the basis on the analysis contained in Section 4.10, *Noise*. The project includes mitigation measures, NOI-1 through NOI-3 to reduce noise impacts and new noise conflicts to a less than significant level.	Yes
Policy N-2.1: Minimize increases in noise levels due to new land use and transportation facility decisions.	A Noise Analysis was prepared for the project and is the basis on the analysis contained in Section 4.10, *Noise*. The project includes mitigation measures NOI-1 through NOI-3 to reduce noise impacts to a less than significant level.	Yes
Action N-2.1.1: Enforce the standards of Table 7-1 – Land Use/Noise Compatibility Matrix, which specify acceptable exterior and interior noise limits for various land uses throughout the City.	A Noise Analysis was prepared for the project and is the basis on the analysis contained in Section 4.10, *Noise*. The project includes mitigation measures NOI-1 through NOI-3 to reduce noise impacts to a less than significant level.	Yes

Applicable Elements, Goals, Policies, and Actions	Consistency Evaluation	Consistent (Yes/No)
Action N-2.1.2: Continue to assess projects through the subdivision, site plan, conditional use permit, and other development review processes and incorporate conditions of approval and mitigation measures that ensure noise compatibility where appropriate.	A Noise Analysis was prepared for the project and is the basis on the analysis contained in Section 4.10, *Noise*. The project includes mitigation measures NOI-1 through NOI-3 to reduce noise impacts to a less than significant level.	Yes
Action N-2.1.3: Require a noise study to be performed and appropriate noise attenuation to be incorporated to reduce interior noise levels to 45 dB CNEL or less prior to approving multifamily or mixed-use residential development in an area with a CNEL of 65 dB or greater.	A project-specific noise analysis was performed for the project. The noise analysis found that the project would comply with the interior noise compatibility standards of 45 CNEL or less with the incorporation of mitigation measures NOI-2 and NOI-3, as identified in Section 4.10, *Noise*.	Yes
Action N-2.1.5: Ensure all new developments provide adequate sound insulation or other protection from existing and projected noise sources.	A project-specific noise analysis was performed for the project. The noise analysis found that the project would comply with the interior noise compatibility standards of 45 CNEL or less with the incorporation of mitigation measures NOI-2 and NOI-3, as identified in Section 4.10, *Noise*.	Yes
Action N-2.1.7: Ensure that all new hotels, motels, multi-family and single-family dwellings to be developed within an area where the outdoor CNEL exceeds 60 dB are designed to achieve an indoor CNEL of 45 dB or less.	A project-specific noise analysis was performed for the project. The noise analysis found that the project would comply with the interior noise compatibility standards of 45 CNEL or less with the incorporation of mitigation measures NOI-2 and NOI-3, as identified in Section 4.10, *Noise*.	Yes
Economic Development Element		
There are no applicable goals, policies, and actions in the Economic Development Element.	N/A	N/A

4.10 NOISE

This section of the EIR evaluates potential noise impacts resulting from implementation of the proposed project. This analysis is based on the Noise Assessment Study (HELIX 2022d) prepared for the project, which is included as Appendix L of this EIR.

4.10.1 Existing Conditions

4.10.1.1 Fundamentals of Environmental Noise

Noise is commonly defined as unwanted sound. Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Sound pressures in the environment have a wide range of values. The sound pressure level is the logarithm of the ratio of the unknown sound pressure to a reference quantity of the same kind. To account for the pitch of sounds and the corresponding sensitivity of human hearing to them, the raw sound pressure level is adjusted with an A-weighting scheme based on frequency that is stated in units of decibels (dBA). Typical A-weighted noise levels are listed in Table 4.10-1, *Typical A-Weighted Noise Levels*.

A given level of noise may be more or less tolerable depending on the sound level, duration of exposure, character of the noise sources, the time of day during which the noise is experienced, and the activity affected by the noise. For example, noise that occurs at night tends to be more disturbing than that which occurs during the day because sleep may be disturbed. Additionally, rest at night is a critical requirement in the recovery from exposure to high noise levels during the day. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects anticipated from these activities. Some indices consider the 24-hour noise environment of a location by using a weighted average to estimate its habitability on a long-term basis. Other measures consider portions of the day and evaluate the nearby activities affected by it as well as the noise sources. The most commonly used indices for measuring community noise levels are the equivalent energy level (L_{EQ}), the day-night sound level (L_{DN}), and the Community Noise Equivalent Level (CNEL).

L_{EQ} is the average acoustical or sound energy content of noise, measured during a prescribed period, such as 1 minute, 15 minutes, 1 hour, or 8 hours. It is the decibel sound level that contains an equal amount of energy as a fluctuating sound level over a given period of time.

L_{DN} is a 24-hour average, where sound levels during the nighttime hours of 10 p.m. to 7 a.m. have an added 10 dB weighting. This measurement applies weights to noise levels during nighttime hours to compensate for the increased disturbance response of people at those times.

CNEL is similar to the L_{DN}. CNEL is the average equivalent A-weighted sound level over a 24-hour period. This measurement applies weights to noise levels during evening and nighttime hours to compensate for the increased disturbance response of people at those times. CNEL is the equivalent sound level for a 24-hour period with a 5 dBA weighting applied to all sound occurring between 7 p.m. and 10 p.m. and a 10 dBA weighting applied to all sound occurring between 10 p.m. and 7 a.m.

Table 4.10-1
TYPICAL A-WEIGHTED NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	**— 70 —**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**— 60 —**	
		Large business office
Quiet urban daytime	**— 50 —**	Dishwasher next room
Quiet urban nighttime	**— 40 —**	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	**— 0 —**	Lowest threshold of human hearing

Source: Caltrans 2013

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA every time the distance between the source and listener is doubled (doubling of distance). Sound that originates from a linear, or "line" source such as a heavily traveled traffic corridor, attenuates by approximately 3 dBA per doubling of distance, provided that the surrounding site conditions lack ground effects or obstacles that either scatter or reflect noise. Noise from roadways in environments with major ground effects due to vegetation and loose soils may either absorb or scatter the sound yielding attenuation rates as high as 4.5 dBA for each doubling of distance. Other contributing factors that affect sound reception include meteorological conditions and the presence of manmade obstacles such as buildings and sound barriers.

Noise has a significant effect on the quality of life. An individual's reaction to a particular noise depends on many factors such as the source of the noise, its loudness relative to the background noise level, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is perceivable, while 1 to 2 dBA changes generally are not perceived. Although the reaction to noise may vary, it is clear that noise is a significant component of the environment, and excessively noisy conditions can affect an individual's health and well-being. The

effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on a community can be organized into six broad categories: sleep disturbance, permanent hearing loss, human performance and behavior, social interaction of communication, extra-auditory health effects, and general annoyance.

Community noise environments are typically represented by noise levels measured for brief periods throughout the day and night, or during a 24-hour period (e.g., CNEL). The one-hour period is especially useful for characterizing noise caused by short-term events, such as operation of construction equipment or concert noise (e.g., L_{EQ}). Community noise levels are generally perceived as quiet when the CNEL is below 50 dBA, moderate in the 50 to 60 dBA range, and loud above 60 dBA. Along major thoroughfares, roadside noise levels are typically between 65 and 75 dBA.

4.10.1.2 Fundamentals of Groundborne Vibration

Vibration consists of waves transmitted through solid material. Groundborne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be comprised of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Ambient and source vibration are often expressed in terms of the peak particle velocity (PPV) or root mean square velocity (RMS) in inches per second (in/sec) that correlates best with human perception. Groundborne vibration can be a concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, groundborne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving and operating heavy earth-moving equipment.

4.10.1.3 Existing Noise Environment

The existing noise environment is dominated by traffic noise from the SR-71 to the east of the project site. The project is subject to some aircraft noise and is located approximately 3 miles northwest of the Corona Municipal Airport, approximately 3.2 miles southwest of the Chino Airport, and approximately 9 miles southwest of the Ontario International Airport.

Ambient Noise Survey

Ambient noise measurements were taken at the project site in September 2021. The first measurement was recorded at the northeast corner of the project site approximately 50 feet south of the walled residences along Wrangler Road and Larita Drive. The noise measurements were short-term (10 to 15 minutes) and are not equivalent to the existing or future 24-hour ambient noise levels (CNEL). A second measurement was recorded at the terminus of Shady View Drive at the northern portion of the project site. The measured noise levels are shown in Table 4.10-2, *Noise Measurement Results.*

Table 4.10-2
NOISE MEASUREMENT RESULTS

Measurement M1	
Date:	September 17, 2021
Conditions:	Temperature: 72°F. Wind Speed: 2 mph. Low humidity. Sunny.
Time:	11:00 a.m. – 11:15 a.m.
Location:	At the northeast corner of the project site
Measured Noise Level:	61.3 dBA L_{EQ}
Notes During Measurement:	Noise primarily from traffic on the nearby SR-71. The view was obscured by a retaining wall.
Measurement M2	
Date:	September 17, 2021
Conditions:	Temperature: 72°F. Wind Speed: 2 mph. Low humidity. Sunny.
Time:	11:23 a.m. – 11:34 a.m.
Location:	Along the northern boundary of the project site at the terminus of Shady View Drive.
Measured Noise Level:	45.5 dBA L_{EQ}
Notes During Measurement:	Ambient nature sounds. Garbage truck passed by. Largely quiet.

4.10.1.4 Noise-Sensitive Land Uses

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, including residences, hospitals, schools, hotels, resorts, libraries, sensitive wildlife habitat, or similar facilities where quiet is an important attribute of the environment. Noise receptors are individual locations that may be affected by noise. NSLUs in the project vicinity include single-family residences in the Butterfield Ranch development north of the project site, and a single-family rural residence located within the square cutout in along the project eastern boundary. The closest NSLUs to the project site are multiple single-family residences in the Butterfield Ranch development, adjacent to the project's northern boundary. The closest school to the project site is the Butterfield Ranch Elementary School, located on Mystic Canyon Drive approximately 940 feet northwest of the project site. There are no hospitals, hotels, resorts, libraries, or sensitive wildlife habitat within 1 mile of the project site.

4.10.1.5 Vibration-Sensitive Land Uses

Vibration-sensitive land uses include facilities where vibration would interfere with operations within the building, such as vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment, and university research operations. The degree of sensitivity to vibration depends on the specific equipment that would be affected by the vibration. Electron microscopes and high-resolution lithography equipment function within certain scientific and manufacturing tolerances that can be compromised in high vibration environments. Certain fragile older or historic buildings may be vulnerable to damage from excessive vibration. Residential uses are also sensitive to excessive levels of vibration of either a regular or an intermittent nature. Existing vibration-sensitive land uses in the Project area include single-family residences in the Butterfield Ranch development north of the project site, and a single-family rural residence located within the square cutout in along the project eastern boundary.

4.10.2 Regulatory Setting

4.10.2.1 Federal

Federal Transit Administration

The Federal Transit Administration (FTA) provides guidelines evaluating the noise and vibration impacts of transportation projects in the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). Included in these guidelines are methods/criteria for determining the significance of increases in ambient noise levels as a result of a project increasing traffic levels on existing roads.

4.10.2.2 State

California Noise Control Act

The California Noise Control Act is a section within the California Health and Safety Code that describes excessive noise as a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

4.10.2.3 Local

City of Chino Hills General Plan, Noise Element

In February 2015, the City Council certified the General Plan Update EIR, adopting the 2015 General Plan. The City's General Plan Noise Element establishes noise compatibility guidelines for land uses affected by noise, reproduced here as Table 4.10-3, *Land Use Noise/Compatibility Matrix*. The purpose of the Noise Element is to define the City's role and responsibility in safeguarding against noise pollution, and to reduce the negative impacts of noise on future developments by identifying major noise sources and compatible land uses. The acceptable noise levels for the project and surrounding residential land uses are 65 CNEL for exterior spaces and 45 CNEL for interior habitable spaces (City 2015). The acceptable exterior noise level for schools and parks is 65 CNEL.

Table 4.10-3
LAND USE/NOISE COMPATIBILITY MATRIX

Categories	Compatible Uses	Interior[1] CNEL	Exterior[2] CNEL
Residential	Single-Family, Duplex, Multiple-Family	45[3]	65[5]
	Mobile Homes	-	65[4]
Commercial	Hotel, Motel, Transient Lodging	45[3]	65
	Commercial, Retail, Bank, Restaurant, Health Clubs	55	-
	Office Buildings, Research and Development, Professional Offices	50	-
	Amphitheater, Concert Hall, Auditorium, Meeting Hall, Movie Theater	45	-
	Gymnasium (multi-purpose)	50	-
	Manufacturing, Warehousing, Wholesale, Utilities	65	-
Open Space	Parks	-	65
Institutional/Public Facility	Hospital, Schools, Classrooms	45[3]	65
	Churches, Libraries	45[3]	-

Source: City 2015

[1] Interior environment excludes bathrooms, toilets, closets, and corridors.

[2] Outdoor environments are limited to the private yard of a single-family or multifamily residential private patio that is accessed by a means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation area.

[3] Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to UBC requirements.

[4] Exterior noise level shall be such that interior noise level will not exceed 45 CNEL.

[5] Multifamily developments with balconies that do not meet the 65 CNEL standard are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

City of Chino Hills Municipal Code

The City's municipal code provides, among other things, a basis for controlling excessive and annoying noise. The following ordinance sections, as adopted by the City Council as Municipal Code Amendment 21MCA02, December 14, 2021, would be applicable to the project (City 2021):

8.08.020 – Regulation of construction noise.

A. Except when necessary for the immediate preservation of life, health, or property, no person shall construct, repair, remodel, demolish, or grade any real property or structures thereon at any time other than between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between 8:00 a.m. and 6:00 p.m. on Saturdays, excluding federal holidays. Notwithstanding the foregoing, an individual residential property owner or tenant in addition to the above permissible hours of construction may also construct, repair, or remodel his or her real property or any structure on such property during the hours of 7:00 p.m. and 10:00 p.m. on weekdays and between 6:00 p.m. and 10:00 p.m. on Saturdays, and between the hours of 8:00 a.m. and 10:00 p.m. on Sundays and federal holidays provided that the noise or sounds associated with such activities cannot be heard by a reasonable person beyond the boundary lines of the property.

16.48.020 - Noise.

Table 4.10-4
EXTERIOR NOISE STANDARDS FOR RECEIVING LAND USES

Zone	Land Use of Receiving Property	Maximum Permitted Exterior Sound Pressure Level, L_{EQ} (dBA) 7 a.m. to 10 p.m.	Maximum Permitted Exterior Sound Pressure Level, L_{EQ} (dBA) 10 p.m. to 7 a.m.
I	Single-Family Residential	60	45
II	Multi-Family Residential, Mobile Home Parks	65	45
III	Commercial Property and Institutional Property	70	60
IV	Residential Portion of Mixed Use	65	45
V	Manufacturing and Industrial, Other Uses	75	70

Source: City 2021

Notes:

1. The City's Noise Element includes a Noise Compatibility Matrix with Community Noise Equivalent Level (CNEL) and is intended to apply to long-term ambient noise levels that are produced by sources such as traffic and evaluated over 24 hours. This table includes Noise Standards in terms of L_{EQ}. These levels are applicable to sounds that have shorter durations than 24-hours.
2. If the ambient noise level exceeds the maximum permitted sound level indicated in the table, the applicable maximum permitted sound pressure level shall be 3 dB above the ambient noise level.

B. Exemptions.

4. Construction and maintenance related noise when conducted in accordance with Section 8.08.020.

D. Vibration.

Notwithstanding other sections of this chapter, it shall be unlawful for any person to create, maintain, or cause any ground vibration which is perceptible without instruments at any point on any affected property adjoining the property on which the vibration source is located, if known, unless a temporary permit for the activity creating the vibration is issued by the City. For the purpose of this Section, the perception threshold shall be presumed to be more than 0.05 inch per second RMS vertical velocity.

E. Exterior Sound Level Limits.

1. It is unlawful for any person at any location within the incorporated area of the City to create any noise, or to allow the creation of any noise, on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level, when measured on any other receiving property, to exceed the following:

a. The noise standard in the above table [reproduced in this report as Table 2] for a cumulative period of more than thirty (30) minutes in any hour; or

b. The noise standard in the above table plus five (5) dBA for a cumulative period of more than fifteen (15) minutes in any hour; or

c. The noise standard in the above table plus ten (10) dBA for a cumulative period of more than five (5) minutes in any hour; or

d. The noise standard in the above table plus fifteen (15) dBA for a cumulative period of more than one (1) minute in any hour; or

e. The noise standard in the above table plus twenty (20) dBA for any period of time.

Each of the above maximum permitted sound levels specified above shall be reduced by five dBA for impulsive noises, tonal noises, and noises consisting of speech or music.

4.10.3 Methodology and Assumptions

4.10.3.1 Methodology

Noise Modeling Software

Modeling of the exterior noise environment for this report was accomplished using two computer noise models: Computer Aided Noise Abatement (CadnaA) version 2021 and Traffic Noise Model (TNM) version 2.5. CadnaA is a model-based computer program developed by DataKustik for predicting noise impacts in a wide variety of conditions. CadnaA assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project related information, such as noise source data, barriers, structures, and topography to create a detailed CadnaA model, and uses the most up-to-date calculation standards to predict outdoor noise impacts. CadnaA traffic noise prediction is based on the data and methodology used in the TNM.

TNM Version 2.5 was released in February 2004 by the U.S. Department of Transportation (USDOT) and calculates the daytime average hourly L_{EQ} from three-dimensional model inputs and traffic data (USDOT 2004). The model-calculated one-hour L_{EQ} noise output is approximately equal to the CNEL (Caltrans 2013).

Project construction noise was analyzed using the Roadway Construction Noise Model Version 1.1 which utilizes sound level measurements from standard construction equipment collected during a major construction project (RCNM; USDOT 2008).

4.10.3.2 Assumptions

Construction

Project construction is anticipated to occur over approximately two years and two months starting in the third quarter of 2022. Construction activities include demolition of existing facilities, site preparation, grading, installation of underground utilities and infrastructure, paving, construction of tanks and residences, and architectural coating (e.g., painting). Construction would require the use of equipment throughout the site for the full term of construction. Typical construction equipment for the proposed project would include concrete saws, dozers, tractors/loaders/backhoes, graders, scrapers, excavators, cranes, forklifts, cement and mortar mixers, pavers and paving equipment, rollers, and air compressors. The most prominent noise-generating standard construction equipment anticipated to be used on the site includes concrete saws, excavators, scrapers, dozers, pavers, and backhoes.

The proposed grading would not require export of soil, except for soil from areas around the oil tank operations. It is expected that this soil or some of it may be classified as non-hazardous petroleum impacted soil. The maximum estimated export would not exceed 19,000 cubic yards, requiring 1,188 haul truck loads (2,376 one-way trips) over the duration of grading (150 days). This assumes 15 feet of excavation and removal at all areas of potential contamination. Contaminated soil can be deposited at 14039 Santa Ana Avenue, Fontana.

In accordance with the City ordinance Section 8.08.020, construction activities would occur between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between 8:00 a.m. and 6:00 p.m. on Saturdays. The total number of construction workers present at the site during construction activities would vary, depending on which phase on construction is occurring, but a maximum of 150 workers are anticipated during vertical building construction. All construction vehicles and equipment would be staged within the disturbed portions of the project site boundaries. The project site can be accessed from Shady View Drive and Via La Cresta. The majority of construction traffic would access the site via Shady View Drive.

Operations

The proposed project's operational noise sources would be typical of suburban residential neighborhoods. The primary noise sources are anticipated to include heating, ventilation, and air conditioning (HVAC) systems and vehicular traffic. During operation, the project would also be exposed to vehicular traffic noise from surrounding roadways, including SR-71.

Heating, Ventilation, and Air Conditioning Units

The analysis assumes that the buildings would use a typical to larger-sized residential condenser mounted on ground level pads. The unit used in this analysis is a Carrier 38HDR060 split system condenser. Refer to the Noise Assessment Study for the manufacturer's noise data (HELIX 2022d).

Vehicular Traffic Noise

Traffic volume data on project-affected street segments and the project's trip generation was provided in the project's Traffic Study (LLG 2021a). The project is forecast to generate 1,501 weekday daily trips (one half arriving, one half departing), with 118 trips (30 inbound, 88 outbound) produced during the a.m. peak hour and 157 trips (99 inbound, 58 outbound) produced during the p.m. peak hour (LLG 2021a). Approximately 80 percent of project trips would access the site on Shady View Drive and the remaining 20 percent would access the site on Via La Cresta (LLG 2021a). The Traffic Study did not assess existing or future traffic levels for Via La Cresta. For modeling the segment of Via La Cresta from Mystic Canyon Drive to the project site, the single-family residential p.m. peak hour trip generation rate of 0.99 trips per DU (LLG 2021a) was applied to the 136 existing residences which utilize Via La Cresta for access resulting in 135 existing p.m. peak hour trips. The mix of vehicles on the road segments was assumed to be typical of urban streets: 96 percent cars and light trucks, 3 percent medium truck and busses, and 1 percent heavy trucks.

Traffic noise on SR-71 was modeled using data from the Caltrans Traffic Census Program for the year 2020 which reported that the highway segment near the project site carries a p.m. peak hour volume of 6,900 (Caltrans 2020a). Caltrans truck data for 2019 shows SR-71 in Chino Hills contains 6.5 percent trucks, of which 4.3 percent is medium trucks and 2.2 percent is heavy trucks (Caltrans 2020b).

4.10.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines, a significant noise impact would occur if implementation of the proposed project would result in any of the following:

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

2. Result in the generation of excessive groundborne vibration or groundborne noise levels; or

3. Expose people residing or working in the Project area to excessive noise levels by being 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.

4.10.5 Impact Analysis

4.10.5.1 Increase in Ambient Noise

Threshold 1: Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction Noise

Construction of the project would require demolition, site clearing, grading, installation of underground utilities/infrastructure, construction of tanks and new buildings, paving, and architectural coating, which would generate elevated noise levels for nearby residences north of the project site. The magnitude of the noise impact would depend on the type of construction activity, equipment, duration of each construction phase, distance between the noise source and receiver, and any intervening structures. All construction equipment would not operate at the same time, would be located throughout the project site, and would therefore not remain at one distance to nearby residences during the 8-hour operating day. Table 4.10-5, *Construction Equipment Noise Levels*, provides the 100-foot distance noise levels for equipment anticipated to be used for general construction activities.

Table 4.10-5
CONSTRUCTION EQUIPMENT NOISE LEVELS

Unit	Percent Operating Time	dBA L_{EQ} at 100 feet	dBA L_{MAX} at 100 feet
Backhoe	40	67.6	71.5
Compactor	20	70.2	77.2
Compressor (air)	40	67.7	71.6
Concrete Mixer Truck	40	68.8	72.8
Concrete Pump Truck	20	68.4	75.4
Concrete Saw	20	76.6	83.6
Crane	16	66.6	74.5
Dozer	40	71.7	75.6
Dump Truck	50	66.5	70.4
Drum Mixer	40	71.0	74.0
Excavator	40	70.7	74.7
Front End Loader	40	69.1	73.1
Generator	50	71.6	71.6
Paver	50	68.2	68.2
Roller	20	67.0	67.0
Scraper	40	73.6	77.6

Source: HELIX 2022d
dBA = A-weighted decibel; L_{EQ} = equivalent sound level; L_{MAX} = maximum noise level

Not all the pieces of equipment included in Table 4.10-5 would be used within 100 feet of off-site residences. Demolition activities (including demolition of oil facilities) are not anticipated to occur within 100 feet of the off-site residences. The project's most prominent noise-generating construction activities near off-site NSLUs would be grading. Grading would occur across the project site and is anticipated to involve the simultaneous use of a scraper and dozer, which could be used as close as 100 feet from the nearest off-site NSLU. At an average distance of 100 feet, a scraper and dozer would together generate noise levels of 75.7 dBA L_{EQ} and 77.6 dBA L_{MAX}.

As noted in the project's Noise Assessment Study (HELIX 2022d), although construction noise is exempt from the City's noise ordinance exterior noise limit, CEQA case law requires consideration of temporary or permanent increases in ambient noise levels in addition to evaluation against general plan and noise ordinance standards. No state or local standards have been established to determine the significance of a temporary increase in ambient noise levels resulting from land development project construction activities. Therefore, a substantial increase in perceived ambient noise levels (a 10 dBA increase) is used to estimate when temporary ambient noise increases would be potentially significant and would require feasible mitigation to minimize construction noise impacts to nearby NSLUs.

Assuming construction would remain steady and would generate 75.7 dBA L_{EQ} for the maximum allowed weekday hours of 7:00 a.m. to 7:00 p.m., the resulting noise level would be 72.7 CNEL. The short-term noise measurement taken near the end of Shady View Drive was 45.5 dBA L_{EQ}, indicating the ambient noise level is likely less than 50 CNEL for the existing residences west of Shady View Drive. Therefore, project construction would result in a temporary increase in ambient noise level in excess of 10 dBA and the impact would be potentially significant. This would exceed the daytime 65 dBA L_{EQ} noise ordinance level limit for residential land uses, and the impact would be potentially significant. The City Municipal Code does not allow the operation of construction equipment between 7:00 p.m. and 7:00 a.m. on

weekdays, or between 8:00 a.m. and 6:00 p.m. on Saturdays. Mitigation measure NOI-1 would require a construction noise management plan with best management practices measures to ensure construction equipment noise would not exceed the 65 dBA L_{EQ} noise level limit and establish a system for noise complaints to be lodged and resolved.

As discussed in Section 4.10.3.2, it is anticipated that approximately 2,376 one-way truck trips, or approximately 16 truckloads per day of material would be exported over 150 days during grading, resulting in an average of 8 haul trips per day. Because a 3 dBA perceptible change in traffic noise would require a doubling of traffic volumes, the addition of 16 truck trips (approximately 2 trips per hour) to City streets during the construction hours would not result in a perceptible change in 24-hour ambient noise level (CNEL). With implementation of mitigation measure NOI 1, discussed in detail below, the potential impact from construction equipment noise would be reduced to a less than significant level.

Operational On-site Noise Generation

The project would include HVAC units at ground-level locations adjacent to each proposed residence. Specific locations and planning data for the future HVAC units is not available at this stage of project design; however, HVAC units are assumed to be located on the sides of the proposed residences. Further, as mentioned above, modeling assumed that the HVAC unit would be a Carrier 38HDR060 split system condenser. A single unit typically generates a sound power level of 72 dBA S_{WL}, resulting in a noise level of 56 dBA S_{PL} at a distance of 7 feet. The projects HVAC units would be located greater than 7 feet from the off-site residences and HVAC-generated noise would therefore not exceed the exterior noise ordinance limit of 65 dBA L_{EQ}. Off-site single-family residences would not be exposed to excess noise from the project's HVAC units, and the impact would be less than significant.

Operational Off-site Noise Generation

The project would generate vehicular traffic that would utilize existing surrounding streets and would result in increases in ambient noise levels. As described in Section 4.10.3.2, existing and future traffic noise was calculated using the TNM and trip/traffic input from the TIA. The results of the traffic noise modeling for the existing, existing plus project, cumulative (year 2040, including growth and anticipated projects), and cumulative plus project scenarios is presented in Table 4.10-6, *Off-site Traffic Noise Levels*. The modeling does not account for noise level reductions resulting from intervening terrain or structures (e.g., buildings, sound walls).

Table 4.10-6
OFF-SITE TRAFFIC NOISE LEVELS

Road Segment	Distance to Nearest NSLU (feet)[1]	NSLU Type	Existing CNEL	Existing + Project CNEL	Change in CNEL	2040 CNEL	2040 + Project CNEL	Change in CNEL
Shady View Drive								
Project to Mystic Canyon Drive	50	SF	49.7	57.4	7.7	50.9	57.5	6.6
Mystic Canyon Drive to Butterfield Ranch Road	50	SF	60.4	62.1	1.7	62.0	63.0	1.0
Via La Cresta								
Project to Mystic Canyon Drive	35	SF	54.6	55.2	0.6	54.6	55.2	0.6
Butterfield Ranch Road								
Shady View Drive to Brookwood Lane	60	MF	67.3	67.3	0.0	68.0	68.1	0.1
Brookwood Lane to Twin Knolls Drive	60	SF	67.2	67.3	0.1	68.0	68.0	0.0
Twin Knolls Drive to Mystic Canyon Road	60	P	66.6	66.8	0.2	67.5	67.6	0.1

Source: HELIX 2022d

[1] Distance measured from roadway centerline.

MF = Multi-Family Residential; NSLU = Noise Sensitive Land Use; P = Park; SF = Single-Family Residential.

As shown in Table 4.10-6, traffic noise levels on the analyzed segments of Shady View Drive and Via La Cresta would not exceed the 65 CNEL exterior compatibility level for the land uses along each segment, without or with the project. The increase in ambient noise level for the road segment from the project to Mystic Canyon Drive is anticipated to be 7.7 dBA. This portion of Shady View Drive currently does not carry through traffic and only provides access for a small number of existing residences, hence the low calculated existing traffic noise level of 49.7 CNEL, and the low measured ambient noise level of 45 dBA L_{EQ}. However, the street appears to have been designed to carry a future higher volume of traffic: the roadway is approximately 55 feet wide; has a 35-mph speed limit; no residences have direct driveway access to Shady View Drive; and residences are separated from the street by an approximately 6-foot-high masonry sound wall. There is no City or State standard adopted for acceptable increases in ambient noise level for transportation sources. The FTA has developed criteria for acceptable increases in ambient noise resulting from implementation of transit projects, which would be applicable for transportation noise. For an existing noise exposure of 45 dBA L_{DN}, a cumulative increase of 7 dBA would be considered to have no impact (FTA 2018). Typical noise reduction from sound walls ranges from 3 to 15 dBA, depending on height, proximity to the noise source, and proximity to the receiver (FTA 2018). Considering reductions of at least 3 dBA from the existing sound walls along Shady View Drive (not accounted for in the modeling), the increase in ambient noise level in the outdoor spaces of the residences along Shady View Drive would not exceed the FTA's allowable increase of 7 dBA.

Existing and future noise levels along the analyzed segments of Butterfield Ranch Road exceed the 65 CNEL exterior noise compatibility level without the project. However, with the addition of project traffic the maximum increase in noise levels along Butterfield Ranch Road would be 0.2 dBA, below the 3.0 dBA level of a perceptible change in noise in typical urban outdoor environments.

Therefore, the addition of project generated traffic to existing traffic would not result in a substantial permanent increase in existing ambient noise levels, and the impact would be less than significant.

Nosie Level Standard Compliance for New Uses

As a single-family residential development, the project would be considered a new NSLU. In accordance with the 2015 California Supreme Court decision, *California Building Industry Association v. Bay Area Air Quality Management District*, the effect of existing noise on future residents of the project is considered an effect of the environment on the project and as such, is not generally a CEQA consideration unless the project would exacerbate an existing condition. The project's contribution of 47 vehicles to the existing 6,900 vehicles on SR-71 during the peak hour would not result in a detectable increase in noise (LLG 2021a; Caltrans 2020a). Therefore, impacts to off-site project residences from traffic noise on SR-71 would not be a CEQA consideration. However, the noise effects on future project residents would be a planning consideration for the City in evaluating project design and in considering project approvals and/or permitting when viewed in the context of the General Plan Noise Element consistency.

The project would conflict with the City General Plan Noise Element if the proposed single-family residences are exposed to exterior noise levels in excess 65 CNEL, or interior noise levels in excess of 45 CNEL. Traffic from SR-71 would be the largest contributor of noise at the project site. Traffic noise levels for exterior use areas were modeled in CadnaA. Receivers were placed at a height of 5 feet above ground level along the project's residential lot lines closest to SR-71. The resulting highest noise level for lots facing SR-71 is shown in Table 4.10-7, *SR-71 Traffic Noise Levels*. As shown in Table 4.10-7, noise levels from traffic on SR-71 would exceed the City General Plan exterior residential standard of 65 CNEL for lots 32 through 36, and lots 115 through 129 (lots along the east side of the project site nearest to SR-71). In addition, lot 41 and lots 108 through 114 would exceed 60 CNEL. Because standard construction materials typically reduce interior noise levels by approximately 15 dBA, lots with exterior noise in excess of 60 CNEL would potentially have interior noise levels in excess of the City General Plan residential limit of 45 CNEL. Therefore, impacts associated with exterior and interior noise level compliance are considered potentially significant.

Table 4.10-7
SR-71 TRAFFIC NOISE LEVELS

Project Lot	2019 Traffic Noise Levels (CNEL)
30	49.9
31	51.3
32	63.2
33	73.4
34	73.7
35	73.4
36	63.8
41	60.8
100	59.9
104	59.0
106	59.0
107	59.1
108	60.4
109	60.8

Project Lot	2019 Traffic Noise Levels (CNEL)
110	61.4
111	61.9
112	62.3
113	63.0
114	64.9
115	67.9
116	66.6
117	66.7
118	66.9
119	67.0
120	66.7
121	66.9
122	66.9
123	66.7
124	66.7
125	66.5
126	66.4
127	66.4
128	66.3
129	66.1

Source: HELIX 2022d
CNEL = Community Noise Equivalent Level

4.10.5.2 Vibration

Threshold 2: Would the Project generate excessive groundborne vibration or groundborne noise levels?

Construction Vibration

Construction of the project is not anticipated to require blasting or pile drivers (both substantial potential sources of ground-borne vibrations). A potential source of vibration during project construction activities would be a vibratory roller, which may be used for compaction of soil, aggregate, and/or asphalt in roadways and could be used within 50 feet of off-site residences. A large vibratory roller creates approximately 94 vibration decibels (VdB) measured at 25 feet, which is equivalent to 0.05 inch per second RMS (FTA 2018). A 0.05 inch per second RMS vibration level would equal 0.023 inch per second RMS at a distance of 50 feet.[1] This would be lower than the City Municipal Code Section 16.48.030 limit of 0.5 inch per second RMS. Additionally, off-site exposure to such ground-borne vibration would be temporary and limited to daytime hours and the short-term construction period. Therefore, construction of the project would not result in substantial ground-borne vibrations, and the impact would be less than significant.

[1] Equipment RMS = Reference RMS * $(25/D)^n$ (inches per second), where Reference PPV is PPV at 25 feet, D is distance from equipment to the receiver in feet, and n = 1.1 (the value related to the attenuation rate through the ground); formula from FTA 2018.

Operational Vibration

Land uses that may generate substantial operational vibration include heavy industrial or mining operations that would require the use of vibratory equipment. The proposed residential land use does not include equipment that would generate substantial vibration. Therefore, long term operation of the project would not result in substantial ground-borne vibrations, and the impact would be less than significant.

4.10.5.3 Aircraft Noise

Threshold 3: Would the Project expose people residing or working in the Project area to excessive noise levels by being located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport?

The project is subject to some aircraft noise and is located approximately 3 miles northwest of the Corona Municipal airport, approximately 3.2 miles southwest of the Chino Airport, and approximately 9 miles southwest of the Ontario International Airport. The project site is not located within the airport influence area or 65 CNEL noise contour for any of those airports (Riverside County Airport Land Use Commission 2004; San Bernardino County 1991; City of Ontario 2011). The project would not expose people residing or working in the project area to excessive noise. The impact would be less than significant, and no mitigation would be required.

4.10.6 Mitigation Measures

4.10.6.1 Increase in Ambient Noise

The following mitigation measure would be required to reduce construction-generated noise levels.

NOI-1 **Construction Noise Management Plan**. A Construction Noise Management Plan that describes the measures included on the construction plans minimize temporary noise at nearby residences shall be prepared by the project applicant and submitted to the City for approval prior to issuance of the grading permit. At a minimum, the following measures shall be included to minimize construction noise:

- Construction equipment shall be properly outfitted and maintained with manufacturer-recommended noise-reduction devices.
- Diesel equipment shall be operated with closed engine doors and equipped with factory-recommended mufflers.
- Mobile or fixed “package” equipment (e.g., generators and air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.
- Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment, where feasible.

- Unnecessary idling of internal combustion engines (e.g., in excess of 5 minutes) shall be prohibited.

- Material stockpiles and mobile equipment staging, parking, and maintenance areas to be located as far as practicable from noise sensitive receptors.

- The use of noise producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.

- The project applicant shall notify residences within 500 feet of the project's property line in writing within one week of any construction activity requiring the use of heavy construction equipment. The notification shall describe the activities anticipated, provide dates and hours, and provide contact information with a description of a complaint and response procedure.

- The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process for the affected resident shall be established prior to construction commencement to allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

With implementation of mitigation measure NOI-1 to minimize temporary construction noise and establish a system for lodging and resolution of construction noise complaints, the project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the City General Plan or Municipal Code for the project. The impact would be less than significant with mitigation incorporated.

The following mitigation measure would be required to reduce exterior noise levels at the proposed project's residential uses constructed along the property lines facing SR-71 for lots 32 through 36, lot 41, and lots 108 through 129:

NOI-2 **Acoustic Barriers.** Acoustic barriers shall be constructed along the exterior lot lines with direct line of sight to SR-71 for lots 32 through 36, lot 41, and lots 108 through 129, as numbered on the proposed project tentative map 20317. Walls shall extend a minimum of 6 feet above the lot's finished grade level and shall be constructed of solid material having a minimum STC rating of 46. The walls shall be constructed with no holes or gaps, including between the wall and the ground.

The approximate location of acoustic barriers is shown on Figure 4.10-1, *Acoustic Barrier Locations*. As shown in Table 4.10-8, *Mitigated SR-71 Traffic Noise Levels,* with acoustic barriers per mitigation measure NOI-2, the exterior noise level for all lots would not exceed 60 CNEL.

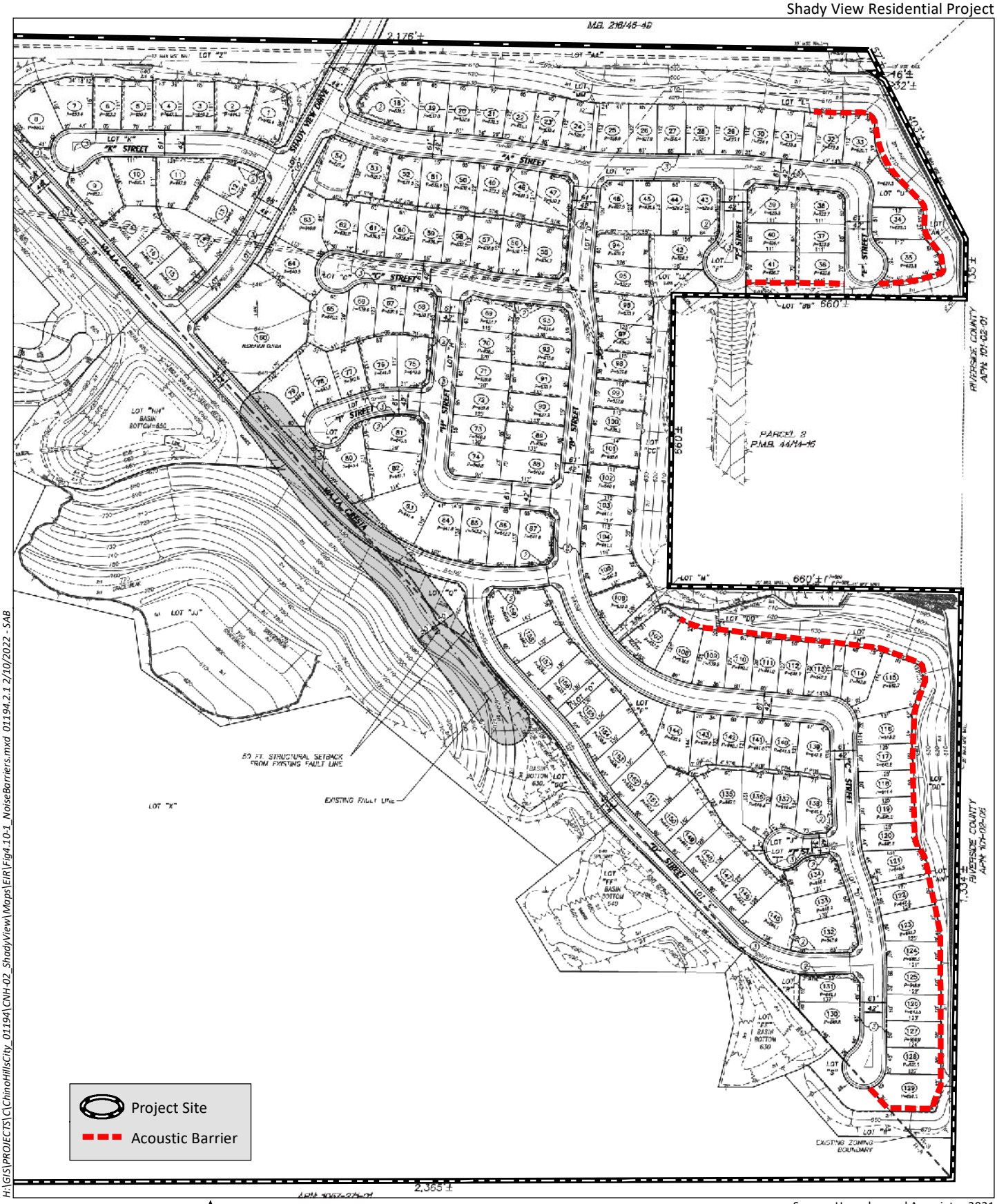
Table 4.10-8
MITIGATED SR-71 TRAFFIC NOISE LEVELS

Project Lot	Traffic Noise Levels with 6-foot Sound Walls (CNEL)
30	52.1
31	53.5
32	57.1
33	61.4
34	61.7
35	62.3
36	58.5
41	55.0
100	59.9
104	59.5
106	59.6
107	57.1
108	54.0
109	54.1
110	54.2
111	54.7
112	55.5
113	55.7
114	56.6
115	59.2
116	57.3
117	57.1
118	57.1
119	57.6
120	58.0
121	58.8
122	59.4
123	59.6
124	59.7
125	59.3
126	58.1
127	58.2
128	57.6
129	56.7

Source: HELIX 2022d
CNEL = Community Noise Equivalent Level

Although compliance measure NOI-2 would reduce ground floor level interior noise to below 45 CNEL, some of the project residences could have habitable space on a second story. To ensure habitable interior spaces do not exceed the City standard, for lots 32 through 36, lot 41, and lots 108 through 129, compliance measure NOI-3 would require exterior walls and windows with direct line of sight to SR-71 be constructed with minimum STC ratings.

NOI-3 **Building Wall and Window Acoustic Standards**. Residential building exterior walls with direct line of sight to SR-71 constructed on lots 32 through 36, lot 41, and lots 108 through 129, as



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0 300 Feet

Source: Hunsaker and Associates 2021

HELIX Environmental Planning

Acoustic Barrier Locations

Figure 4.10-1

numbered on the proposed project tentative map 20317, shall incorporate the following standards to reduce interior noise levels to 45 CNEL or less:

- Exterior walls shall have a minimum rating of STC 46. A common construction meeting this requirement would be standard 0.875-inch stucco over 0.5-inch shearwall on 2-inch by 6-inch studs with 0.625-inch Type "X" Drywall.

- Exterior windows shall have a minimum rating of STC 28. A common window meeting this standard would be a dual glazing window with 0.125-inch glass thickness and a 0.5-inch gap between panes.

- The building design shall include a mechanical ventilation system that meets the criteria of the International Building Code (Chapter 12, §1203.2 of the California Building Code) to ensure that windows would be able to remain permanently closed for noise reduction.

With incorporation of measures NOI-2 and NOI-3 into the project, future project residents would not be exposed to exterior or interior traffic noise in excess of standards established in the City's General Plan Noise Element.

4.10.6.2 Vibration

No significant vibration impacts would result from implementation of the proposed project. Therefore, no mitigation measures are required.

4.10.6.3 Aircraft Noise

No significant impacts related to aircraft noise would result from implementation of the proposed project. Therefore, no mitigation measures are required.

4.10.7 Significance Determination

The significance of noise impacts before and after mitigation is summarized in Table 4.10-9, *Significance Determination Summary of Noise Impacts*. Implementation of the proposed project would result in potentially significant impacts related to increases in ambient noise levels. With implementation of mitigation measures NOI-1, NOI-2, and NOI-3, these potentially significant impacts would be reduced to below a level of significance. Impacts related to vibration and aircraft noise would be less than significant, and no mitigation is required.

Table 4.10-9
SIGNIFICANCE DETERMINATION SUMMARY OF NOISE IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Increase in Ambient Noise	Potentially significant	NOI-1 through NOI-3	Less than significant
Vibration	Less than significant	None required	Less than significant
Aircraft Noise	Less than significant	None required	Less than significant

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4.11 PUBLIC FACILITIES AND SERVICES

This section of the EIR evaluates potential impacts to public facilities and services resulting from implementation of the proposed project. Public services are those functions that serve residents on a community-wide basis. These functions include fire protection, police protection, schools, parks, and other facilities.

4.11.1 Existing Conditions

Existing public facilities that serve the project area are described below and their locations are shown on Figure 4.11-1, *Existing Public Facilities*.

4.11.1.1 Fire Protection

Fire protection and emergency medical services in the City are provided by the Chino Valley Fire District (CVFD). CVFD serves an approximately 80-square-mile area that includes the cities of Chino Hills and Chino and surrounding unincorporated areas with an estimated population of 173,000. The CVFD expects a service population of over 200,000 within the next 20 years (CVFD 2021). CVFD began in 1895 as Chino Fire Company No. 1 and has since grown to include seven fire stations housing over 100 professional firefighters. Firefighters/paramedics and specialized teams respond to structure fires, vegetation/brush fires, medical aids, traffic collisions, confined space rescues, water rescues, and hazardous materials incidents. CVFD personnel respond to over 10,000 calls for service each year, with the majority of those incidents being medical emergencies.

Fire Station 62, located at 5551 Butterfield Ranch Road, would serve the project site (see Figure 4.11-1). Fire Station 62 is approximately 2.1 miles north of the project site. It houses a medic engine, a medic squad, a brush engine, and a reserve engine, with daily staffing of five personnel (CVFD 2018). As part of the CVFD's 2018 Master Plan Update process, the CVFD analyzed risk by hazard for each station in the District. Overall hazard risks related to emergency services for Station 62 include a high risk for medical emergencies, moderate risk for building and wildland fires and hazardous materials, and low risk for technical rescue and aviation incidents.

The CVFD's service area population is expected to grow by more than 20 percent by 2035, with a corresponding growth in housing units, and expansion of commercial and industrial occupancies (CVFD 2018). The CVFD 2018 Master Plan Update anticipates a continued service demand increase, averaging approximately 4 to 6 percent annually through 2028, with much of the demand being related to emergency medical services. While additional emergency response capacity would be required to meet response performance goals, the CVFD 2018 Master Plan Update states that the expected service demand increase can be absorbed within the CVFD's current and anticipated expanded service capacity. CVFD has identified a fire facility deficiency in Chino Hills, with the need for at least one fire station or alternative emergency response capability within central Chino Hills. With the exception of Station 65 (in the City of Chino), CVFD identifies its current facilities as being in good to excellent condition and adequate to meet the current and anticipated space needs.

4.11.1.2 Police Services

The City has contracted with the San Bernardino County Sheriff's Department, which operates as the Chino Hills Police Department, for law enforcement services since the City's incorporation in 1991

(San Bernardino County Sheriff's Department 2021). The Chino Hills Police Station is a 30,000-square-foot building located in the Chino Hills Government Center at 14077 Peyton Drive. The Station has 52 sworn personnel and 15 civilian personnel assigned. In 2019, deputies responded to over 44,000 calls for service and documented in excess of 4,100 reports. The Department currently has 38 patrol deputies (as reported for years 2010 through 2019; San Bernardino County Sheriff's Department 2019). The Chino Hills Police Department has a preferred service ratio of 1 deputy per 2,000 residents and a goal of responding to all calls for service in less than 7.5 minutes. The Police Department has added officers annually based on professional judgement rather than a formulaic approach with sworn officers per capita (City 2015c). The City of Chino Hills General Plan Final EIR indicates that the City's standard practice would be to increase Police Department staffing levels as growth in the City continues.

4.11.1.3 Schools

The project site is located in the Chino Valley Unified School District (CVUSD), which serves over 28,000 students from transitional Kindergarten through 12th grade. The CVUSD consists of 22 elementary schools, two K-8 schools, five junior high schools, four high schools, one community day school, one continuation high school, and one adult school (CVUSD 2019). The project site is within the school attendance boundaries for Butterfield Ranch Elementary School, Townsend Junior High, and Chino Hills High School (CVUSD 2021). Butterfield Ranch Elementary School is located in the South Trail community to the north and is approximately 0.25 mile northwest of the project site (see Figure 4.11-1). Student enrollment for Butterfield Ranch Elementary School is 725 students, as of January 2022 (Beverly Beemer, email correspondence, January 21, 2022), with students in Kindergarten through grade 6. Townsend Junior High and Chino Hills High School are located approximately 5 miles and 3 miles northwest of the project site, respectively. Townsend Junior High serves grades 7 and 8 and had an enrollment of 1,160 students as of January 2022 (Veronica Munoz, email correspondence, January 13, 2022). Chino Hills High School serves students in grades 9 through 12. As of December 2021, Chino Hills High School had a student enrollment of 2,764 students (Randal Buoncristiani, email correspondence, December 2, 2021).

4.11.1.4 Parks

Chino Hills has more than 3,000 acres of publicly owned open space, 44 parks, and 48 miles of trails. There are multiple parks in the vicinity of the project site, including Mystic Canyon Park, Meadows Park, Butterfield Park, and Hunters Hill Park, all of which are located within a mile of the project site, to the north and northwest. Additionally, two large regional parks are located in close proximity to the project site—Chino Hills State Park and Prado Regional Park. Chino Hills State Park, a state park consisting of more than 14,000 acres, is located approximately 1.7 miles west of the project site. Chino Hills State Park provides over 90 miles of trails, which accommodate pedestrians, bicyclists, and equestrians. Prado Regional Park is a 2,000-acre park located in the City of Chino, operated by San Bernardino County. Prado Regional Park is located within one-half mile to the east of the project site beyond SR-71. Activities available at Prado Regional Park include boating and water sports, fishing, camping, equestrian activities, archery and shooting ranges, hiking, bicycling, and golf. While residents of the proposed project could utilize any local parks, the parks within the southern portion of the City are more likely to be utilized by residents near the project site due to their proximity. Table 4.11-1, *Park Facilities Near the Project Site*, summarizes the City parks within 4 miles of the project site, as well as the two large regional parks in the project vicinity.

Source: Aerial (NAIP, 2018)

Existing Public Facilities

Figure 4.11-1

Table 4.11-1
PARK FACILITIES NEAR THE PROJECT SITE

Name	Location	Size (acres)	Amenities	Approximate Distance from Project Site (miles)
Community Parks				
Alterra Park	4921 Soquel Canyon Parkway	3.7	Playground, adaptive swing, picnic area, basketball half-court, restrooms, BBQs, gazebo, trailhead	3.1
Butterfield Park	17671 Mystic Canyon Drive, Chino Hills	13.5	Playground, full basketball court, gazebo, restrooms, BBQs, picnic area	0.7
Chino Hills Skate Park	16339 Fairfield Ranch Road	7,150 square feet	Pools, rails, ramps	2.4
Danbury Park	15701 Fairfield Ranch Road	5.7	Two playgrounds, gazebo, full basketball court, BBQs, restrooms	3.1
Fairfield Ranch Park	16333 Fairfield Ranch Road	5.5	Playground, gazebo, full basketball court, BBQs, picnic area, restrooms	2.6
Hunters Hill Park	6070 Natalie Road	5	Basketball half-courts, baseball field, soccer field, restrooms, picnic area, adaptive swing	1.0
Meadows Park	6266 Butterfield Ranch Road, Chino Hills	9.5	Trailhead, benches, animal wash racks	0.5
Mystic Canyon Park	6424 Mystic Canyon Drive, Chino Hills	2.5	Playground, par course, two basketball half-courts, community building	0.15
Pinehurst Park	5800 Park Drive	14	Gazebos, playground, tot lot, basketball full-court, restrooms, picnic areas	2.3
Rincon Park	16202 Pinehurst Drive	6	Playground, basketball half-court, picnic area, BBQs, restrooms	3.6
Torrey Pines Park	5011 Torrey Pines Drive	4.2	Covered picnic area, BBQs, restrooms	3.3
Vila Borba Park	17001 Amadora Drive	5.6	Dog park, playground, adaptive swing, gazebo, picnic area, BBQs, outdoor fitness equipment, open turf, walking paths, restrooms	1.7

Name	Location	Size (acres)	Amenities	Approximate Distance from Project Site (miles)
Regional Parks				
Prado Regional Park	16700 S. Euclid Avenue, Chino	3,000	Fishing, camping, biking, nature trails, splash pad, disc golf, dog park, picnic facilities, two 18-hole golf courses, an Olympic shooting range, equestrian center, archery club	0.5
Chino Hills State Park	4721 Sapphire Road, Chino Hills	14,000	90 miles of hiking trails for pedestrians, bicyclists, and equestrians	1.7

Sources: City 2021d; City 2015c; San Bernardino County 2021; California Department of Parks and Recreation 2021.

The City maintains 48 miles of trails available for public use. In the City, there are 16 trailheads that lead to 28 trails throughout the community (City 2021e). Within the project vicinity, a number of access points to trails are available. As discussed above for park facilities, while residents of the proposed project could utilize any local public trails, the trails within the southern portion of the City are more likely to be utilized by residents near the project site due to their proximity. For this reason, Table 4.11-2, *Trails Near the Project Site,* summarize the trailheads in the immediate project vicinity (within 4 miles). In addition to the City trails available in the project vicinity, the project site is located approximately 1.7 miles from Chino Hills State Park, which as noted above contains 90 miles of trails for pedestrians, bicyclists, and equestrians. The nearby Prado Regional Park also contains a number of hiking and nature trails.

Table 4.11-2
TRAILS NEAR THE PROJECT SITE

Trail Name	Main Access Point	Trail Length (miles)	Approximate Distance from Project Site to Main Trail Access Point (miles)*
Butterfield Trailhead	Hunters Hill Park, 6070 Natalie Road	1.8 (Adobe Trail Loop) 2.3 (Butterfield Run Trail)	1.0
Fairfield Ranch Trailhead	16333 Fairfield Ranch Road	2.0	2.6
Torrey Pines Loop	Torrey Pines Park, 5011 Torrey Pines Drive	2.4	3.4
Vila Borba Trailhead	17001 Amadora Drive	1.2 (Vila Borba Loop) 1.2 (Pinehurst Trail)	1.7

Source: City 2021e
*Portions of the trails may occur closer to the project site; however, this column lists the distance from the trailhead main access point to the project site.

4.11.1.5 Other Public Facilities

The Chino Hills Civic Center was built in 2008 and serves as the governmental core for the City. The Civic Center houses City Hall, CVFD administration offices, the police department building, and the James S. Thalman Chino Hills Public Library. The library is a branch of the San Bernardino County library system.

Chino Hills Community Center is located at 14250 Peyton Drive in the City. The Community Center is approximately 17,000 square feet and hosts community meetings, events, weddings, social gatherings, training sessions, classes, and other community-oriented classes. The Community Center features a banquet hall, outdoor gazebo, conference rooms, fitness rooms, a game room, meeting space, a commercial kitchen, and a passive park (City 2021f). Other public facilities in the City include the Grand Avenue Park, Mystic Canyon, and Sleepy Hollow community buildings, and the McCoy Equestrian and Recreation Center. The community buildings are available for use by reservation. The McCoy Equestrian Center is a 20-acre facility that features an approximately 2,700-square-foot barn, the McCoy residence, and three arenas that can be rented for community use.

4.11.2 Regulatory Setting

4.11.2.1 State

California Mutual Aid Plan

The California Mutual Aid Plan establishes policies, procedures, and responsibilities for requesting and providing inter- and intra-agency assistance in emergencies. The plan directs local agencies to develop automatic or mutual aid agreements, or to enter into agreements for assistance by hire (e.g., Schedule A contracts) where local needs are not met by the framework established by the Mutual Aid Plan.

Senate Bill 50

SB 50, or the Leroy F. Greene School Facilities Act of 1998, restricts the ability of local agencies to deny project approvals on the basis that public school facilities (classrooms, auditoriums, etc.) are inadequate. School impact fees are collected at the time when building permits are issued. Payment of school fees is required by SB 50 for all new residential development projects and is considered “full and complete mitigation” of any school impacts. School impact fees are payments to offset capital cost impacts associated with new developments, which result primarily from costs of additional facilities, related furnishings and equipment, and projected capital maintenance requirements. As such, agencies cannot require additional mitigation for any school impacts (Chapter 407, Statutes of 1998).

Quimby Act and Assembly Bill 1359

Cities and counties have been authorized since the passage of the 1975 Quimby Act (Government Code Section 66477) to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities. The dedicated land or fees may only be used for the development or rehabilitation of neighborhood or community parks or recreational facilities in the subdivision they were provided for, according to AB 1359 (Chapter 412, Statutes of 2013), unless certain requirements are met, and an exception is made. The goal of the Quimby Act is to require developers to help mitigate the impacts of property improvements. The Act gives authority for passage of land dedication ordinances only to cities and counties. Special districts must work with cities and/or

counties to receive parkland dedication and/or in-lieu fees. The fees must be paid and land conveyed directly to the local public agencies that provide park and recreation services community-wide.

4.11.2.2 Local

Chino Hills General Plan

The City's General Plan contains a Safety Element to address natural and human-made hazards affecting the City, and includes a discussion of citywide emergency preparedness. The Safety Element supports the City's vision to protect the community from unreasonable risks caused by natural and human-made hazards. The Safety Element of the General Plan contains the following goals, policies, and actions related to public services as they pertain to development:

- *Goal S-3:* Achieve adequate emergency service.
- *Policy S-3.1:* Ensure that new development has sufficient fire protection, police, and emergency medical services available.
- *Action S-3.1.1:* Require the review of development proposals to determine impacts on emergency services and ensure developments meet appropriate safety standards.
- *Action S-3.1.2:* Provide police services that are responsible to citizens' needs to ensure a safe and secure environment for people and property in the community.

Additionally, the Parks, Recreation, and Open Space Element contains goals, objectives, and policies for the maintenance and enhancement of recreation and open space amenities, including parks. Relevant polices applicable to the project include the following:

- *Objective 2-1:* Provide at least 5 acres of improved public park land per 1,000 residents (minimum 5 acres in size useable).

The project's consistency with these goals, policies, and actions are discussed in Section 4.9, *Land Use*.

Parks, Recreation, and Open Space Master Plan

The Parks, Recreation, and Open Space Master Plan is the City's implementation program for acquisition, development, and use of future park and recreation facilities and programs. The Master Plan provides an inventory of recreational resources in the City, identifies needs related to recreational resources, provides recommendations for recreational facilities, and discusses funding and implementation of the Master Plan. According to the Master Plan, based on the City's General Plan parkland standard of 5 acres per 1,000 residents, a deficit of 82 acres of parkland was occurring at the time of Master Plan preparation in 2007. The Master Plan identifies a future deficit of 153 acres in meeting the General Plan standard if build-out of the City occurred according to projections, and no new parkland acreage was added. The Master Plan contains recommendations for 67 acres of new parkland, some of which have already been constructed, including the Butterfield Ranch Park, the Civic Center site, Vila Borba Park, and Pinehurst Park, among others.

4.11.3 Methodology and Assumptions

Potential impacts resulting from implementation of the proposed project were evaluated based on relevant information from the General Plan (City 2015a) and General Plan Final EIR (City 2015c), CVFD Master Plan (CVFD 2018) and CVFD website (CVFD 2021), San Bernardino County Sheriff's Department website (San Bernardino County Sheriff's Department 2021), Chino Valley Unified School District website (CVUSD 2021), and the City's Park and Recreation website (City 2021d). Additionally, population estimates and other relevant demographic data, as well as aerial photography coverage, were reviewed and used in the analysis. Impacts are assessed based on the degree to which implementation of the proposed project would affect the availability, function, or capacity of public facilities in the City that serve the project area and the associated potential need for new or expanded facilities to maintain adequate services for the community.

4.11.4 Significance Thresholds

According to Appendix G of the State CEQA Guidelines a significant impact related to public facilities and services would occur if implementation of the proposed project would result in any of the following:

1. 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:

    - fire protection?
    - police protection?
    - schools?
    - parks?
    - other public facilities?

2. Would the project 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?

3. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

4.11.5 Impact Analysis

4.11.5.1 Public Facilities

Threshold 1: *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:*

- *fire protection?*
- *police protection?*

- *schools?*
- *parks?*
- *other public facilities?*

Fire Protection

The project proposes the addition of 159 single-family dwelling units, which would increase the demand for fire protection and emergency services in the service area and could potentially adversely impact current response times. Based on an average of 3.37 persons per household for Chino Hills (City 2019), the project would have an expected population of approximately 536 people, although some project residents may be relocating from other areas within the City, potentially resulting a smaller actual population increase in the service area from the project. The project site would be served by Fire Station 62, which is approximately 2.1 miles from the project site. The project site is not within the central portion of Chino Hills and is not within the portion of the City that CVFD has identified as having a facility deficiency.

The project does not represent a unique land use or type of construction that would require additional CVFD resources. The project site is located within the City's Fire Hazard Overlay, the impacts of which are discussed in Section 4.9, *Land Use and Planning*, and Section 4.15, *Wildfire*, of this Draft EIR. The proposed project's impacts associated with wildfire, as well as a discussion of proposed fuel modification and fire protection measures, are discussed in Section 4.15, *Wildfire*. The project's impacts associated with emergency response and evacuation, including fire department access at the project site, are discussed in Section 4.7, *Hazards and Hazardous Materials.* The project applicant is required to submit project plans to CVFD for review and approval with respect to applicable fire protection standards contained in the Municipal Code. Through the routine plan check conducted by CVFD, CVFD would confirm the project meets applicable fire codes, including sufficient fire flow, fuel modification requirements, and emergency access for fire engines and crews.

Implementation of the project may result in an increase in demand for emergency services; however, the size and location of the project would not place an undue hardship on CVFD since they are currently serving similar uses in the vicinity, including the South Trail community adjacent to the north of the project site. Additionally, CVFD would receive user fees during construction and would receive property tax from the project to offset increased demand for service. The project is consistent with the General Plan, and therefore, included in the growth projections for the City, including those used in the CVFD Master Plan for determining future service needs. While it is acknowledged that potential future development of Accessory Dwelling Units (ADUs) within the project site could result in incremental additional on-site service population beyond what is projected in the City's General Plan and CVFD Master Plan, this additional growth would not notably affect the ability of CVFD to provide adequate fire protection and emergency medical services to the community based on the limited increase that is associated with ADUs compared to the overall service population. The extension of fire protection and emergency medical services to the proposed development would not result in the need for new or expanded CVFD facilities. Therefore, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire facilities. Impacts related to fire protection services would be less than significant.

Police Protection

The proposed project would result in an increased demand for police protection services associated with the 159 new dwelling units and an estimated population increase of 536. Typical of residential developments, the demand for police services associated with the project would likely be in relation to property crimes or crimes against persons. The project would generate property and sales tax which would, at least in part, off-set increased demand for police protection services associated with the project. As discussed above, the proposed project is consistent with population projections identified in the General Plan and is located adjacent to other similar residential development. The extension of police protection services to the proposed development would not result in the need for new or altered police protection services facilities. The Police Department has added officers annually based on professional judgement rather than a formulaic approach with sworn officers per capita, and the City's standard practice would be to increase Police Department staffing levels as growth in the City continues. As the project is included in General Plan projections and the City routinely increases Police Department staffing levels in response to growth in the City, the proposed project's impact on police protection services would be less than significant. It should be noted that, as discussed above for fire protection services, construction of ADUs within individual single-family lots at the project site could occur, which would incrementally increase the on-site service population beyond what was anticipated in the General Plan; however, such increases are anticipated to be minimal based on the limited number of property owners expected to construct ADUs on their property in the future. Additionally, these increases would represent a very small fraction of the overall service population and the Police Department annually assesses the need for additional services, which would address potential additional demands associated with ADUs on-site.

Schools

The General Plan Final EIR indicates that CVUSD had been experiencing declining enrollment of approximately 500 students per year for several years (at the time of Final EIR preparation - 2015) and the trend was expected to continue. The Final EIR identifies "plenty of enrollment capacity" with no future school facility needs anticipated.

California Code of Regulations Section 65995 and California Education Code Section 17620 allow school districts to levy fees on residential and/or commercial/industrial construction projects within a school district's boundaries. The State Allocation Board (SAB) sets the per-square-foot Level I school impact fees (developer fees) every two years.

The project proposes the addition of up to 159 new single-family residential units with an estimated 536 residents, which would generate new students in the area that would need to be accommodated at nearby schools that serve the project site, including Butterfield Ranch Elementary School, Townsend Junior High, and Chino Hills High School. Capacity information for these three schools is presented in Table 4.11-3, *School Capacity and Enrollment Data*.

Table 4.11-3
SCHOOL CAPACITY AND ENROLLMENT DATA

School	Design Capacity	Current Enrollment	Resulting Excess/ (Deficit) Capacity
Butterfield Ranch Elementary	840[1]	725[1]	115
Townsend Junior High	1,160[2]	970[2]	190
Chino Hills High School	3,200[3]	2,764[4]	436

[1] Beverly Beemer, Director of Planning; Facilities, Planning and Operations Department; Chino Valley Unified School District. Email correspondence. January 21, 2022.
[2] Veronica Munoz, School Secretary, Robert O. Townsend Middle School. Email correspondence. January 13, 2022.
[3] Randal Buoncristiani, Ed.D., Principal, Chino Hills High School. Email correspondence. December 2, 2021.
[4] Ed Data – Education Data Partnership. Enrollment for 2020-2021 school year. Available at: https://www.ed-data.org/. Accessed January 13, 2022.

As shown, the three schools designated to serve the project are not operating at full capacity. While these schools may or may not have sufficient capacity in the near term to serve new students generated by the project, planning for future school facilities is the responsibility of the school districts. Government Code Section 65995 and Education Code Section 53080 authorize school districts to impose facility mitigation fees on new development to address any increased enrollment that may result. The project would be required to pay the current statutory developer fee for residential construction, including room additions over 500 square feet, as a condition of building permit approval (CVUSD 2020d). In August 1998, the Governor signed into law Senate Bill 50, also known as the Leroy Greene School Facilities Act of 1998. This bill made major changes in the State Facilities Program as well as the rules and regulations surrounding the use of "developer fees" as mitigation for school districts in California. Education Code §17620 was amended to create the provisions of Government Code §65995. The legislation holds that an acceptable method of offsetting a project's effect on the adequacy of school facilities is payment of a school impact fee prior to issuance of a building permit. Once paid, the school impact fees would serve as mitigation for any project-related impacts to school facilities. The project would be required to pay developer fees to CVUSD, which is based on the square footage of proposed development. In addition, any future construction of ADUs on the project site over 500 square feet of floor area would also be subject to the same developer fees, which would address school demands associated with these additional units. Payment of developer fees is considered full mitigation for school facility impacts. As such, the proposed project would not result in significant impacts to schools that would require the need for new or expanded school facilities. Impacts would be less than significant.

Parks

The project proposes the addition of up to 159 single-family residential units, and would introduce new residents to the area that would likely use parks, potentially resulting in an increase in the demand for use of existing public parks in the project area. The project includes a number of components to provide recreational opportunities for project residents. The project would provide a community recreation center with recreational amenities for use by residents. The recreation center would consist of an outdoor 1,500-square-foot, resort-style swimming pool, pool deck, pool building, a play structure, a barbeque area, and a parking lot. The project would also include six landscaped lots with grass areas for recreational use, a pocket park, and a bocce ball court with seating. Additionally, unimproved walking/hiking trails (i.e., informal trails without grading, paving, markings, signage, etc.) would be provided in the 45-acre natural open space in the southwest portion of the project site. The

environmental effects resulting from implementation of the proposed on-site recreational amenities are evaluated in this Draft EIR as part of the overall project and where potential adverse physical effects could occur, mitigation is identified that would reduce impacts to below a level of significance.

The availability of recreational amenities provided by the project, combined with the nearby City parks available for use by residents, Chino State Park, and Prado Dam Regional Park would provide adequate park facilities for use by the residents of the proposed project. As the proposed project would not result in a population increase in excess General Plan projections, and considering the availability of existing park facilities and the new facilities provided by the proposed project, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities. As noted above for other public services impacts, the potential construction of ADUs within individual lots at the project site in the future could add incremental demand for parks and recreational facilities in the project area. However, given the limited increases in residential capacity associated with incidental ADU construction, it is not anticipated that the additional growth associated with future ADUs on-site would have a measurable adverse impact on parks and recreational facilities such that new or expanded facilities would be required.

The Parks, Recreation, and Open Space Element (City 2008b) establishes population-based park standards of 5 acres of improved public park land per 1,000 residents. Based on the current City population of 82,409 residents (California Department of Finance 2020), 412.05 acres of parkland are needed to achieve the population-based park standards. The City has approximately 300 acres of parkland (City 2015c), and is therefore deficient in meeting the standard of 5 acres per 1,000 residents. The Parks, Recreation, and Open Space Master Plan projected an expected deficiency of park space at buildout based on the 5 acres per 1,000 residents identified in the General Plan. The project, with a projected population of 536 people would require approximately 2.7 acre of parkland to meet the General Plan standard of 5 acres per 1,000 residents; however, the General Plan FEIR indicates that the future parks and recreation facilities identified in the Parks, Recreation, and Open Space Master Plan would be sufficient to meet the needs of the City's residents anticipated at General Plan buildout, even if they do not meet the General Plan parkland to resident ratio.

The project applicant would be required to pay a Quimby Act fee and the City's Park and Recreation Facilities fee prior to occupancy, pursuant to City requirements. These fees would also be applicable to future ADUs constructed within the project site. These fees would help reduce potential impacts of future development on parks and recreational services and would offset the project-related increase in demands on parks. With the payment of fees to comply with the City's standards for parks, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered population-based parks. Impacts related to parks would be less than significant.

Other Public Facilities

Future residents of the proposed project would likely utilize other public facilities in the City, such as the Chino Hills Civic Center (including library services), Chino Hills Community Center, and the other community buildings. According to the General Plan Final EIR, the Civic Center was developed and sized to serve the City through its build-out and no additional public facilities needs have been identified by the City (City 2015c). As the proposed project is consistent with the growth projected in the City General Plan, it is expected existing public facilities are adequate to serve the project. The potential construction of ADUs within individual lots at the project site in the future could add incremental demand for other public facilities in the project area. However, given the limited increases in residential capacity

associated with incidental ADU construction, it is not anticipated that the additional growth associated with future ADUs on-site would have a measurable adverse impact on such facilities such that new or expanded facilities would be required. The project would not result in the need for new or altered public facilities, and as such, impacts would be less than significant.

4.11.5.2 Deterioration of Existing Neighborhood Parks and Recreational Facilities

Threshold 2: Would the project 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?

The proposed project is not expected to significantly impact the City's existing parks or recreational facilities. As discussed for fire and police protection services above, the proposed project is expected to have a population of approximately 536 and the project would not increase population beyond what was anticipated in the City General Plan, notwithstanding potential incremental growth associated with incidental construction of ADUs on-site in the future, which is expected to be limited. Additionally, as described above, the proposed project would include a number of recreational amenities and opportunities. The provision of project-provided recreational amenities, coupled with the availability of existing recreational amenities in the area, including existing neighborhood parks and two large regional parks (Prado Regional Park and Chino Hills State Park) ensures that adequate recreational amenities are available to serve the project. The project applicant would be required to pay a Quimby Act fee and the City's Park and Recreation Facilities fee prior to occupancy, pursuant to City requirements to mitigate the impact of new development on the City's existing facilities and infrastructure, which would also be applicable to future ADU construction if proposed. With payment of a parkland improvement fee and the provision of recreational amenities as part of the project. the 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. Impacts would be less than significant.

4.11.5.3 Construction or Expansion of Recreational Facilities

Threshold 3: Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

The proposed project would include recreational amenities including a community recreation center, a pocket park, a bocce ball court with seating, six landscaped lots, and unimproved walking/hiking trails. The private community recreation center would be located on an approximately 1-acre parcel within the residential area. It would be a private center maintained by the homeowners' association, available to residents only. The community recreation center would include an outdoor 1,500-square-foot, resort-style swimming pool, pool deck, pool building, a play structure, a barbeque area, and a parking lot. The project includes a pocket park in the northeast portion of the development and a bocce ball court and a seating area in the southern portion of the proposed development. The pocket park would be approximately 0.2 acre and would include turf and benches for seating. The project would include six additional landscaped lots with grass areas for recreational use. The environmental effects resulting from implementation of the proposed on-site recreational amenities are evaluated in this Draft EIR as part of the overall project and where potential adverse physical effects could occur, mitigation is identified that would reduce impacts to below a level of significance.

As discussed previously, the project would require payment of Quimby Act and the City's Park and Recreation Facilities fee to offset the impact of new development on the City's existing facilities and infrastructure, which would also be applicable to future ADU construction if proposed. Payment of a parkland improvement fee would not result in physical effects on the environment. Accordingly, impacts associated with construction or expansion of recreational facilities would be less than significant.

4.11.6 Mitigation Measures

4.11.6.1 Public Facilities

No significant impacts related to public facilities, including fire protection, police protection, schools, parks, libraries, or other public facilities would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.11.6.2 Deterioration of Existing Neighborhood Parks and Recreational Facilities

No significant impacts related to deterioration of existing parks and recreational facilities would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.11.6.3 Construction or Expansion of Recreational Facilities

No significant impacts related to the construction or expansion of recreational facilities would result from the implementation of the proposed project with implementation of mitigation measures identified throughout this EIR. Therefore, no additional mitigation measures are required.

4.11.7 Significance Determination

The significance of public facilities and services impacts before and after mitigation is summarized in Table 4.11-4, *Significance Determination Summary of Public Facilities and Services Impacts*. Implementation of the proposed project would not result in any significant impacts to public facilities and services. Impacts related to public facilities and deterioration of existing neighborhood parks and recreational facilities would be less than significant. Impacts associated with construction or expansion of recreational facilities would also be less than significant with implementation of mitigation measures identified throughout this EIR such that no additional mitigation is required.

Table 4.11-4
SIGNIFICANCE DETERMINATION SUMMARY OF PUBLIC FACILITIES AND SERVICES IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Public Facilities			
Fire Protection	Less than significant	None required	Less than significant
Police Protection	Less than significant	None required	Less than significant
Schools	Less than significant	None required	Less than significant
Parks	Less than significant	None required	Less than significant
Other Public Facilities	Less than significant	None required	Less than significant
Deterioration of Existing Neighborhood Parks and Recreational Facilities	Less than significant	None required	Less than significant
Construction or Expansion of Recreational Facilities	Less than significant	No additional measures required	Less than significant

4.12 TRANSPORTATION

This section of the EIR evaluates potential impacts on the transportation system resulting from implementation of the proposed project. The analysis is based, in part, on a Transportation Study (Linscott, Law & Greenspan 2021a) and a Vehicle Miles Traveled (VMT) Technical Memorandum (Linscott, Law & Greenspan 2021b) prepared for the project which are included as Appendix M and N, respectively of this EIR.

4.12.1 Existing Conditions

The existing roadways, public transit network, and the bicycle and pedestrian network surrounding the project site are discussed below and shown in Figure 4.12-1, *Existing Roadway Conditions and Intersection Controls*.

4.12.1.1 Roadway Network

Primary regional access to the project site is provided from SR-71, via the freeway interchange at Butterfield Ranch Road. The principal local network of streets serving the project site consists of Shady View Drive, Mystic Canyon Drive, Twin Knolls Drive, Via La Cresta, and Butterfield Ranch Road. The existing street network in the project area is described briefly below.

Shady View Drive

Shady View Drive is a north-south, two-lane local residential roadway that currently extends south approximately 0.4 mile from Butterfield Ranch Road to the project site's northern boundary. On-street parking is only permitted on the west side of the roadway between Via Entrada and Laurelton Lane. The intersection of Mystic Canyon Drive at Shady View Drive is all-way stop controlled. Other residential streets that feed into Shady View Drive are two-way (side street) stop controlled. A traffic signal controls the intersection of Shady View Drive at Butterfield Ranch Road.

Mystic Canyon Drive

Mystic Canyon Drive is an east-west, two-lane local residential collector street similar to Shady View Drive. This street extends southeasterly approximately 0.9 mile from Butterfield Ranch Road to the project site. The posted speed limit on Mystic Canyon Drive is 35 miles per hour (mph). On-street parking is only permitted on both sides of the roadway east of Shady View Drive within the vicinity of the project. Butterfield Ranch Elementary School is located along Mystic Canyon Drive.

Twin Knolls Drive

Twin Knolls Drive is a north-south, two-lane local residential collector located north of the project. The speed limit on Twin Knolls Drive is 25 mph. On-street parking is permitted intermittently along the roadway within the vicinity of the project. Twin Knolls Drive is currently stop controlled at Butterfield Ranch Road.

Via La Cresta

Via La Cresta is a north-south, two-lane local residential street that extends southeasterly approximately 0.5 mile from Butterfield Ranch Road, via Twin Knolls Drive to the project site. This local street is

developed with single-family homes with individual driveway access from Via La Cresta. Via La Cresta at Mystic Canyon Drive, and Via La Cresta at Twin Knolls Drive are both stop (side street) controlled. The posted speed limit on Via La Cresta is 25 mph. On-street parking is generally permitted on the both sides of the roadway within the vicinity of the project.

Butterfield Ranch Road

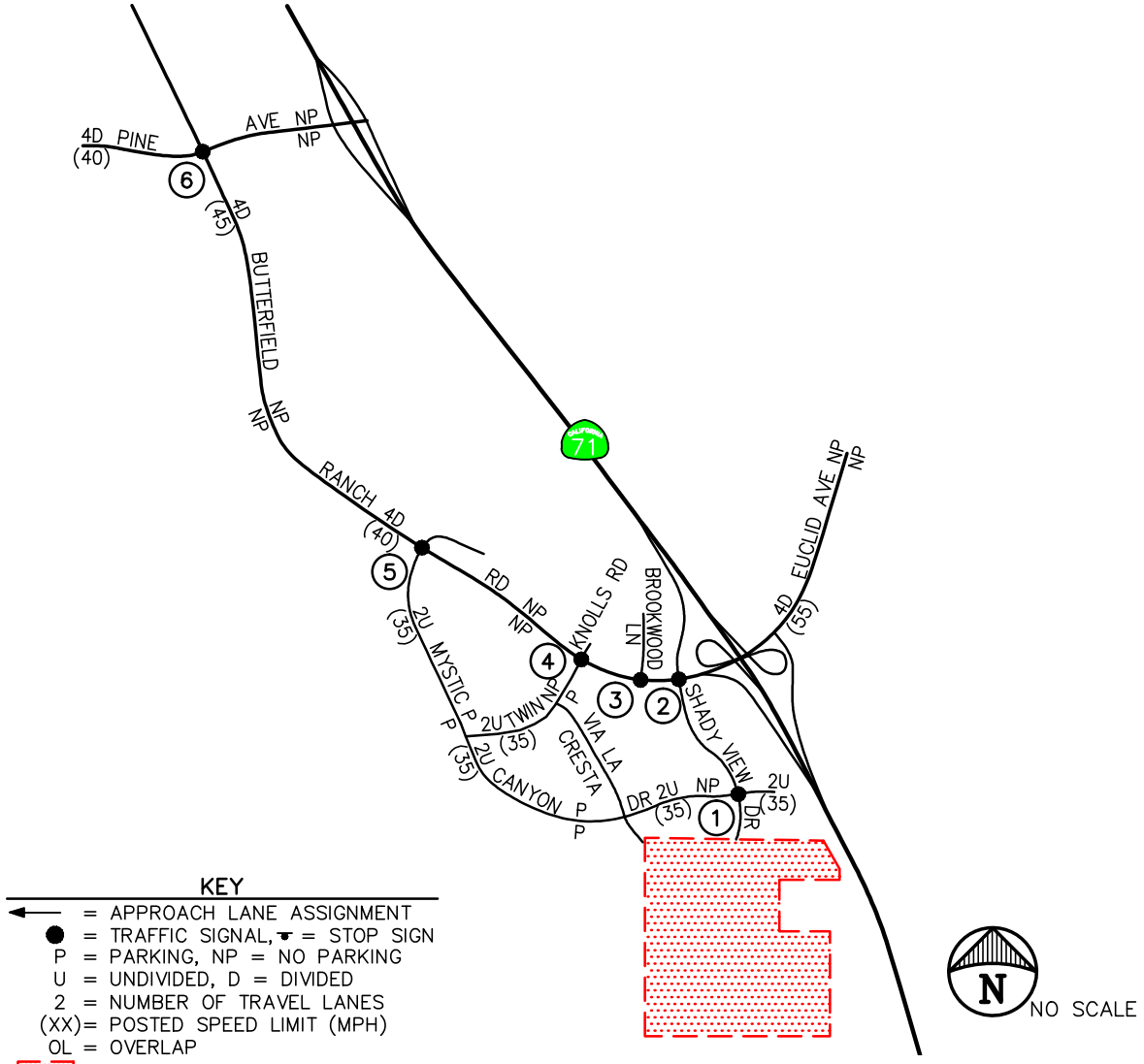
Butterfield Ranch Road is generally an east-west, four-lane divided roadway located north of the project. The posted speed limit on Butterfield Ranch Road is 45 mph. On-street parking is generally not permitted on either side of the roadway within the vicinity of the project. Traffic signals control the intersections of Shady View Drive, Brookwood Lane, Mystic Canyon Drive, and Pine Avenue. Per the City of Chino Hills General Plan Circulation Element, Butterfield Ranch Road is classified as a Minor Arterial south of Pine Avenue. The City of Chino Hills Bicycle Master Plan identifies Butterfield Ranch Road as a Class II bicycle facility.

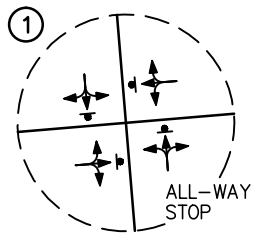
4.12.1.2 Public Transit Network

Public transit bus service is provided in the project area by OmniTrans, a public transportation agency in San Bernardino County. OmniTrans operates one bus route in the City (Route 88), which runs from The Shoppes (located on Grand Avenue, approximately 6.6 miles north of the project site) to the Montclair Transit Center in the City of Montclair. As such, the proposed project is located more than 6.6 miles from the nearest public bus route; additionally, OmniTrans is not planning to extend fixed route service to the southern area of the City. In September 2020, OmniTrans launched a new micro transit service known as OmniRide, which is a reservation-based, on-demand transit service similar to that of Uber and Lyft. Trips can be reserved either over the phone or by using the OmniRide On-Demand mobile app between the hours of 6:00 AM and 8:00 PM on weekdays only. The OmniRide service will pick-up and drop-off at a “virtual stop”; the nearest virtual stops in the project vicinity are at Butterfield Ranch Elementary School and at the intersection of Shady View Drive and Mystic Canyon Drive. It should be noted that OmniRide replaced the OmniGo Route 365 and the Access Americans with Disabilities Act Service which previously served the Chino and Chino Hills communities. A modified Route 365 is planned to remain to provide school tripper service to Chino Hills High School students.

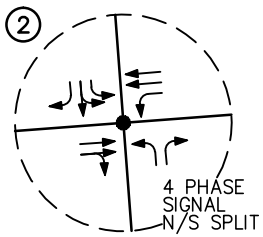
4.12.1.3 Bicycle and Pedestrian Facilities

Bicycle and pedestrian paths provide other modes of transportation for residents of the City. Existing bikeways in the City include Class 2 and Class 3 bikeways as shown in Figure 4.12-2, *Chino Hills Bicycle Master Plan*. Class 2 bike lanes provide a striped lane for one-way bicycle travel on a street or highway adjacent to automobile travel lanes. Class 3 bicycle routes provide for shared use with motor vehicle traffic. In the project vicinity, Butterfield Ranch Road provides Class 2 bicycle lanes along each side of the road. The City’s multi-use trail system is available to walkers, hikers, runners, bicyclists, and equestrians. The City contains 48 miles of trails available for use and enjoyment by the public. There are 16 trailheads that lead to 28 pedestrian trails throughout the City (City 2021e).

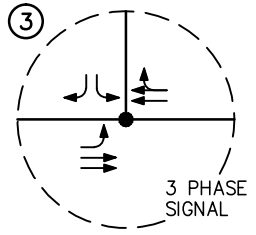




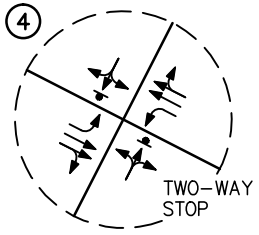
SHADY VIEW DR @ MYSTIC CANYON DR



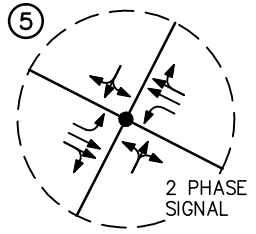
SHADY VIEW DR @ BUTTERFIELD RANCH RD



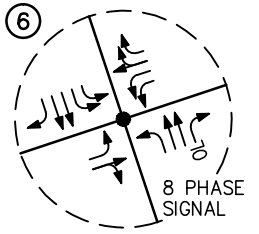
BROOKWOOD LN @ BUTTERFIELD RANCH RD



TWIN KNOLLS DR @ BUTTERFIELD RANCH RD



MYSTIC CANYON DR @ BUTTERFIELD RANCH RD



BUTTERFIELD RANCH RD @ PINE AVE

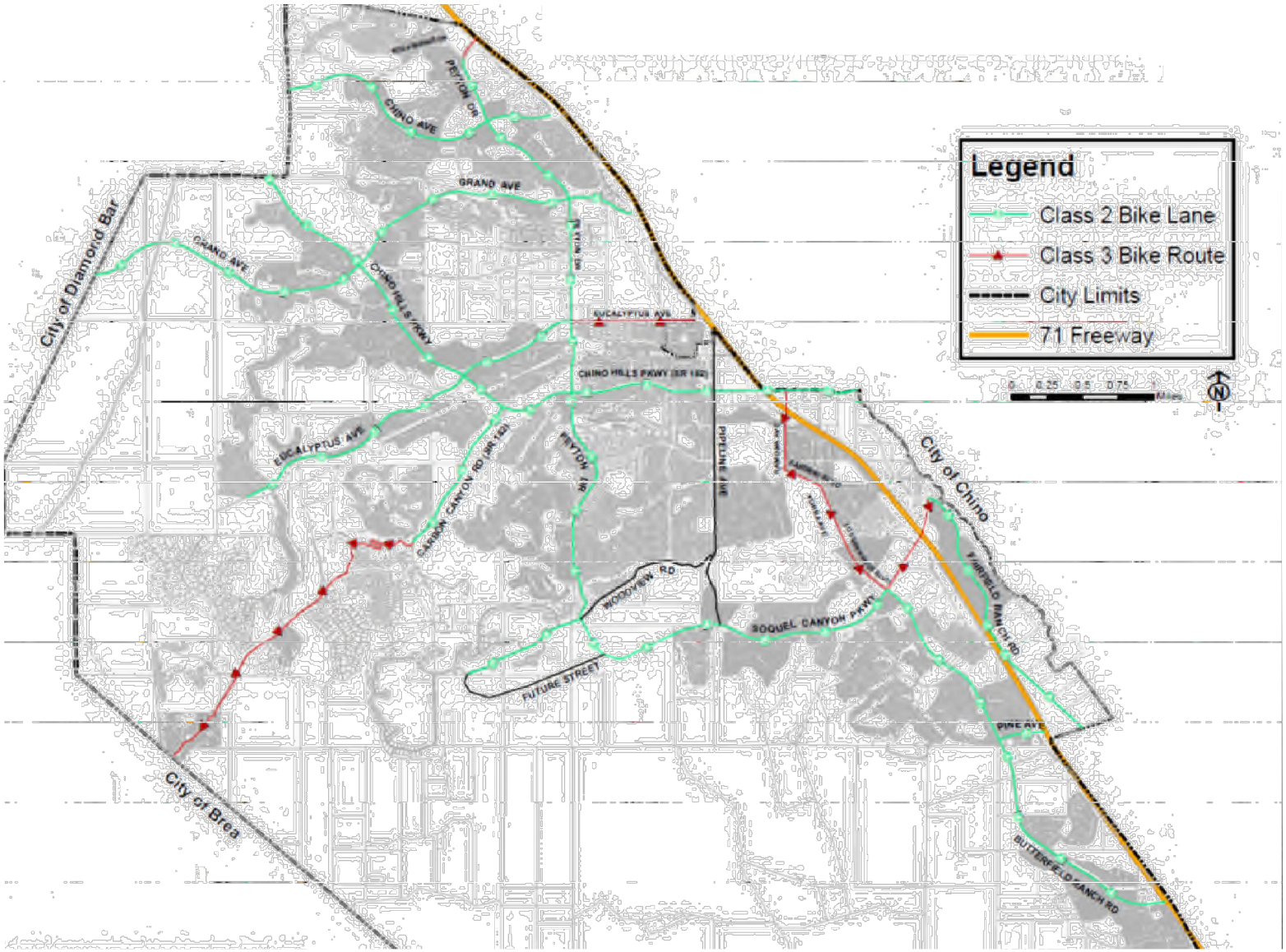
Source: Linscott, Law and Greenspan, 2021

H:\GIS\PROJECTS\C\ChinoHillsCity_01194\CNH-02_ShadyView\Maps\EIR\Fig4.12-1_Roadways.indd 01194.2.1 2/9/2022 - SAB

HELIX Environmental Planning

Existing Roadway Conditions and Intersection Controls

Figure 4.12-1



Source: Linscott, Law and Greenspan, 2021

HELIX Environmental Planning

Chino Hills Bicycle Master Plan

Figure 4.12-2

4.12.2 Regulatory Setting

4.12.2.1 State

Senate Bill 743

Senate Bill (SB) 743, which was codified in Public Resources Code Section 21099 on September 27, 2013, required changes to the guidelines implementing California Environmental Quality Act (CEQA) regarding the analysis of transportation impacts. Specifically, SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service (LOS) for evaluating transportation impacts. Particularly within areas served by transit, those alternative criteria must promote the reduction of greenhouse gas emissions, the development of multi-modal transportation networks, and a diversity of land uses. To that end, OPR published its *Technical Advisory on Evaluating Transportation Impacts in CEQA* in December 2018, and the California Natural Resources Agency has certified and adopted changes to the CEQA Guidelines that identify VMT as the most appropriate metric to evaluate a project's transportation impacts. With the California Natural Resources Agency's certification and adoption of the changes to the CEQA Guidelines, automobile delay, as measured by LOS and other similar metrics, are no longer the basis for determining a significant environmental effect under CEQA. The City is using the OPR guidance for conducting transportation impact analyses.

4.12.2.2 Local

SCAG Regional Transportation Plan/Sustainable Communities Strategy

The 2020 RTP/SCS (SCAG 2020) is a major planning document for the regional transportation and land use network. It balances the region's future mobility and housing needs with economic, environmental, and public health goals. This long-range Plan, required by the state of California and the federal government, is updated by SCAG every four years as demographic, economic, and policy circumstances change. The 2020-2045 RTP/SCS' "Core Vision" prioritizes the maintenance and management of the region's transportation network; expanding mobility choices by co-locating housing, jobs, and transit; and increasing investment in transit and complete streets. Strategies to achieve the 2020 RTP/SCS Core Vision include, but are not limited to: Smart Cities and Job Centers, Housing Supportive Infrastructure, Go Zones, and Shared Mobility. The goals of the 2020 RTP/SCS fall into four core categories – economy, mobility, environment, and healthy/complete communities. As discussed in Section 4.9, *Land* Use, the 2020 RTP/SCS include a number of goals to achieve the Core Vision of increased mobility options and a more sustainable growth pattern. The goals specific to transportation and mobility include:

- Improve mobility, accessibility, reliability, and travel safety for people and goods.
- Enhance the preservation, security, and resilience of the regional transportation system.
- Increase person and goods movement and travel choices within the transportation system.
- Adapt to a changing climate and support an integrated regional development pattern and transportation network.
- Leverage new transportation technologies and data-driven solutions that result in more efficient travel.

- Encourage development of diverse housing types in areas that are supported by multiple transportation options.

An amendment to the 2020 RTP/SCS was approved by the SCAG Regional Council on November 4, 2021. The amendment allowed updates to regionally significant transportation projects in the 2020 RTP/SCS. These updates were necessary based on technical changes to some projects that were time-sensitive. Additionally, County Transportation Commissions identified new project priorities and projects that were no longer priorities. Revisions or additions identified in the 2021 amendment include one Federal Transportation Improvement Program project in the vicinity of the proposed project – replacement of eastbound SR-91 to northbound SR-71 connector with a direct connector and reconstruction of the Green River Road eastbound on-ramp. The amendment modified the schedule, with an expected completion year of 2026. The SR-71 and SR-91 interchange is located approximately 3 miles south of the project site.

Chino Hills General Plan

The Land Use and Circulation Elements of the General Plan (City 2015a) identifies a number of applicable policies and actions related to transportation. Goals, policies, and actions related to transportation that are applicable to the proposed project include the following:

- *Policy LU 3-2:* Minimize traffic, noise, and other nuisance intrusions in residential neighborhoods.

- *Action LU-3.2.1:* Locate assembly and other neighborhood serving facilities on the perimeter of residential neighborhoods with access to a collector street.

- *Action LU-3.2.2:* Provide sidewalks along all streets in residential neighborhoods; and where possible, provide sidewalks in internal green belts.

- *Action LU-5.1.5:* Encourage development to incorporate pedestrian and bicycle trails, fitness areas, and /or other facilities that promote healthy living.

- *Action C-1.1.1:* Achieve and maintain a minimum Level of Service D on all roadway links and at all roadway intersections, with the exception of intersections within one-half mile of the SR-71 Freeway, where a minimum Level of Service E shall be maintained.

- *Action C-1.1.2:* Maintain San Bernardino County Congestion Management Program (CMP) highway system roadway links and intersections at Level of Service E.

- *Action C-1.1.3:* Require traffic impact analyses or traffic studies for private and public projects to ensure that discretionary development projects do not cause roadway congestion in excess of acceptable levels of service within Chino Hills, or on CMP roadway links or intersections.

- *Action C-1.1.4:* Require new development to provide for all roads within their boundaries and to pay their fair share of planned roadway improvement costs.

- *Policy C-1.2:* Create a safe, efficient, and neighborhood-friendly street system.

- *Action C-1.2.1:* Minimize through traffic in residential neighborhoods through a variety of land use controls and traffic control devices.

- *Action C-1.2.4:* Design local streets to primarily provide access to homes and other property.

- *Action C-1.2.5:* Require all development projects to meet mandatory standards with regard to vertical and horizontal alignments, access control, rights of way, cross-sections, intersections, sidewalks, curbs and gutters, cul de sacs, driveway widths and grades, right of way dedication and improvements, and curb cuts for the disabled.

- *Action C-1.2.7:* Provide adequate sight distances for safe vehicular movement at a road-s design speed and at all intersections as consistent with City and Caltrans standards.

- *Action C-1.2.8:* Prohibit direct driveway access from individual residents to major arterials, major highways, secondary highways, and collectors.

- *Action C-1.2.9:* Require driveway placement to be primarily designed for safety and, secondarily, to enhance circulation.

- *Action C-1.2.10:* Plan access and circulation of each development project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles.

- *Action C-1.2.11:* Require adequate off-street parking for all developments.

- *Action C-3.1.3:* Require bus turn-outs in residential, commercial, and industrial public use areas.

- *Action C-4.1.3:* Encourage the use of alternative fuel vehicles and the construction of infrastructure to charge/fuel alternative fuel vehicles.

- *Policy C-5.1:* Provide adequate infrastructure improvements in conjunction with development.

- *Action C-5.1.1:* Plan and design new roadways and expansion/completion of existing roadways to allow for co-location of water, sewer, storm drainage, communications, and energy facilities within the road right of way.

- *Action C-5.1.2:* Require private and public development projects to be responsible for providing road improvements along all frontages abutting a public street right of way in accordance with the design specifications for that roadway.

- *Action C-5.1.3:* Require private and public development projects to be responsible for providing traffic control devices and wet and dry utility improvements necessary to meet the needs of the project, and to properly integrate into the established and planned infrastructure systems.

The project's consistency with these policies and actions is discussed in Section 4.9, *Land Use*.

4.12.3 Methodology and Assumptions

The VMT analysis conducted for the project was based on the OPR Technical Advisory (OPR 2018). The Technical Advisory provides agencies with recommendations on screening thresholds, VMT analysis methodologies, project VMT thresholds, and mitigation strategies.

Screening thresholds are used to identify projects that are anticipated to result in less than significant transportation impacts without requiring a detailed transportation study. OPR recommends agencies develop thresholds to screen out projects based on project size, maps, transit availability, and provision of affordable housing. If a project meets any of the following screening thresholds, it is assumed to result in less than significant impacts related to VMT and a detailed transportation study is not required. The four screening thresholds are identified below:

- Proximity to transit: certain projects (residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within one half mile of an existing major transit stop or an existing stop along a high-quality transit corridor would result in a less than significant impact on VMT.

- Project size: projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact.

- Screening maps: maps created with VMT data can illustrate areas that are currently below threshold VMT and would likely result in similar levels of VMT with new development can be used to screen residential and office projects.

- Affordable Residential Development: A 100-percent affordable residential development (or the residential component of a mixed-use development) in infill locations may be presumed to result in a less than significant transportation impact.

The OPR Technical Advisory suggests methodologies to analyze VMT associated with a project. For residential projects, tour- and trip-based[1] approaches offer the most viable methods for determining VMT and for comparing those results to VMT thresholds. The OPR Technical Advisory also provides recommended numeric VMT thresholds for residential, office, and retail land projects. The methodology consists of calculating the VMT per capita and comparing it to the citywide or regionwide VMT per capita. If the ratios for the residential project exceed 85 percent of the city or regional average, a significant transportation impact would occur. This methodology was used for the proposed project's VMT analysis (Linscott, Law & Greenspan 2021b). VMT for the project was estimated using the San Bernardino County Transportation Analysis Model (SBTAM; year 2016 is the baseline year in the most current SBTAM model) for Traffic Analysis Zone (TAZ) 53609101 (ID 1432), where the project site is located.

[1] Trip-based assessment of a project's effect on travel behavior counts VMT from individual trips to and from the project. It is the most basic, and traditionally the most common, method of counting VMT. A tour-based assessment counts the entire home-back-to-home tour that includes the project.

4.12.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines, a significant impact associated with transportation would occur if implementation of the proposed project would result in any of the following:

1. Would the project conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

2. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

3. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

4. Would the project result in inadequate emergency access?

4.12.5 Impact Analysis

4.12.5.1 Transportation Plans

Threshold 1: Would the project conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The proposed project would be consistent with applicable transportation plans, including the 2020 RTP/SCS and the Land Use and Circulation Elements of the Chino Hills General Plan.

SCAG Regional Transportation Plan/Sustainable Communities Strategy

The project is a single-family residential development and is not within a Neighborhood Mobility Area, Priority Growth Area, SCAG Job Center, Transit Priority Area, or High Quality Transit Area, as identified in the 2020 RTP/SCS. While limited transit services exist in the project vicinity via OmniTrans, the project does not directly support the overarching strategy of the 2020 RTP/SCS of integrating land use and transportation; however, the project site is not located within an area identified by the 2020 RTP/SCS for dense growth, transportation-oriented development, or focused transportation and multi-modal improvements. The project would extend two existing roadways into the project site, but does not propose changes to the regional transportation network. Implementation of the project would have no potential to affect the preservation, security, and resilience of the regional transportation system given the limited intensity of the project, the location of the project site, and the distance of the project site from regional transportation facilities. While the project would not increase travel choices within the transportation network, due to the proposed single-family uses, it would not limit the movement of goods or people within the transportation network. As discussed in Section 4.6, *Greenhouse Gas Emissions*, the project would not hinder regional efforts to adapt to climate change or hinder the development of an integrated development pattern or transportation network. The project does not include diverse housing types nor is it supported by multiple transportation options. However, the project is consistent with the land use assumptions for the project site that are assumed in the RTP/SCS, and implementation of the project would not preclude the development of diverse housing types at other locations in the City that are proximate to multiple transportation options. Based on the foregoing analysis, the project would not result in significant impacts associated with conflicts or inconsistencies with the 2020 RTP/SCS. Impacts would be less than significant.

Chino Hills General Plan

The proposed project would be consistent with the relevant goals, policies, and actions identified in the General Plan Land Use and Circulation Elements. The project's consistency with the specific policies and actions identified in Section 4.12.2.2 are discussed in Section 4.9, *Land Use*, and Table 4.9-1. As shown in Table 4.9-1, the project is consistent with most General Plan policies, including those specific to transportation. One identified inconsistency is that the project does not provide a bus-turn out in residential neighborhoods, consistent with General Plan Action C-3.1.3. OmniTrans operates one bus route (Route 88) within the City, which runs from The Shoppes (on Grand Avenue, approximately 6.6 miles north of the project site) to the Montclair Transit Center in the City of Montclair. The proposed project is located more than 6.6 miles from the nearest public bus route; additionally, OmniTrans is not planning to extend fixed route service to the southern area of the City. This inconsistency would not result in a significant environmental impact. As such, the project would result in less than significant impacts associated with applicable transportation goals in the Land Use and Circulation Elements of the General Plan.

4.12.5.2 Vehicle Miles Traveled

Threshold 2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

CEQA Guidelines Section 15064.3 describes specific considerations for evaluating a project's transportation impacts and states that generally, VMT is the most appropriate measure of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project. As discussed in Section 4.12.3, the project VMT analysis was conducted using the methodologies and thresholds contained in the OPR Technical Advisory.

VMT Screening

As discussed above in Section 4.12.3, screening criteria includes proximity to transit, small projects, screening maps, and affordable residential development. The project is not located within one half mile of an existing major transit stop or an existing stop along a high-quality transit corridor. The project would result in a trip generation of 1,501 daily trips, with 118 occurring in the AM peak hour, and 157 trips occurring in the PM peak hour and thus, would not meet the criteria for small projects (projects that generate or attract fewer than 110 trips per day). The project does not meet the criteria for screening maps and does not include affordable residential development. As such, the project does not meet any of the screening criteria identified in the OPR Technical Advisory to screen out of VMT analysis; thus, a VMT analysis was conducted for the project.

VMT Analysis

A VMT analysis was conducted for the project to determine whether it would exceed VMT thresholds. VMT for the City of Chino Hills and the project were estimated using the SBTAM. The results of the analysis are shown in Table 4.12-1, *2016 Citywide and Project VMT per Resident*.

Table 4.12-1
2016 CITYWIDE AND PROJECT VMT PER RESIDENT

Scenario	2016 VMT per Capita	15 Percent Below Year 2016 Average VMT
City of Chino Hills	20.65	17.55
Proposed Project	31.14	-

Source: Linscott, Law & Greenspan 2021b
VMT = vehicle miles traveled

The VMT per capita resulting from the proposed project is 31.14 miles, which is 50.8 percent above the City average of 20.65. Fifteen percent reduction below existing citywide VMT of 20.65 would be 17.55. The project fails to meet the 15 percent reduction of the citywide VMT, and thus, is above the threshold of 85 percent of regionwide VMT for residential projects. The project would result in a significant VMT impact.

VMT Reductions

The OPR Technical Advisory indicates that a "15 percent reduction in VMT are achievable at the project level in a variety of place types" by referring to the California Air Pollution Control Officers Association's (CAPCOA) *Quantifying Greenhouse Gas Mitigation Measures, A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures* Report (CAPCOA 2010). The CAPCOA measures include rules and combined maximums for calculating the VMT reduction when applying multiple measures. The Transportation Design Measure (TDM) strategies are sub-categorized into six categories, including: Land Use/Location, Neighborhood/Site Design, Parking Policy/Pricing, Trip Reduction Programs, Transit System Improvements, and Road Pricing/Management. Based on the rules for applying VMT reductions and the City of Chino Hills "Suburban" setting, a maximum of 15 percent reduction can be achieved through application of the CAPCOA TDM strategies. However, as the project is a residential project and can only utilize strategies for four of the six categories, the maximum allowable VMT reduction for the project is 10 percent. The proposed project includes CAPCOA TDM strategies that would be incorporated into the project as design features. The CAPCOA VMT reduction TDM strategies that are applied to the project as design features include the following:

- Land Use/Location LUT-9 (Improve Design of Development)

  "The project would include improved design elements to enhance walkability and connectivity. Improved street networks characteristics within a neighborhood include street accessibility, usually measured in terms of average block size, proportion of four-way intersections, or number of intersections per square mile, and etc."

- Neighborhood/Site Design SDT-1 (Provide Pedestrian Network)

  "Providing a pedestrian access network to link area of the project site encourages people to walk instead of drive. This mode shift results in people driving less and thus a reduction in VMT. The project would provide a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities continuous with the project site."

Pedestrian circulation is provided via existing sidewalks along Via La Cresta and Shady View Drive within adjacent communities. The project would construct sidewalks to connect to the existing sidewalks along Via La Cresta and Shady View Drive. The existing sidewalk system within the project vicinity, which the project would connect to, provides direct connectivity to the major thoroughfares of Butterfield Ranch Road and pedestrian connectivity to the existing residential, recreational, institutional, and commercial development in the surrounding area. Utilizing TDM strategy LUT-9 would give a maximum VMT reduction of up to 9.33 percent. For TDM strategy SDT-1, a maximum VMT reduction of up to 2 percent would be achieved. While the total VMT reduction for implementing these TDM strategies as project design features is 11.33 percent, as discussed above, the maximum allowable VMT reduction for a residential project, which can only utilize strategies in four categories, is 10 percent. As such, with implementation of the TDM strategies identified for the project, the project, which has a VMT that is 50.8 percent above the City average of 20.65, would result in significant impact, even with application of the maximum allowable VMT reduction TDM strategies.

4.12.5.3 Transportation Design Hazards

Threshold 3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The project would include the extension of Via La Cresta and Shady View Drive onto the project site. Eleven internal roadways and pedestrian facilities would also be provided. The internal streets would provide ingress and egress for residents, access and circular routes for service vehicles, and emergency vehicle access and dedicated fire lanes. The design of these improvements would be required to conform with applicable City and CVFD design criteria which contain provisions to minimize transportation hazards and provide emergency access.

Additionally, the project site access points at Via La Cresta and Shady View Drive would be designed in accordance with City standards to consider adequate sight distances for both directions. These transportation improvements are intended to improve safety for motorists, bicyclists, and pedestrians on the roadway.

The proposed residential uses are not anticipated to generate the types of traffic that would be incompatible with the existing transportation network or composition of traffic. Traffic generated by the project would include standard automobiles, bicycle, and pedestrian traffic, which would be consistent with the existing traffic in the area.

Therefore, the project would not substantially increase hazards due to a geometric design feature or incompatible uses. Impacts related to transportation design hazards would be less than significant.

4.12.5.4 Emergency Access

Threshold 4: Would the project result in inadequate emergency access?

The project site can be accessed from Shady View Drive and Via La Cresta. The majority of construction traffic would access the site via Shady View Drive. Because the project site is located at the existing terminus of Shady View Drive and Via La Cresta, it is not anticipated that project construction would require lane or road closures outside of the project site that would interfere with local emergency access. During construction of the project, heavy construction vehicles could interfere with emergency

response to the site or emergency evacuation procedures in the event of an emergency (e.g., vehicles traveling behind the slow-moving truck). Emergency access to all surrounding properties, however, would be maintained throughout the construction period. As a result, the project's construction-related impacts associated with emergency access would be less than significant.

The project would include the extension of Via La Cresta and Shady View Drive from their existing termini in the South Trail community to the north. Via La Cresta would be extended in a southeast direction into the project site and Shady View Drive would extend to the southwest to intersect the extension of Via La Cresta. The extension of these roadways would be private, and the proposed development would not include gated access. The project would construct roadways consistent with City and CVFD requirements to ensure adequate emergency access. The project would include two access points into the development – the extensions of Shady View Drive and Via La Cresta. These access points are based on the locations of the existing termini of Shady View Drive and Via La Cresta, which were established in 1998 and 1990 with the development to the north of the project site. These two points of ingress and egress are approximately 1,000 feet apart (from Shady View Drive centerline to Via La Cresta centerline, at the project boundary). The 1,000-foot separation is less than the minimum separation of 1,550 feet for the two project access points required by CVFD. This separation deficiency is existing and nonconforming, and cannot be changed by the proposed project, as the area to the north of the project is developed with existing homes except for these two access points.

With the exception of two cul-de-sacs in the northeast corner of the project site, each project intersection provides two possible travel paths with several possible routes to the project access/exits points (Shady View Drive and Via La Cresta), refer to Figure 4.15-5 in Section 4.15, *Wildfire.* Residents of seven homes within the proposed development would have to travel more than 500 feet to reach a roadway where two travel paths are available. No residents would be required to travel more than 750 feet to reach an access point with two travel paths.

The project incorporates a number of measures to maintain emergency access at the project site during construction and operation. The City requires traffic control plans for any construction activity that would disrupt traffic flow on city streets and project conditions of approval would require that emergency access be maintained during construction. On street parking would be restricted along some project roadways to provide fire lane access. These areas would be marked with "No Parking – Fire Lane" signs consistent with CVFD standards. Proposed locations for restricted on street parking to provide a fire lane include the southwestern side of the Via La Cresta extension, between Shady View Drive and B Street, the western side of D Street between Via La Cresta and C Street, and the cul-de-sac portions of C Street, E-G Streets, and I-K Streets. Project roadways would be constructed consistent with City and CVFD requirements to ensure adequate emergency access.

The project's Fire Master Plan (Firesafe Planning Solutions 2020) contains measures to be implemented to ensure appropriate emergency access, including requirements for CVFD vehicular access roads installation, maintenance, and clearance; gates in construction fencing with either a knox or a breakaway padlock; and fire lane standards for width, signage, and curbs. During the course of the City's and CVFD's required review of the proposed project's applications, the site plan would be reviewed to ensure that adequate access to and from the site and around the proposed buildings would be provided for emergency vehicles. Compliance with City and CVFD requirements for access would be required for the project and would ensure that emergency access to and from the site and within the site is maintained; however, the existing separation deficiency for the two project access points would result in a significant impact associated with emergency access.

4.12.6 Mitigation Measures

4.12.6.1 Transportation Plans

No significant impacts associated with transportation plans would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.12.6.2 Vehicle Miles Traveled

The project would result in significant VMT impacts, even with implementation of the VMT reduction strategies that are proposed by the applicant as part of project design. No feasible mitigation measures are available to further reduce VMT impacts. The impact would remain significant and unmitigable.

4.12.6.3 Transportation Design Hazards

No significant impacts associated with transportation design hazards would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.12.6.4 Emergency Access

Potentially significant impacts are identified for emergency access associated with the deficiency for minimum separation of project access points. Implementation of mitigation measure WLF-1 (discussed in more detail in Section 4.15, *Wildfire*), which requires that all structures within the proposed development be constructed per the 2019 California Residential Code Section R337 and be protected with National Fire Protection Association (NFPA) 13-D automatic fire sprinklers, would reduce impacts to below a level of significance.

4.12.7 Significance Determination

The significance of impacts to transportation before and after mitigation is summarized in Table 4.12-2, *Significance Determination Summary of Transportation Impacts.* Implementation of the proposed project would not result in significant impacts related to transportation plans or transportation design hazards; however, significant impacts associated with VMT and emergency access would occur. A mitigation measure is provided in Section 4.15, *Wildfire*, that would reduce impacts associated emergency access to a less than significant level; however, no feasible mitigation measures are available to reduce the significant VMT impact associated with the project. As such, VMT impacts would remain significant and unmitigable.

Table 4.12-2
SIGNIFICANCE DETERMINATION SUMMARY OF TRANSPORTATION IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Transportation Plans	Less than significant	None required	Less than significant
VMT	Significant	No feasible measures	Significant and unmitigable
Transportation Design Hazards	Less than significant	None required	Less than significant
Emergency Access	Significant	WLF-1	Less than significant

4.13 TRIBAL CULTURAL RESOURCES

The analysis in this section of the EIR addresses the potential impacts associated with cultural and tribal cultural resources that could occur due to implementation of the proposed project. The following discussion includes information based on the Cultural Resources Survey and Historic Evaluation for the Shady View Residential Project (HELIX Environmental Planning, Inc. [HELIX] 2022c), which is included as Appendix D of this EIR.

4.13.1 Existing Conditions

4.13.1.1 Tribal Cultural Resource Definitions

A Tribal Cultural Resource is defined as a site, feature, place, cultural landscape, sacred place, or object, which is of cultural value to a Tribe, and is either on or eligible for listing in the national, state, or a local historic register, or the lead agency, at its discretion, chooses to treat the resource as a Tribal Cultural Resource (PRC Section 21074).

4.13.1.2 Ethnographic Setting

The project area lies within the southern extent of the territory commonly ascribed to the Gabrielino (also written as Gabrieleno or Gabrieleño) Native American peoples (Bean and Smith 1978; Johnston 1962; Kroeber 1925: Plate 57). Aliso Creek in Orange County is considered as the southern boundary of the Gabrielino (Tongva) territory, bordering with their neighbors immediately to the south, the Juaneño (Acjachemen) and those to the southeast, the Luiseño. Their neighbors to the east were the Serrano, and to the north, the Fernandeño (Kroeber 1925). With the exception of the Serrano, an inland people, the names for these groups are based on their associations, post-European contact, with either Mission San Gabriel, Mission San Juan Capistrano, Mission San Luis Rey, or Mission San Fernando, while "Serrano" in Spanish equates to mountain people. All of these groups are Uto-Aztecan, Takic language speakers. The Juaneño were closely related to the Luiseño, so closely, in fact, that some researchers have seen little distinction between them (Bean and Shipek 1978; White 1963). Likewise, the Gabrielino and Fernandeño are also closely related, with some researchers also seeing little to distinguish them from each other (Bean and Smith 1978:538; Johnston 1962:6).

At the time of European contact, the Gabrielino, together with the closely related Fernandeño, occupied a large territory that included the entire Los Angeles Basin and beyond. This territory stretched along the Pacific coast from Aliso Creek in Orange County to Malibu and included parts of the Santa Monica Mountains, the San Fernando Valley, the San Gabriel Valley, the San Bernardino Valley, a northern portion of the Santa Ana Mountains, much of the middle to lower Santa Ana River basin as well as the islands of Santa Catalina, San Clemente, and San Nicolas (Bean and Smith 1978; Kroeber 1925). The Luiseño/Juaneño extended from the southern Orange County area, south into northern San Diego County and east into Riverside County, while Serrano occupied the San Bernardino Mountain areas of San Bernardino and Riverside counties.

Prior to contact, the Gabrielino and their neighbors subsisted by hunting and gathering practices, using resources available in the natural environment. Due to a dearth of ethnographic information on Gabrielino social structure (Bean and Smith 1978:543), the better-described social structure of the related Luiseño/Juaneño is frequently used (e.g., White 1963) to infer the social structure of the Gabrielino (Hudson 1971:70). Studies of the Luiseño/Juaneño indicate that within their territory, the

village territorial units were fairly small, on the order of 30 square miles (78 square kilometers [km^2]) according to White (1963). Based on the distribution of known villages along the San Luis Rey River in northern San Diego County, however, Oxendine (1983) suggests that rancheria (village) territories may have been as small as four square miles (10 km^2) but notes that lineages or bands may have held gathering tracts in discontinuous areas. Within the larger territory occupied by the Gabrielino were more than 50 residential communities, with populations ranging from 50 to 150 individuals (Bean and Smith 1978). Prehistorically, the distribution of such village units generally correlated with available water sources such as drainages and springs (Koerper et al. 2002:64; True 1990). Kroeber (1925: Plate 57) and Johnston (1962) identify a Gabrielino village in possible proximity to the project area, east of Chino Creek. Kroeber (1925:621, Plate 57) identifies the village as Pasino or *Pashina*; Johnston identifies it as *Pasinongna* and describes it as being located on the Rancho del Chino (1962:138).

4.13.2 Regulatory Setting

4.13.2.1 State

Assembly Bill 52

Assembly Bill (AB) 52 (Chapter 532, Statutes of 2014) was passed on September 25, 2014, and applies to all projects that file a Notice of Preparation or Notice of Intent to Adopt a Negative Declaration, Mitigated Negative Declaration or EIR, on or after July 1, 2015. The bill requires that a lead agency begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a project if that tribe has requested, in writing, to be kept informed of projects by the lead agency, prior to the determination of whether a negative declaration, mitigated negative declaration, or EIR will be prepared. The bill also specifies mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources.

AB 52 codified this consultation process within the CEQA statute (PRC Section 20174). It also defines tribal cultural resources as either of the following:

a. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

    - Included or determined to be eligible for inclusion in the CRHR.

    - Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of 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.

4.13.3 Methodology and Assumptions

A Cultural Resources Survey and Historic Evaluation (HELIX 2022c) was prepared for the project, which is provided as Appendices D of this EIR. As part of the Cultural Resources Survey, site records searches were conducted through the California Historical Resources Information System, SCCIC at California

State University, Fullerton. As record searches cover a one-mile radius, and the project site is near the San Bernardino/Riverside County line, a records search was also conducted at the Eastern Information Center (EIC) for the portion of the search radius within Riverside County.

A pedestrian field survey of the project site was conducted in July 2021 by HELIX and a Native American monitor of Gabrieleño descent (HELIX 2022c). To the extent feasible, the project area was surveyed in parallel transects, spaced approximately 10 meters apart. Reconnaissance survey techniques were used in areas where it was unsafe to survey with traditional methods, such as the lower portions of steep slopes and dense drainages.

The Native American Heritage Commission (NAHC) was contacted on December 16, 2020 for a Sacred Lands File search and list of Native American contacts, which were received on January 4, 2021. Letters requesting information on known tribal cultural resources were sent by HELIX (HELIX 2022c) on January 15, 2021 to the contacts listed by the NAHC.

The City initiated tribal outreach and consultation under AB 52 on May 28, 2021 with the two tribes, the Soboba Band of Luiseño Indians (Soboba) and the Gabrieleño Band of Mission Indians- Kizh Nation (Kizh Nation), that previously submitted a written request to receive formal notice of and information on proposed projects for which the City serves as the lead agency pursuant to CEQA. Soboba did not respond to the project notification letter submitted by the City on May 28, 2021. However, Kizh Nation requested to consult with the City via email.

4.13.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines, a significant impact associated with tribal cultural resources would occur if implementation of the proposed project would result in the following:

1. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or

    b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.13.5 Impact Analysis

4.13.5.1 Tribal Cultural Resources

Threshold 1: *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or

b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

A pedestrian field survey of the project site was conducted in July 2021 as part of the Cultural Resources Survey effort. The survey identified one historic archaeological site relating to oil and gas production in the mid-twentieth century. No prehistoric archaeological resources or known tribal cultural resources were identified during the survey.

A Native American outreach program was conducted to identify any known sacred lands or tribal cultural resources within the project site. A Sacred Lands File search was requested through the NAHC; the results indicated that the project site does not contain any registered Sacred Lands or tribal cultural resources. However, the NAHC recommended contacting Native American tribes and representatives, identified by the NAHC, to scope for additional information regarding tribal cultural resources sensitivity. As such, HELIX sent letters on January 15, 2021, to the Native American representatives and interested parties identified by the NAHC. However, no responses were received during HELIX's Native American Outreach program. As such, no tribal cultural resources were identified within the project area.

In accordance with the requirements of PRC Section 21080.3.1, AB 52, and SB18, the City of Chino Hills notified Native American tribes that are traditionally and culturally affiliated with the project area. The tribes were sent notification letters on May 28, 2021 informing them of the proposed project and asking them of any knowledge or information about tribal cultural resources they may have about the project area. Soboba and Kizh Nation received the notification letters on June 1, 2021. Of the two tribes, Kizh Nation was the sole responder to the City's notification letter. As such, consultation between the City and Kizh Nation was conducted via email on September 28, 2021. Although Kizh Nation identified the project area as sensitive for buried tribal cultural resources, no known tribal cultural resources were identified within the project area. However, Kizh Nation requested the project implement three mitigation measures requiring the developer to retain a Native American monitor to observe ground-disturbing activities prior to the commencement of the project and to implement Kizh Nation's protocols in the event tribal cultural resources, grave goods, or human remains are discovered during project-related activities. The City agreed to the mitigation measures provided by Kizh Nation in a letter to the tribe dated December 2, 2021, which concluded consultation.

Based on the NAHC Sacred Lands Files, SCCIC and EIC records search, field survey, and Native American outreach, and tribal consultation between Kizh Nation and the City, no tribal cultural resources are known to occur in the project area. However, there is potential for unknown buried tribal cultural resources to be present. Project construction could encounter unknown tribal cultural resources during subsurface grading activities. If encountered, such resources could potentially be damaged or destroyed, resulting in a substantial adverse change in the significance of a tribal cultural resource. Therefore, implementation of the proposed project could result in a potentially significant impact to tribal cultural resources.

4.13.6 Mitigation Measures

4.13.6.1 Tribal Cultural Resources

Implementation of the proposed project could result in a potentially significant impact to unknown tribal cultural resources. TCR-1 through TCR-3 would be implemented during project construction. The monitoring program would include attendance by the Native American monitor at a pre-construction meeting with the grading contractor. Native American monitors should be present during ground-disturbing activities for the project, including, but is not limited to, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching (TCR-1). Native American monitors would have the authority to temporarily halt or redirect grading and other ground-disturbing activity in the event that tribal cultural resources are encountered. If significant tribal cultural material is encountered, Kizh Nation will coordinate with the applicant, the project archaeologist, and City staff to develop and implement appropriate avoidance, preservation, or mitigation measures, as outlined in TCR-2 and TCR-3. Implementation of mitigation measures TCR-1 through TCR-3 would reduce potential impacts to below a level of significance.

TCR-1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities.

A. The project applicant/lead agency shall retain a Native American monitor from (or approved by) the Gabrieleño Band of Mission Indians – Kizh Nation (the “Kizh” or the “Tribe”) - the direct lineal descendants of the project location. The monitor shall be retained prior to the commencement of any “ground-disturbing activity” for the subject project, at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). “Ground-disturbing activity” includes, but is not limited to, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

B. A copy of the executed monitoring agreement shall be provided to the lead agency prior to the earlier of the commencement of any ground-disturbing activity for the project, or the issuance of any permit necessary to commence a ground-disturbing activity.

C. The project applicant/developer shall provide the Tribe with a minimum of 30 days advance written notice of the commencement of any project ground-disturbing activity so that the Tribe has sufficient time to secure and schedule a monitor for the project.

D. The project applicant/developer shall hold at least one (1) pre-construction sensitivity/educational meeting prior to the commencement of any ground-disturbing activities, where at a senior member of the Tribe will inform and educate the project’s

construction and managerial crew and staff members (including any project subcontractors and consultants) about the TCR mitigation measures and compliance obligations, as well as places of significance located on the project site (if any), the appearance of potential TCRs, and other informational and operational guidance to aid in the project's compliance with the TCR mitigation measures.

E. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request.

F. Native American monitoring for the project shall conclude upon the latter of the following: (1) written confirmation from a designated project point of contact to the Tribe that all ground-disturbing activities and all phases that may involve ground-disturbing activities on the project site and at any off-site project location are complete; or (2) written notice by the Tribe to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase (known by the Tribe at that time) at the project site and at any off-site project location possesses the potential to impact TCRs.

TCR-2 Discovery of TCRs, Human Remains, and/or Grave Goods

A. Upon the discovery of a TCR, all construction activities in the immediate vicinity of the discovery (i.e., not less than the surrounding 50 feet) shall cease. The Tribe shall be immediately informed of the discovery, and a Kizh monitor and/or Kizh archaeologist will promptly report to the location of the discovery to evaluate the TCR and advise the project manager regarding the matter, protocol, and any mitigating requirements. No project construction activities shall resume in the surrounding 50 feet of the discovered TCR unless and until the Tribe has completed its assessment/evaluation/recovery of the discovered TCR and surveyed the surrounding area.

B. The Tribe will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate in its sole discretion, and for any purpose the Tribe deems appropriate, including but not limited to, educational, cultural and/or historic purposes.

C. If Native American human remains and/or grave goods are discovered or recognized on the project site or at any off-site project location, then all construction activities shall immediately cease. Native American "human remains" are defined to include "an inhumation or cremation, and in any state of decomposition or skeletal completeness." (Pub. Res. Code §5097.98 (d)(1).) Funerary objects, referred to as "associated grave goods," shall be treated in the same manner and with the same dignity and respect as human remains. (Pub. Res. Code §5097.98 (a), d)(1) and (2).)

D. Any discoveries of human skeletal material or human remains shall be immediately reported to the County Coroner (Health & Safety Code §7050.5(c); 14 Cal. Code Regs.

§15064.5(e)(1)(B)), and all ground-disturbing project ground-disturbing activities on site and in any other area where the presence of human remains and/or grave goods are suspected to be present, shall Immediately halt and remain halted until the coroner has determined the nature of the remains. (14 Cal. Code Regs. §15064.5(e).) If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.

E. Thereafter, construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or grave goods, if the Tribe determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Tribal monitor and/or archaeologist deems necessary). (14 Cal. Code Regs. §15064.5(f).)

F. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or grave goods.

G. Any historic archaeological material that is not Native American in origin (non-TCRs) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.

TCR-3 Procedures for Burials, Funerary Remains, and Grave Goods

A. Any discovery of human remains and/or grave goods discovered and/or recovered shall be kept confidential to prevent further disturbance

B. As the Most Likely Descendant (“MLD”), the Koo-nas-gna Burial Policy shall be implemented for all discovered Native American human remains and/or grave goods. Tribal Traditions include, but are not limited to, the preparation of the soil for burial, the burial of funerary objects and/or the deceased, and the ceremonial burning of human remains.

C. If the discovery of human remains includes four (4) or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created.

D. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated “grave goods” (aka, burial goods or funerary objects) are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later, as well as other items made exclusively for burial purposes or to contain human remains. Cremations will either be removed in bulk or by means necessary to ensure complete recovery of all sacred materials.

E. In the case where discovered human remains cannot be fully recovered (and documented) on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If

this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to divert the project while keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed.

F. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects. The site of reburial/repatriation shall be agreed upon by the Tribe and the landowner, and shall be protected in perpetuity.

G. Each occurrence of human remains and associated grave goods will be stored using opaque cloth bags. All human remains, grave goods, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items will be retained and shall be reburied within six months of recovery.

H. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.

4.13.7 Significance Determination

The significance of tribal cultural resources impacts before and after mitigation is summarized in Table 4.13-1, *Significance Determination Summary of Tribal Cultural Resources Impacts*. Implementation of the proposed project would result in potentially significant impacts related to tribal cultural resources. With implementation of mitigation measure TCR-1 through TCR-3, these impacts would be reduced to below a level of significance.

Table 4.13-1
SIGNIFICANCE DETERMINATION SUMMARY OF TRIBAL CULTURAL RESOURCES IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Tribal Cultural Resources	Potentially significant	TCR-1 through TCR-3	Less than significant

4.14 UTILITIES

This section of the EIR evaluates potential impacts associated with public utilities resulting from implementation of the proposed project. The following discussion is based, in part, on the project Site Plan and Preliminary Utilities Exhibit (Hunsaker & Associates 2020a and 2020c, respectively) and the Hydrology Analysis (Hunsaker & Associates 2019, Appendix J) prepared for the project.

4.14.1 Existing Conditions

4.14.1.1 Water Supply

The City relies on a variety of sources, local and imported, to meet water supply demands (City 2021h). The City purchases and imports treated surface water via the Monte Vista Water District (MVWD) in Montclair and the Water Facilities Authority (WFA) in Upland. Desalinated groundwater is purchased from the Chino Basin Desalter Authority (CDA). The remainder of the City's supply is from local wells and recycled water. The City extracts groundwater from the Chino Groundwater Basin using its City-owned wells. Recycled water is purchased from the Inland Empire Utilities Agency (IEUA). According to the City's 2020 Urban Water Management Plan (UWMP), the City provided 21,743 municipal connections with 13,949 acre-feet (AF) of potable water and 1,414 AF of recycled water 2020. Single-family and multi-family residential uses are the largest consumers of water, with residential water usage accounting for approximately 75 percent of total water consumption in the City (City 2021h).

Purchased and Imported Water

The City receives its imported water supplies through contracts with MVWD and the WFA (City 2021h). The WFA is a joint powers agency formed for the purpose of funding the construction and operation of the Agua De Lejos Regional Water Treatment Facility (WFA Treatment Plant). The facility is located in Upland and treats raw State Water Project (SWP) water. WFA member agencies, including the City, are joint owners of the WFA Treatment Plant. Water from the WFA Treatment Plant enters the MVWD distribution system through two connections and provides WFA water to the City through a connection at Ramona Avenue, south of Philadelphia Street in the City of Chino. The City owns 12.72 million gallons per day of capacity from the WFA Treatment Plant.

The MVWD provides retail and wholesale water supply services to over 100,000 people within a 30-square-mile area (City 2021h). MVWD is also a member agency of IEUA and WFA. The City has purchased well capacity rights from MVWD totaling 20.22 million gallons per day. Water delivered to the City from MVWD is a combination of imported water from WFA and groundwater produced by MVWD groundwater wells from the Chino Groundwater Basin. A 42-inch transmission main in Ramona Avenue (in the City of Chino) conveys the water supplied from MVWD to the City.

The CDA was formed in 2001, by a group of eight local agencies, including the City, to manage the production, treatment, and distribution of highly treated potable water to cities and water agencies throughout its service area (CDA 2021). The desalters were established to treat contaminated groundwater in the southern portion of the Chino Groundwater Basin and to help the Chino Basin Watermaster achieve "hydraulic control" of the basin to stop the flow of contaminated groundwater into the Santa Ana River (IEUA 2021). The CDA purifies brackish (i.e., slightly salty) groundwater extracted from the lower Chino Groundwater Basin and distributes the drinking water to its member agencies. Chino Groundwater Basin is the only water source for the CDA. CDA member agencies have

contracts with CDA for 24,600 AF per year of water supply from the desalters. The City has a contract entitlement of 4,200 AF of water per year from the CDA (CDA 2021).

Groundwater

The City extracts groundwater from the Chino Groundwater Basin using its own wells that are located in the City of Chino. Water pumped from these wells is conveyed to Chino Hills through a system of transmission mains (City 2021h). The Chino Groundwater Basin is a single basin that has been divided into five management zones and into three sub-basins. The Chino Groundwater Basin is one of the largest groundwater basins in Southern California, containing approximately 5 million AF of water in storage, with an additional unused storage capacity of approximately 1 million AF. Operation of the Chino Groundwater Basin is governed by a 1978 court judgement and agreement that allots a "base water right" to entities that contribute to production of groundwater in the basin. The court-approved safe yield of the Chino Groundwater Basin is 140,000 AF per year, with allocations among groups of interest. The City's total water right, based on the provisions of the judgement, is 4,158 AF per year. The City actively participates in the Optimum Basin Management Plan (OBMP) to ensure that water supplies and water quality within the Basin are continually monitored. As a result of contamination issues, no groundwater has been pumped from City wells since January 2018, and thus this source currently provides no water supply to the City (City 2021h).

Recycled Water

The City of is one of eight members of the IEUA, a wholesale water agency which supplies imported and recycled water to its member agencies. The City purchases recycled water from IEUA. The IEUA service area has a population of approximately 850,000 residents and covers a 242-square-mile area. IEUA provides wholesale recycled water to local purveyors throughout the Chino Groundwater Basin as part of a comprehensive plan to manage water resources in the Chino Groundwater Basin (City 2021h). IEUA began delivering recycled water to the City in the early 1990s. The IEUA recycled water distribution facilities consist of a pipeline network, booster pump stations, pressure regulating stations, and reservoirs. Future recycled water supplies in IEUA's service area (which includes the City and IEUA's seven other members) are projected to reach approximately 67,000 AF per year in 2040. The IEUA has a discharge obligation of 16,000 AF per year to the Santa Ana River, with the remaining supply available for local use and groundwater recharge (IEUA 2016).

The City receives recycled water from the Carbon Canyon Wastewater Reclamation Facility (CCWRF) and the Regional Plant No. 5 portion of the IEUA recycled water system, which delivers recycled water to the cities of Chino and Chino Hills. The CCWRF is located at 14950 Telephone Avenue in the City of Chino and has been in operation since 1992. The CCWRF has a capacity to produce 11.4 million gallons per day of recycled water for irrigation and agricultural use. Recycled water produced at the CCWRF enters the City's recycled water system from Chino Hills Parkway. Regional Plant No. 5, which is located at 6063 Kimball Avenue in the City of Chino, also provides recycled water to the City and has capacity to produce 16.3 million gallons per day of recycled water. The City's existing recycled water system is within the southeastern portion of the City and consists of a simple transmission system that provides recycled water to new development and high water use customers such as golf courses and regional parks; and a system of pump stations, pipelines, and reservoirs which deliver recycled water from its source through a series of pressure zones (City 2021h). Recycled water usage in the City is primarily for landscape irrigation uses, including golf courses, parks, landscaped medians, and for groundwater recharge.

4.14.1.2 Water Distribution System

The City water distribution system consists of local groundwater wells, water reservoirs, booster stations, pipelines, and water connections. The City currently owns and maintains nine wells, but as noted above none of these are currently in production due to contamination issues (City 2021a). The City has 17 water reservoirs ranging in size from 5 million gallons to 0.25 million gallons, with a current storage capacity of approximately 35 million gallons of potable water and 3 million gallons of recycled water. The City water distribution system includes eight booster stations to increase water pressure to the higher elevations within the City, over 200 miles of water pipelines, and over 21,000 individual water connections (City 2021b). Existing water pipelines are present in the Butterfield Ranch development to the north of the project site. An existing 12-inch water pipeline is located within Shady View Drive and an existing 8-inch water pipeline is located within Via La Cresta, north of the project site.

4.14.1.3 Wastewater Collection and Treatment System

Wastewater collection and conveyance within the City is provided by the City's Sewer Division. The City's wastewater collection system conveys the City's collected wastewater to the IEUA for treatment and reuse, or disposal. The southern portion of the City, within which the project site is located, is served by the IEUA CCWRF that works in tandem with IEUA's Regional Plant No. 2 and serves the areas of Chino, Chino Hills, Montclair, and Upland (City 2015c). Wastewater in the project vicinity is pumped to the CCWRF for preliminary screening and grit removal, primary clarification, secondary treatment by aeration basins and clarification, tertiary treatment by filtration and disinfection, and dichlorination. Solids are removed from the wastewater influent flow at the CCWRF, and the liquid portion of the influent flow is treated at the CCRWF. The solids are removed and are treated at IEUA's Regional Plant No. 2, located at 16400 El Prado Road in the City of Chino. The CCWRF has a design treatment capacity of 11.4 million gallons per day, and currently treats the liquid portion of an average influent wastewater flow of approximately 7 million gallons per day (IEUA 2021). Capacity at current wastewater treatment facilities is expected to be adequate to serve the City's wastewater requirements through year 2030 (City 2015a).

Sewer infrastructure in the City includes over 200 miles of sewer lines and 17 pumps and motors (City 2021c). Existing sewer lines are present in Shady View Drive and Via La Cresta, to the north of the project site, within the Butterfield Ranch residential development. A 10-inch sewer line is located within Shady View Drive and an 8-inch sewer line is located within Via La Cresta.

4.14.1.4 Storm Water Drainage System

The City owns and maintains storm water drainage facilities throughout the City's street network. These facilities include approximately 83 miles of underground pipelines, inlet and outlet structures, a variety of filtering mechanisms, and detention basins (City 2015c). Existing stormwater drainage infrastructure in the project vicinity include infrastructure to the north, within the Butterfield Ranch residential development and infrastructure to the east, crossing SR-71. Near the northern boundary of the project site, there is a 27-inch storm drain along Coyote Street and a 42-inch reinforced concrete pipe associated with the Butterfield Ranch residential development. This 42-inch reinforced concrete pipe connects with an 84-inch reinforced concrete pipe to the north, which also connects with an 8-foot by 6-foot reinforced concrete box storm drain crossing under SR-71. Along the eastern property boundary, storm drainage improvements include a 72-inch corrugated steel pipe and a 24-inch arch pipe near the eastern project boundary. Further south, crossing SR-71, is a 36-inch arch pipe, and an 8-foot by 6-foot

reinforced concrete box storm drain (approximately 1,800 feet south of the 8-foot by 6-foot reinforced concrete box storm drain discussed above). All runoff is eventually discharged to Chino Creek (Reaches 1B and 1A), the Prado Basin Management Zone, and Reach 3 of the Santa Ana River.

4.14.1.5 Electric Power

Electricity is provided in the City by Southern California Edison. Southern California Edison provides electricity to over 15 million people with electricity across a service territory of 180 incorporated cities, 15 counties, and approximately 50,000 square miles (SCE 2021) in central, coastal, and southern California. Southern California Edison would extend electric service to the project in accordance with rules and policies for extension of service on file with the California Public Utilities Commission.

Currently, there are no local mandated standards or ordinances requiring reliance on alternative energy by new developments. Title 24 of the California Public Resources Code contains energy efficiency requirements for residential uses to which the project would be required to adhere.

Existing electrical infrastructure in the project vicinity includes electrical lines in the Butterfield Ranch residential development to the north as well as pole-mounted power lines on the project site associated with on-site uses and oil extraction facilities in the vicinity.

4.14.1.6 Natural Gas

Natural gas services in the City are provided by Southern California Gas Company, which is also regulated by the California Public Utilities Commission. Southern California Gas Company provides natural gas services to the area, with four high-pressure natural gas transmission pipelines traversing the City. Natural gas infrastructure is present in the Butterfield Ranch residential development, located north of and adjacent to the project site.

4.14.1.7 Telecommunications

Telecommunications systems for telephones, computers, and cable television are serviced by utility providers such as Spectrum, AT&T, Frontier Communications, and other independent companies. Facilities are located above and below ground within private easements. Telecommunication infrastructure is typically installed in conjunction with development and typically follow the street system and are installed in the public right-of-way. Existing telecommunications infrastructure is present in the Butterfield Ranch residential development to the north of and adjacent to the project site.

4.14.1.8 Solid Waste Management

No solid waste facilities are currently located within the City limits of Chino Hills. The City contracts with a waste hauler for all trash and recyclable collection services in the City (City 2015a). The City implements local waste reduction, recycling, and reuse programs to reduce total waste disposal at landfills. Residential uses in the City receive three separate bins for waste collection—one for household metal, plastic, glass, and paper products; one for yard waste; and one for food and animal waste and other trash that does not sort into the other two bins. Trash and recyclables are collected by the contracted hauler and sent to a material recovery facility with the remaining waste disposed of in local landfills. Green waste materials, which includes yard waste such as leaves, grass clippings, tree limbs, and brush trimmings, are collected by the contracted hauler and sent to a composing facility. Construction and demolition waste within the City are required to be recycled or reused by Chapter

13.40 of the City's Municipal Code. The City's reported 2018 CalRecycle landfill diversion rate was 65 percent (City 2021g).

In 2019, approximately 41,313 tons of solid waste was collected in the City and disposed of at a number of facilities. The majority of the City's solid waste was disposed of at the Olinda Alpha Landfill, with a large amount also disposed of at the Frank R. Bowerman Landfill (CalRecycle 2021). In 2019, solid waste from the City was also disposed of other local landfills, but in minor quantities as compared with the Olinda Alpha and Frank R. Bowerman landfills. Table 4.14-1, *City of Chino Hills Water Solid Waste Disposal 2019*, summarizes annual estimates of disposal amounts (in tons) and landfills for the City in 2019.

Table 4.14-1
CITY OF CHINO HILLS WATER SOLID WASTE DISPOSAL 2019

Disposal Facility	Solid Waste Information System Number	Solid Waste Disposal Tonnage
Antelope Valley Public Landfill	19-AA-5624	1
Azusa Land Reclamation Company Landfill	19-AA-0013	355
Badlands Sanitary Landfill	33-AA-0006	22
Chiquita Canyon Sanitary Landfill	19-AA-0052	119
El Sobrante Landfill	33-AA-0217	840
Frank R. Bowerman Sanitary Landfill	30-AB-0360	8,117
Mid-Valley Sanitary Landfill	36-AA-0055	12
Olinda Alpha Landfill	30-AB-0035	31,775
Prima Deshecha Landfill	30-AB-0019	66
San Timoteo Sanitary Landfill	36-AA-0087	2
Simi Valley Landfill and Recycling Center	56-AA-0007	4
	TOTAL	**41,313**

Source: CalRecycle 2021

4.14.2 Regulatory Setting

4.14.2.1 Federal

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA), passed by Congress in 1974, authorizes the federal government to set national standards for drinking water. These National Primary Drinking Water Regulations protect against both naturally occurring and man-made contaminants. Enforceable maximum contaminant levels (MCLs) for drinking water also resulted from the SDWA. All water providers in the United States, excluding private wells serving fewer than 25 people, must treat water to remove contaminants.

The 1986 amendments to the SDWA and the 1987 amendments to the CWA established the USEPA as the primary authority for water programs throughout the country. The USEPA is the federal agency responsible for providing clean and safe surface water, groundwater, and drinking water, and protecting and restoring aquatic ecosystems.

4.14.2.2 State

Senate Bill 610 and 221

Senate Bill (SB) 610 and SB 221 went into effect in January 2002 with the intention of linking water supply availability to land use planning by cities and counties. SB 610 requires water suppliers to prepare a Water Supply Assessment (WSA) report for inclusion by land use agencies during the CEQA process for new developments subject to SB 221. SB 221 requires water suppliers to prepare written verification that sufficient water supplies are planned to be available prior to approval of a large-scale subdivision of land under the State Subdivision Map Act. Large-scale projects include the following:

- Residential developments of more than 500 dwelling units;
- Shopping centers or businesses employing more than 1,000 people or having more than 500,000 SF of floor space;
- Commercial office buildings employing more than 1,000 people or having more than 250,000 SF of floor space;
- Hotels or motels having more than 500 rooms;
- Industrial, manufacturing, or processing plants or industrial parks planned to house more than 1,000 people or having more than 650,000 SF of floor space;
- Mixed-use projects that include one or more of the above types of projects; and
- Projects that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project.

California Water Code

As required under the Urban Water Management Planning Act, codified in Sections 10610-10656 of Division 5 of the California Water Code, every urban water supplier shall prepare and adopt an UWMP. Urban water purveyors having more than 3,000 accounts or supplying more than 3,000 AF of water annually are required to prepare and update an UWMP every five years. UWMPs address water supply, treatment, reclamation, and water conservation, and contain a water shortage contingency plan.

Water Conservation Bill of 2009 (SBX 7-7)

The Water Conservation Act of 2009 (also known as Senate Bill X7-7 or SB X7-7) was enacted in November 2009 and requires that all water suppliers increase their water use efficiency. The passage of SBX 7-7 in 2009 was enacted to require retail urban water agencies within California to achieve a 20 percent reduction in urban per capita water use by December 31, 2020 (Water Code Section 10608.20). As a result, SBX 7-7 also requires that UWMPs report base daily per capita water use (baseline), urban water use target, interim urban water use target, and compliance daily per capita water use.

Integrated Waste Management Act

The California Integrated Waste Management Act (IWMA) of 1989 (California AB 939), which is administered by CalRecycle, requires counties to develop an Integrated Waste Management Plan (IWMP) that describes local waste diversion and disposal conditions, and lays out realistic programs to achieve the waste diversion goals. IWMPs compile Source Reduction and Recycling Elements (SRREs) that are required to be prepared by each local government, including cities. SRREs analyze the local waste stream to determine where to focus diversion efforts and provide a framework to meet waste reduction mandates. The goal of the solid waste management efforts is not to increase recycling, but to decrease the amount of waste entering landfills. AB 939 required all cities and counties to divert a minimum 50 percent of all solid waste from landfill disposal. In 2011, the State legislature enacted AB 341 (PRC Section 42649.2), increasing the diversion target to 75 percent statewide. AB 341 also requires the provision of recycling service to commercial and residential facilities that generate four cubic yards (cy) or more of solid waste per week.

4.14.2.3 Local

Chino Hills Urban Water Management Plan

The City operates a public water system regulated by the State Water Resources Control Board (SWRCB), and must prepare an UWMP every five years. The 2020 update to the City's UWMP (City 2021h) provides a framework for long term water planning in the City and informs the public of the supplier's plans for long-term resource planning that ensures adequate water supplies for existing and future demands. The 2020 UWMP reports, describes, and evaluates water deliveries and uses, water supply sources, efficient water uses, demand management measures, and water shortage contingency planning. The 2020 UWMP was prepared by integrating information from the City Water Master Plan, Recycled Water Master Plan, Groundwater Management Plan, General Plan, and other documents. Preparation of the 2020 UWMP included consultation with other agencies involved in the City's water supply, including the IEUA, WFA, MVWD, and the CDA.

The 2020 UWMP assumes buildout of the City in 2045, with a projected population of 107,450. Total water demand projected for 2045 is 17,769 AF annually, consisting of 16,160 AF of potable and raw water, and 1,609 AF of recycled water. Projected water supply for 2045 is estimated at 33,684 AF, consisting of purchased or imported water from WFA, MVWD, desalinated water from CDA, groundwater from City-owned wells, and recycled water purchased from IEUA.

Chino Hills General Plan

The General Plan Circulation Element (City 2015a) contains Goal C-5, which is to ensure an adequate and well-maintained infrastructure system. The policy and actions supporting this goal that are applicable to the proposed project include the following:

- *Policy C-5.1:* Provide adequate infrastructure improvements in conjunction with development.
- *Action C-5.1.1:* Plan and design new roadways and expansion/completion of existing roadways to allow for co-location of water, sewer, storm drainage, communications, and energy facilities within the road right of way.

- *Action C-5.1.3:* Require private and public development projects to be responsible for providing traffic control devices and wet and dry utility improvements necessary to meet the needs of the project, and to properly integrate into the established and planned infrastructure systems.

Additionally, the Conservation Element contains the following goals, policies, and actions applicable to public utilities:

- *Goal CN-4:* Ensure adequate water supply and delivery.
- *Policy CN-4.1 Promote water conservation*
- *Action CN-4.1.1.:* Continue to implement water conservation programs to sustain potable water sources.
- *Action CN-4.1.2:* Promote use of drought-tolerant plant materials and low water usage irrigation systems.
- *Action CN-4.1.4:* Continue to use reclaimed water for non-potable water supplies wherever not precluded by public health considerations.
- *Goal CN-5:* Provide for adequate and efficient solid waste disposal.
- *Policy CN*-5.1: Meet the city's solid waste disposal needs, while maximizing opportunities for waste reduction and recycling.
- *Action CN-5.1.1:* Implement the city's Source Reduction and Recycling Element as required by the California Integrated Waste Management Act.
- *Action CN-5.1.2:* Publicize and educate the public about waste reduction techniques and facilities.

The project's consistency with these goals, policies, and actions are discussed in Section 4.9, *Land Use*.

Chino Hills Municipal Code

Municipal Code Chapter 13.08, *Water Conservation*, established municipal procedures to respond to and minimize impacts of water shortages through the practice of water conservation.

Municipal Code Chapter 13.16, *Storm Drain System*, establishes municipal procedures for controlling and/or eliminating non-stormwater discharges into the City's storm drain systems and is intended to reduce pollutants in stormwater discharges to the maximum extent practicable and to ensure compliance with the City's National Pollutant Discharge Elimination System (NPDES) permits.

Municipal Code Chapter 13.32, *Reclaimed Water Regulations,* deals with the use of reclaimed water. It reiterates the City's policy that reclaimed water should be used for any purpose approved for reclaimed water use (agricultural irrigation, commercial uses, construction, groundwater recharge, industrial processes, landscape irrigation, landscape and/or recreational impoundment, and wildlife habitat), when it is economically, financially, technically, and institutionally feasible to do so. It established rules and regulations for the safe and orderly development of a reclaimed water system to serve the City.

Municipal Code Chapter 13.40, *Materials and Water Management Plans for Construction and Demolition Projects,* requires preparation of project-level waste management plans and implements measures to reduce construction and demolition wastes and to divert such wastes from landfills.

Municipal Code Chapter 15.04.0.90, *Green Buildings Standards Code*, adopts the 2010 California Green Building Code, which sets new mandates for new buildings. These mandates include reductions in water consumption, diversion of construction waste, and provision of more energy efficient operational systems.

Municipal Code Chapter 16.07, *Landscape and Water Conservation Guidelines,* establishes guidelines for the installation and maintenance of low-water-use landscaping. These guidelines apply to new single-family residential construction projects and new construction projects with aggregate landscape area in the front yard equal to, or greater than, 500 square feet and rehabilitated landscape projects with an aggregate landscape area equal to, or greater than, 2,500 square feet.

4.14.3 Methodology and Assumptions

Potential impacts to public utilities resulting from implementation of the proposed project were evaluated based on relevant regulations and development guidelines, existing conditions, data on existing facilities and projected capacity needs found in online documentation (including the General Plan FEIR and the UWMP), project Site Plan and Preliminary Utilities Exhibit (Hunsaker & Associates 2020a and 2020c, respectively) and the Hydrology Analysis (Hunsaker & Associates 2019, Appendix J) prepared for the project.

4.14.4 Significance Thresholds

According to Appendix G of the State CEQA Guidelines a significant impact related to public utilities would occur if implementation of the proposed project would result in of the following:

1. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

2. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

3. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

4. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

4.14.5 Impact Analysis

4.14.5.1 Utilities

Threshold 1: Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water

The project would connect to a 12-inch water pipeline within Shady View Drive and an existing 8-inch water pipeline within Via La Cresta, north of the project site for potable water service. No recycled water system is proposed or included in the project, as the City's recycled water infrastructure hasn't been expanded to this portion of the City. The proposed water utility improvements are included as part of the project and potential impacts related to these water utility improvements are addressed by the environmental analysis of this Draft EIR. The improvements would not result in environmental effects aside from those outlined in this Draft EIR for the overall project. The 2020 UWMP projects that in cooperation with its member agencies, the City will be able to provide 100 percent of retail water demands during average, dry, and multiple-dry-year scenarios over the next 25 years (City 2021h). Based on the availability of existing water infrastructure to serve the project and the adequate water supply projected for the City and expected General Plan growth (which includes the development of the project site consistent with existing General Plan land use designations), the project would not result in the need for new or expanded water facilities. It should be noted that construction and operation of Accessory Dwelling Units (ADUs) on-site, which are not included in the City's growth projections, could incrementally increase the demand for water within the project site if such units are built in the future. However, the number of potential ADUs on the project site relative to the proposed single-family is expected to be very limited and would not represent a substantial increase in demand for water supplies and would be served by the primary residence's existing water service. Furthermore, ADUs are typically limited in size and thus the demand associated with these units would be minimal compared to the primary residence and associated landscaping and would be accommodated by the water connection serving the primary home. As such, impacts to water distribution facilities would be less than significant.

Wastewater

Sewer system improvements are proposed as part of the project, including the installation of sewer pipelines within the project site, which would connect to the existing sewer lines in Shady View Drive and Via La Cresta to the north of the project. The proposed sewer utility improvements are included as part of the project and potential impacts related to these sewer utility improvements are addressed by the environmental analysis of this Draft EIR. The improvements would not result in environmental effects aside from those outlined in this Draft EIR. CCWRF and Regional Plant No. 2 have existing capacity to handle flows from the proposed project and the City's General Plan has indicated that capacity at current wastewater treatment facilities is expected to be adequate to serve the City's wastewater requirements through year 2030 (City 2015a). As discussed above for water service, the incidental construction and operation of ADUs on the project site in the future would have the potential to incrementally increase the on-site generation of wastewater that would require conveyance and treatment at existing facilities. However, the potential increase in wastewater flows, based on the limited size and associated sewage generation of ADUs and expected limited number of ADUs

constructed on-site in the future, the additional wastewater flows associated with these units is expected to be minimal. Thus, the proposed project would not require the relocation or construction of new or expanded wastewater treatment facilities. Impacts would be less than significant.

Storm Water Drainage

As discussed in Section 4.8, *Hydrology and Water Quality*, of this Draft EIR, the project site currently includes six drainage areas (drainage areas A-F), and all runoff is eventually discharged to Chino Creek Reach 1B and 1A, the Prado Basin Management Zone, and Reach 3 of the Santa Ana River. Project implementation would result in modification of the existing on-site drainage pattern and directions through proposed grading and construction. The proposed project would provide on-site drainage improvements and four debris basins. Debris Basin 1 would provide detention volume in addition to debris volume. Following project construction, the project site would consist of five drainage areas (B-F). Drainage areas A and B (from the existing condition) would create one drainage area (drainage area B) and would discharge into the discharge point associated with drainage area B in the existing condition. Drainage areas C and D would discharge into the existing storm drain system for the Butterfield Ranch residential development to the north. Drainage areas E and F would continue discharging into the existing storm drain systems crossing SR-71.

With implementation of the proposed project, the peak discharge under the 100-year storm event would decrease for drainage areas A, C, E, and F (with flows for discharge area A being redirected to discharge area B). While the peak discharge under the 100-year storm event is estimated to increase by 5.4 cubic feet per second (cfs) for discharge area B and by 12.1 cfs for discharge area D, increased peak flows in discharge areas B and D are due to increased drainage area in the proposed condition as compared to the existing condition. Additionally, overall peak flows for the proposed project would be reduced by 123.6 cfs for the 100-year storm event as compared to the existing condition. The project includes the provision of on-site drainage features, including debris/detention basins, catch basins, and storm drains that have been sized for the 100-year storm event. Therefore, the proposed storm drain system for the project would have sufficient capacity to convey the 100-year storm event without causing flooding on- or off-site. While new storm water drainage facilities would be constructed within the project site in conjunction with the project, the proposed facilities would connect to the existing municipal storm drain system, the capacity of which would not be adversely affected by the project, as flows leaving the project site are projected to be reduced as compared to the existing condition. With regard to potential future construction and operation of ADUs on-site, while the introduction of ADUs within single-family lots could incrementally increase the amount of impervious surface area on the site, based on the expected limited number and development footprint of future ADUs the associated increase in stormwater flows generated would be negligible. Furthermore, because the project would reduce the amount of stormwater conveyed off-site compared to existing conditions, the incremental minor increase in stormwater flows associated with ADUs would not have the potential to exceed the capacity of stormwater conveyance facilities serving the project site. The proposed storm water drainage improvements are included as part of the project and potential impacts related to these storm water drainage improvements are addressed by the environmental analysis of this Draft EIR. The improvements would not result in environmental effects aside from those outlined herein. Therefore, implementation of the project would not require the relocation or construction of new or expanded storm water drainage facilities. Impacts related to stormwater drainage facilities would be less than significant.

Electric Power and Natural Gas

Electric and natural gas utilities exist in the area and such service is currently provided to the Butterfield Ranch development to the north of the project site. The project would connect to existing electric and natural gas infrastructure located to the north of the project site, in the Butterfield Ranch residential development. Electricity and natural gas providers would extend electric and natural gas service to the project in accordance with rules and policies for extension of service on file with the California Public Utilities Commission. With existing services located adjacent to the project site, implementation of the project (including potential future construction and operation of ADUs on the project site) would not require the relocation or construction of new or expanded electric power or natural gas distribution facilities. Impacts would be less than significant.

Telecommunications Systems

There are existing telecommunications adjacent to the north of the project site. Services would be extended to the project site by telecommunications service providers and would connect to the existing telecommunications distribution system, the capacity of which would not be adversely affected by the project. Therefore, implementation of the project (including potential future construction and operation of ADUs on the project site) would not require the relocation or construction of new or expanded telecommunication facilities. Impacts would be less than significant.

4.14.5.2 Water Supply

Threshold 2: Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The proposed project is below the residential development threshold of 500 units for requiring a water supply assessment. As discussed in Section 4.14.1.1, the City receives water from several sources, including the purchase of treated imported water, recycled water, and desalinated groundwater. The remainder of the City's supply is from local wells.

Water supplies necessary to serve the demands of the proposed project, along with existing and other projected future users, and the actions necessary to develop these supplies (e.g., conservation via Senate Bill 7 of the Seventh Extraordinary Session [or SBX 7-7], efficiency standards, etc.) have been identified in the City's UWMP. California's urban water suppliers are required to prepare UWMPs in compliance with the Urban Water Management Planning Act (California Water Code §10610 et seq.) and the Water Conservation Bill of 2009 (SBX 7-7). UWMPs are prepared every five years by urban water suppliers to support their long-term resource planning, and ensure adequate water supplies are available to meet existing and future water demands over a 20-year planning horizon, including the consideration of various drought scenarios and Demand Management Measures. The passage of SBX 7-7 in 2009 was enacted to require retail urban water agencies within California to achieve a 20 percent reduction in urban per capita water use by December 31, 2020 (Water Code Section 10608.20). As a result, SBX 7-7 also requires that UWMPs report base daily per capita water use (baseline), urban water use target, interim urban water use target, and compliance daily per capita water use. The City calculates future demands within its water service area based on the General Plan buildout projected population and growth rate projections. The 2020 UWMP assumes buildout of the City in 2045.

Total City water demand is expected to increase as residential development in the City expands (City 2021h). The UWMP projects water supply in a number of scenarios, including normal year, a single dry

year, and multiple dry years. The projected normal year water supply through 2045 is 33,684 AF. Demand is expected to be 17,120 AF in 2025 and 17,769 AF in 2046. In the single dry year and multiple dry year scenarios, the projected water supply exceeds projected demand by amounts ranging from 15,959 AF to 20,007 AF. The UWMP projects that in cooperation with its member agencies, the City will be able to meet a 100 percent of retail water demands during average, dry, and multiple-dry-year scenarios over the next 25 years (Chino Hills 2021h). During an extended drought event, City leadership would adopt the appropriate stage of the Water Shortage Contingency Plan to effectively preserve water supply sustainability. As the project is consistent with the City's General Plan and thus, included in the projections for water demands, the proposed project would not result in significant impacts associated with water supply availability during normal, dry, and multiple dry years. As discussed above, the construction and operation of ADUs on-site is not included in the City's growth projections, and thus these units could incrementally increase the demand for water within the project site if such units are built in the future. However, the number of potential ADUs on the project site relative to the proposed single-family is expected to be very limited and would not represent a substantial increase in demand for water supplies relative to the proposed single-family homes. Furthermore, ADUs are typically limited in size and thus the demand associated with these units would be minimal compared to the primary residence and associated landscaping. Therefore, impacts would be less than significant.

4.14.5.3 Solid Waste Management

Threshold 3: *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

Threshold 4: *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

Construction of the proposed project would result in generation of waste construction materials, potential non-hazardous petroleum impacted soil, demolished tank materials, and other waste. The proposed project would comply with the requirements of Municipal Code Chapter 13.40, which requires reuse and/or recycling of construction and demolition waste.

In the operational phase, the proposed project would generate household waste and be serviced by the City's contracted waste hauler for residential trash hauling. The General Plan EIR identifies a per capita waste generation rate of 2.8 pounds per person per day. With an anticipated population of 536 persons, the project would be expected to generate approximately 1,500 pounds of waste per day, or 274 tons annually. The potential future development of ADUs within single-family lots on-site could incrementally increase the amount of solid waste generated on-site, but such increases are expected to be negligible compared to the overall solid waste generation of the primary residences on the property based on the limited number of ADUs expected to be constructed in the future, as well as the limited operational intensity of ADUs and associated solid waste generation. Long-term operation of the project would include residential recycling programs to reduce the amount of solid waste the residential development contributes to landfills. In 2018, the City's landfill diversion rate was 65 percent (City 2021g). The City's General Plan EIR indicates that continued improvement in the City's waste reduction, recycling, and reuse programs would ensure the solid wastes generated due to buildout of the General Plan would not exceed landfill capacities. As the proposed project is consistent with the General Plan and planned for in the projected buildout, and because the project would comply with the City's requirements for waste

reduction, recycling, and reuse programs, impacts associated with the generation of solid waste would be less than significant.

The proposed project would be conditioned to comply with all regulations related to solid waste such as the California Integrated Waste Management Act and City recycling programs; therefore, no impact associated with compliance with federal, state, and local management reduction statues and regulations would occur.

4.14.6 Mitigation Measures

4.14.6.1 Utilities

No significant impacts related to the relocation or construction of new or expanded utilities infrastructure would result from implementation of the proposed project. Therefore, no mitigation measures are required.

4.14.6.2 Water Supply

No significant impacts related to water supplies available to serve the project and reasonably foreseeable future development would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.14.6.3 Solid Waste Management

No significant impacts related to solid waste management would result from the implementation of the proposed project. Therefore, no mitigation measures are required.

4.14.7 Significance Determination

The significance of public utilities impacts before and after mitigation is summarized in Table 4.14-2, *Significance Determination Summary of Public Utilities Impacts*. Implementation of the proposed project would not result in any significant impacts to public utilities, water supply, or solid waste management. Impacts related to utilities would be less than significant, and no mitigation is required.

Table 4.14-2
SIGNIFICANCE DETERMINATION SUMMARY OF PUBLIC UTILITIES IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Utilities	Less than significant	None required	Less than significant
Water Supply	Less than significant	None required	Less than significant
Solid Waste Management	Less than significant	None required	Less than significant

4.15 WILDFIRE

The wildfire section addresses the potential wildfire impacts resulting from construction and operation of the project. This includes an assessment of existing wildfire hazard conditions at the project site and surrounding areas, applicable regulatory framework, an assessment of wildfire environmental impacts, and mitigation measures to reduce or avoid wildfire impacts associated with the project. The analysis contained in this section is based, in part, on the Shady View Fire Protection Plan and Fire Behavior Report (Firesafe Planning Solutions, November 2020, Appendix O of this EIR) and the Shady View Fuel Modification Plan (Firesafe Planning Solutions, 2022, Appendix P of this EIR).

4.15.1 Existing Conditions

4.15.1.1 Environmental Setting

Open space and canyon areas in the City are covered with chaparral, coastal sage scrub, deciduous woodlands, and grasslands. Introduced vegetation includes landscaping plants and agricultural species. The chaparral and coastal sage plant communities are highly combustible due to the volatile oils contained in the plant tissues. Wildfires in the City pose a high threat to natural resources, structures, and human safety. The high risk posed by fires in the City is due to the combined effects of climate (dry summers with Santa Ana wind conditions); steep, rugged terrain (limiting accessibility to fire-suppression vehicles and personnel); vegetation (highly flammable chaparral and similar plant communities that contain high concentrations of volatile oils); and development patterns (wildland and urban areas intermixed in the foothills and near canyon bottoms) where development is located adjacent to highly flammable vegetation (City 2020).

The Safety Element of the City's General Plan addresses protection of the community from risks associated with the effects of flooding, seismic, and other geologic hazards, hazardous materials, and wildland fires. Much of the City is within a City-designated Fire Hazard Overlay District. According to the General Plan Final EIR, the wildland areas of Chino Hills present a severe magnitude fire problem, with over 14,000 acres of grass, brush, and oak trees, seasonal fires pose a threat within the City. The project site is within the City's Fire Hazard Overlay District (City 2015a; Figure 4.15-1, *City of Chino Hills Fire Hazard Overlay District*).

The project site is not located within a State Responsibility Area (SRA) or a Federal Responsibility Area (FRA) for fire protection, but FRA and SRA areas are located adjacent to the east of the project site (Figure 4.15-2, *Federal, State, and Local Responsibility Areas*). The project site is located in a Local Responsibility Area (LRA) for fire protection. Government Code 51175-89 directs the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of very high fire hazard severity zones (VHFHSZ) within LRAs. The project site is not located within a VHFHSZ (CAL FIRE 2008).

The California Public Utilities Commission (CPUC) initiated and adopted regulations to protect the public from potential fire hazard associated with overhead powerline facilities and nearby aerial communication facilities. As part of this effort, the CPUC adopted a statewide Fire-Threat Map. The project site is mostly within the CPUC Elevated Fire Threat area, with a portion of the site (i.e., in the southwest corner) located within the CPUC Extreme Fire Threat area site (Figure 4.15-3, *California Public Utilities Commission Fire-Threat*). A small area near the northern project boundary is not located within a designated fire threat area.

Predominant fuels on or near the project site consist of grasses, grass/scrub mixtures, and small pockets of shrubs. Vegetation to the east of the project site, between the eastern project site boundary and SR-71, consists of mostly grasses. The area to the west at higher elevations from the project site is mostly shrubs on the north-facing slopes but mostly grasses on the south-facing slopes. Shrub fuels on the project site are mostly on north-facing slopes and are small pockets in areas within 200 feet of the proposed development portion of the site. The interface areas for the project site do not have large, dense, and/or deep fuel beds. The majority of fuel beds at project site interfaces are under one foot on the east side, and get more dense, contiguous, and have greater depth on the west side. SR-71 provides a solid noncombustible fire break on the east interface.

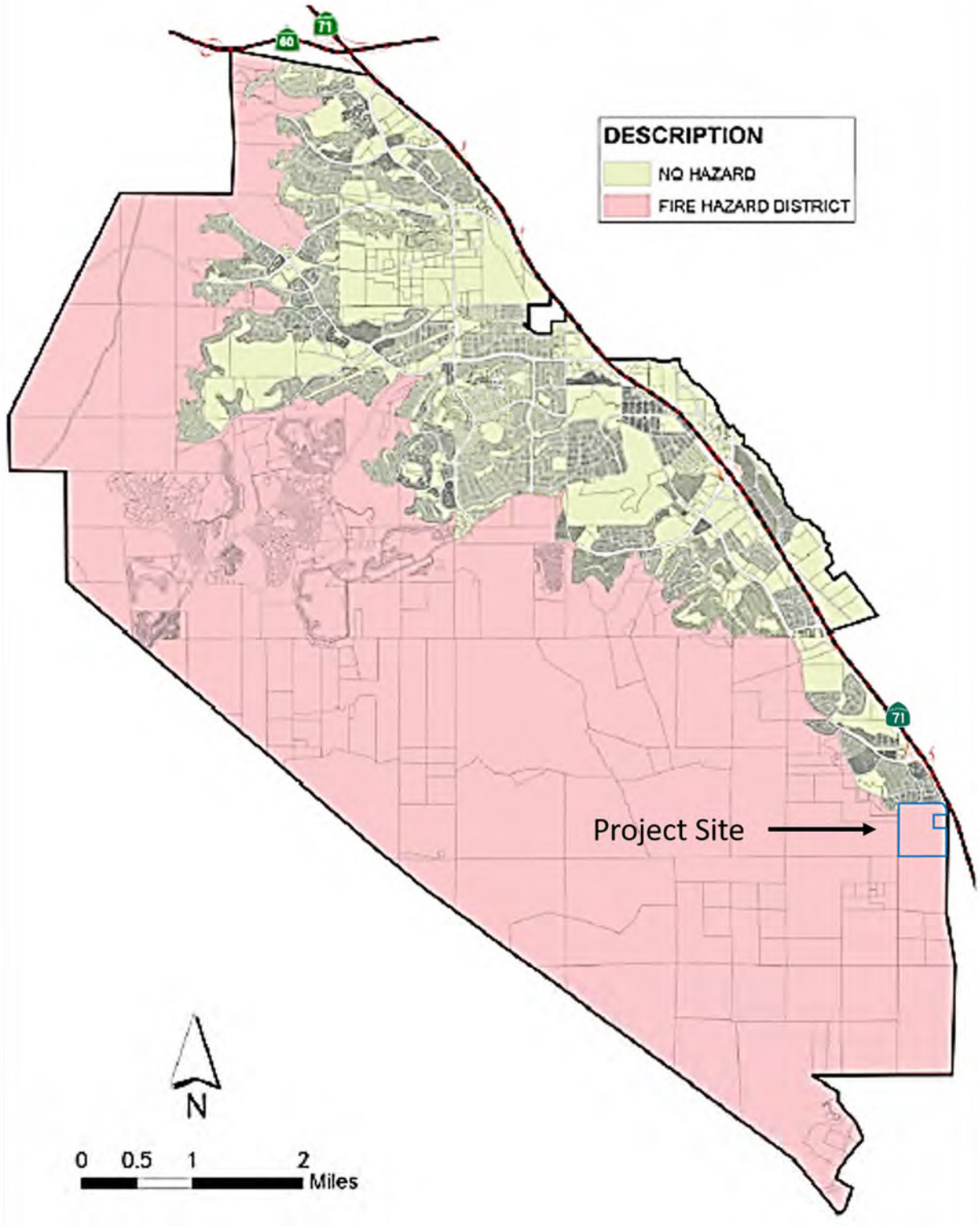
Elevations at the project site wildfire interfaces (which include off-site interface areas adjacent to the project site) range from 500 feet to over 1,200 feet above mean sea level (amsl). Generally, the project site rises from the east to the west, most dramatically west of the project site. The east interface is mostly gentle sloping areas (with slopes of 15 percent or less). The west interface is much steeper and varied as it transitions into the hillside and up the ridgelines.

Slopes with steeper gradients facing to the north, northeast, and northwest in the project vicinity tend to be protected from the sun for longer periods. This allows for more moisture to be retained and normally creates a higher fuel loading on these slopes. South-facing slopes tend to contain lighter fuel loads at the project site elevation, in this part of southern California.

The predominant wind direction at the project site is from the west, with the strongest Santa Ana winds coming from the east and northeast. Winds of up to 15 miles per hour can come from any direction, but the stronger winds are either onshore (from the west) or offshore (northeast or east/northeast). In a period of 5 years from 2015 through 2019, maximum sustained wind in the project area was 37 miles per hour, with the fastest wind gust recorded at 52 miles per hour.

4.15.1.2 Fire History

Historically, there have been major wildfires consuming 30 or more acres in the City. Between 1947 and 2008, eleven major wildfires occurred within the City consuming a total of 50,557 acres (City 2020). A review of the CAL FIRE database, which compiles fire perimeters from Bureau of Land Management, National Park Service, and United States Forest Service fire events that are 10 acres or greater in size and CAL FIRE fire events that are 300 acres or greater is size, was used to determine fire history in the project vicinity (Table 4.15-1, *Fire History in the Project Vicinity*). In the past decade, three fires have burned in the immediate project area, including the Highway Fire in 2015, the Euclid Fire in 2018, and the Blue Ridge Fire in 2020 (which is not identified in the project Fire Protection Plan and Fire Behavior Report, because the report was prepared prior to the date of the wildfire). The Highway Fire burned 1,049 acres in 2015, south and east of the project site, east of SR-71. The Euclid Fire burned 145 acres to the east of the project site, on the east side of SR-71. In late October and early November 2020, the Blue Ridge Fire burned a total of 13,964 acres in the hills to the west and south of the project site (CAL FIRE 2021). During the Blue Ridge Fire, a backfire was initiated in the western portion of the site by local fire officials as a containment method for the wildfire on the adjacent lands.



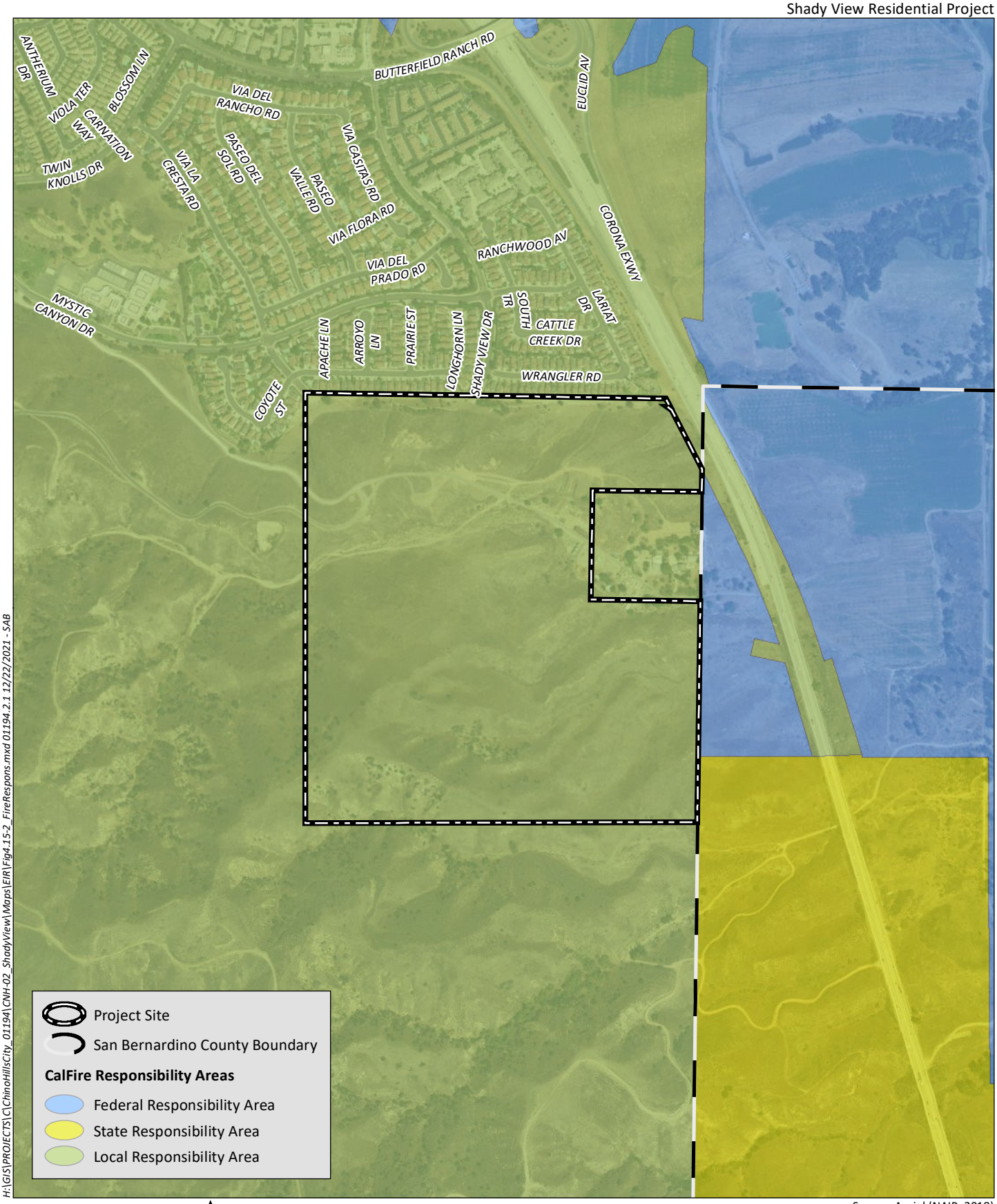
H:\GIS\PROJECTS\C\ChinoHillsCity_01194\CNH-02_ShadyView\Maps\EIR\Fig4.15-1_ChinoFireHazOverlay.indd 01194.2.1 12/22/21 - SAB

Source: City of Chino Hills

HELIX Environmental Planning

City of Chino Hills Fire Hazard Overlay District

Figure 4.15-1



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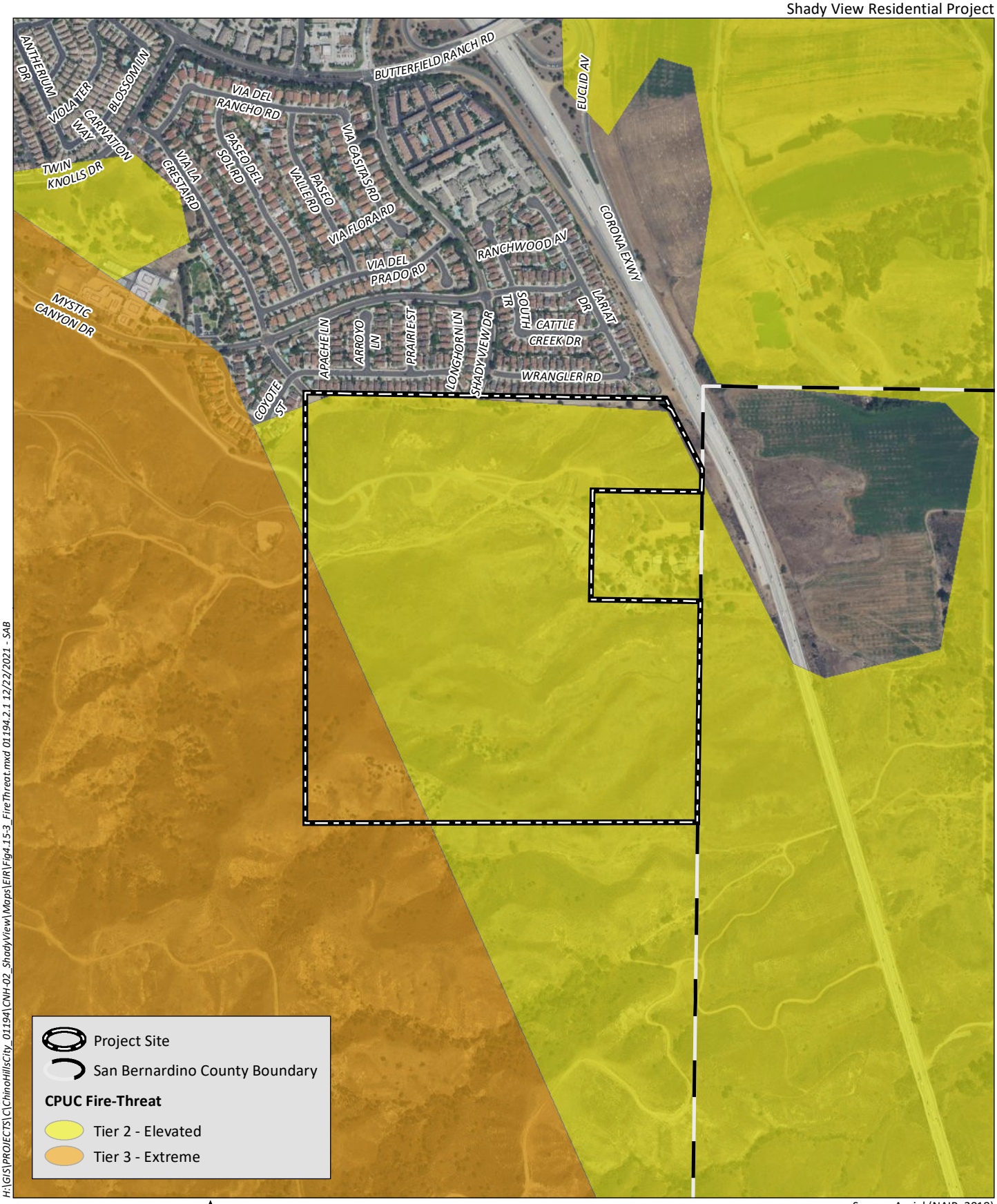
Source: Aerial (NAIP, 2018)

HELIX Environmental Planning

Federal, State, and Local Responsibility Areas

Figure 4.15-2



Source: Aerial (NAIP, 2018)

HELIX Environmental Planning

California Public Utilities Commission Fire-Threat

Figure 4.15-3

Table 4.15-1
FIRE HISTORY IN THE PROJECT VICINITY

Fire Name	Year	Acreage	Location
Owl Fire	1980	18,332	On-site and adjacent to the north, south, east, and west
Hills Fire	1983	581	West of the project site
State Park Fire	1988	820	West of the project site
Yorba Fire	1990	7,884	West of the project site
Freeway Complex	2008	30,305	West and south of the project site
Highway Fire	2015	1,049	South and east of the project site, east of SR-71
Euclid Fire	2018	145	East of the project site, east of SR-71
Blue Ridge Fire	2020	13,964	Adjacent to the west

Sources: Firesafe Planning Solutions 2020, CAL FIRE 2021

The only fire recorded in the CAL FIRE database that affected the project site was the Owl Fire in 1980, which burned 18,332 acres. The Freeway Complex fire burned 30,305 acres in 2008 and approached the project area from the west and south but did not burn onto the project site. The Freeway Complex fire started along the 91 Freeway to the south and burned under Santa Ana wind conditions for the first few days of the fire before reversing direction when the offshore Santa Ana winds subsided and the predominant onshore wind returned. This is a typical condition of wildfires in southern California. Other fires that occurred in the project vicinity longer than a decade ago and did not occur within the project site include the State Park Fire (1998), Yorba Fire (1990), and the Hills Fire (1993), all of which occurred to the west of the project site.

The fires to the east of SR-71 (Highway and Euclid fires) show evidence of wind driven fires, which tend to travel farther but with a narrower footprint overall. These fires align with the onshore and offshore winds. Historic fires to the west of the project site are generally larger and perimeters of these fires seem to indicate that they burned along the topographic features dominated by fuel, slope, aspect, and available control points, more than by wind.

4.15.2 Regulatory Setting

4.15.2.1 Federal

Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 provides the legal basis for FEMA's mitigation planning requirements for state, local, and tribal governments as a precursor to mitigation grant assistance. The Disaster Mitigation Act of 2000 requires that local governments prepare a Local Hazard Mitigation Plan that must be reviewed by the State Mitigation Officer, approved by FEMA, and renewed every 5 years. The plan must include a planning process, a risk assessment, a mitigation strategy, and plan maintenance and updating procedures to identify the natural hazards, risks, and vulnerabilities of the area under the jurisdiction of the government. Natural hazards include earthquakes, tsunamis, tornadoes, hurricanes, flooding, and wildfires.

4.15.2.2 State

California Public Resources Code

California PRC Sections 4291 et seq. requires that brush, flammable vegetation, or combustible growth within 100 feet of buildings be removed for buildings on or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land covered in flammable materials. Vegetation that is more than 30 feet from the building, less than 18 inches high, and important for soil stability, may be maintained. Single specimens of trees or other vegetation that is maintained so as to manage fuels and not form a means of rapid fire transmission from other nearby vegetation to structure may also be maintained.

California PRC Section 4290 requires CAL FIRE to adopt regulations implementing minimum fire safety standards for defensible space that would be applicable to lands within the SRA and lands within VHFHSZs. SRAs are defined by California PRC Section 4102 as areas of the State in which CAL FIRE has determined that the financial responsibility for preventing and suppressing fires lies with the State of California. SRAs are lands in California where the CAL FIRE has legal and financial responsibility for wildfire protection. SRA lands typically are unincorporated areas of a county, are not federally owned, have wildland vegetation cover, have housing densities lower than three units per acre, and have watershed or range/forage value. Where SRAs contain built environment or development, the local government agency assumes responsibility for fire protection. LRAs include lands that do not meet criteria for SRAs or FRAs, or are lands in cities, cultivated agricultural lands, and nonflammable areas in the unincorporated parts of a county. LRAs can include flammable vegetation and wildland-urban interface areas. LRA fire protection is provided by the local fire departments, fire protection districts, county fire departments, or by contract with CAL FIRE.

Government Code

In 1992, Government Code Sections 51175–51189 established the classification for very high fire hazard severity based on fuel loading, terrain, weather, and other relevant factors identified by CAL FIRE as major causes of wildfire spread and on the severity of fire hazard that is expected to prevail in those areas. The code established the requirements for those that maintain an occupied dwelling within a designated very high fire hazard severity zone (VHFHSZ). The VHFHSZs define the application of mitigation measures to reduce risk associated with uncontrolled wildfires and require that the measures be taken. Local agencies designate the VHFHSZs within their jurisdiction as required by CAL FIRE. Where local fire protection agencies are responsible for wildfire protection, the land is classified as a Local Responsibility Area (LRA).

California Building Code and Fire Code

The California Code of Regulations (CCR), Title 24, is a compilation of building standards, including fire safety standards for residential and commercial buildings. The CBC standards serve as the basis for the design and construction of buildings in California. The California Fire Code (CFC) is a component of the CBC and is Part 9 of Title 24. The CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, fire hydrant locations and distribution, and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas. Typical fire safety requirements of the CFC include: the installation of sprinklers in all high-rise buildings; the establishment of fire resistance

standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas. The CFC applies to all occupancies in California, except where more stringent standards have been adopted by local agencies. The CFC has been adopted by the City, as described below.

California Residential Code

California Residential Code Section R337 applies to building materials, systems, or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface. The purpose of the chapter is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area to resist the intrusion of flame or burning embers projected by a vegetation fire and contributes to a systematic reduction in conflagration losses.

2019 California Strategic Fire Plan

The 2019 Strategic Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection. The Strategic Fire Plan provides an overall vision for a built and natural environment that is more fire resilient through the coordination and partnerships of local, state, federal, tribal, and private entities. In 2019, the Board of Forestry and Fire Protection adopted a new strategic fire plan to update and address fire concerns in California. First developed in the 1930s, the Strategic Fire Plan is periodically updated to reflect current and anticipated needs. The 2019 Plan calls for a natural environment that is more fire resilient; buildings and infrastructure that are more fire resistant; and a society that is more aware of and responsive to the benefits and threats of wildland fire; all achieved through local, state, federal, tribal, and private partnerships. The primary goals of 2019 Strategic Plan are to do the following: improve CAL FIRE's core capabilities; enhance internal operations; ensure health and safety; and build an engaged, motivated and innovative workforce.

4.15.2.3 Local

Chino Hills Hazard Mitigation Plan

The City of Chino Hills Hazard Mitigation Plan (updated in 2020) identifies effective ways to assess the significant natural and manmade hazards that may affect the City and its inhabitants and reduce the City's vulnerability to these hazards. The Hazard Mitigation Plan assists the City in reducing risks from natural hazards by identifying resources, information, and strategies for risk reduction, while helping to guide and coordinate mitigation activities throughout the City. The Plan provides an action plan to reduce risks from natural hazards through education and outreach programs and to foster the development of partnerships, and implementation of preventative activities such as land use programs that restrict and control development in areas subject to damage from natural hazards. The Plan identifies wildfire as a high probability, high risk hazard within the City that pose a threat to natural resources, structures, and human safety. The high risk posed by wildfires is due to the combined effects of climate; steep, rugged terrain; vegetation; and development patterns.

Chino Hills Emergency Operations Plan

The Chino Hills Emergency Operations Plan (EOP) describes a comprehensive emergency management system for response to natural disasters, technological incidents, and national security emergencies. It

provides guidance on the response to emergencies that may affect the City such as earthquakes, hazardous materials emergencies, flooding, and wildfire. The EOP does not address normal day-to-day emergencies or the well-established and routine procedures used in coping with such emergency, but instead focuses on potential largescale disasters that can generate unique situations requiring unusual emergency response. The EOP outlines procedures for mass evacuation and shelter and provides City staff with the basis for an effective response in the event of a local or region-wide disaster. It identifies lines of authority and operational responsibilities and outlines a framework for the continuity of government and maintenance of City services.

Chino Hills General Plan

The General Plan Land Use Element identifies seven overlay zones that are incorporated as part of the General Plan. The Fire Hazard Overlay District is one of these zones and applies to areas within the City designated as high fire hazard areas. The project site is located within the Fire Hazard Overlay District.

The General Plan Safety Element addresses the natural and human-made hazards affecting the City, including seismic, geologic, flood and inundation, fire, and hazard materials. The Safety Element identifies the types of fire hazards present within the City: wildland, urban, and earthquake-related fire. According to the Safety Element, wildfires in the City pose a high threat to natural resources, structures, and human safety. The high risk is due to the combined effects of climate; steep, rugged terrain; highly combustible vegetation plant communities containing high concentrations of volatile oils; and development patterns (wildland and urban areas intermixed in the foothills and near canyon bottoms). Approximately 75 percent of the City in located within the city's designated Fire Hazard Overlay District. Safety Element Goals, Policies, and Actions that are applicable to the proposed project in regard to wildfire are as follows:

- *Goal S-4:* Minimize the risk from fire hazards.
- *Policy S-4.1:* Maintain the water distribution system to deliver the fire flow requirements set in the City adopted Fire Code.
- *Action S-4.2.1:* Continue to implement and enforce fuel modification zones.
- *Action S-4.2.2:* Encourage residents to plant and maintain fire-retardant slope cover to reduce the risk of brush fire in areas adjacent to canyons.
- *Action S-4.2.3:* Maintain stringent site design and maintenance standards for areas with high fire hazard potential.
- *Action S-4.2.6:* Work with the Fire District to enforce all existing codes and ordinances regarding fire protection, building inspection, and vegetation management.
- *Action S-4.2.7:* Maintain evacuation plans for areas in greatest danger of fire.

The project's consistency with these goals and actions are discussed in Section 4.9, *Land Use*.

Chino Hills Municipal Code

Chino Hills Municipal Code Chapter 8.16, *California Fire Code*, adopts the 2019 California Fire Code as the fire code of the City. The Fire Code regulates and governs the safeguarding of life and property from fire and explosion hazards arising from the storage, handling, and use of hazardous substances, materials, and devices; from conditions hazardous to life or property in the occupancy of buildings and premises; and providing for the issuance of permits and collection of fees.

Chino Hills Municipal Code Chapter 16.06.160, *Fire Resistive Design Requirements*, applies to all new construction and to existing structures where construction results in an increase in size of 50 percent or more. This chapter of the Municipal Code establishes requirements for fire resistive construction, fire resistive building separation, and project design to improve structures' resistance against fire.

The Fire Hazard Overlay District is established to mitigate against the threat of wildfire. Chapter 16.22 of the Municipal Code sets forth standards which would provide additional opportunity for firefighting vehicles to have access into wildland interface areas and to prevent structures from becoming a barrier between firefighting requirement/personnel and wildland areas. New construction within the Fire Hazard Overlay District must meet the requirements and all applicable standards adopted by the Chino Valley Fire District (CVFD), Section 7A of the Building Code, and the requirements of Municipal Code Chapter 16.06.160, *Fire Resistive Design Requirements*, unless the requirements of the Fire Hazard Overlay District are more restrictive. This chapter contains building separation standards for buildings in the Overlay District, requiring structures on separate lots to have exterior wall separations from any structure on adjoining lots of at least 30 feet, with provisions for alternate measures. Chapter 16.22 also contains the following regulations for fuel modification areas:

16.22.040 – Regulations for the fuel modification areas.

A. A permanent fuel modification area is required around development projects or portions of such projects for the purpose of fire protection. The required width of the fuel modification area shall be determined by the CVFD as deemed necessary to mitigate fire hazards, but in no case shall it be less than one hundred (100) feet in width as measured from the development perimeter. The width of the fuel modification area shall be determined based upon:

    1. The natural ungraded slope of the land within the project and in areas adjacent to the project;

    2. Fuel loading;

    3. Access to the project and access directly to the fuel-modified area;

    4. The on-site availability of water that can be used for firefighting purposes.

B. Adequate provisions shall be made for the continual maintenance of such areas, and such areas shall be designated as common open space rather than private open space.

C. Fuel modification areas shall also incorporate soil erosion and sediment control measures to alleviate permanent scarring and accelerated erosion.

D. When development projects are phased, required fuel modification areas shall be in place prior to the first certificate of occupancy.

E. Perimeter Access to Fuel Modification Area.

1. Development projects shall provide for adequate vehicular access for firefighting vehicles to the development perimeter of the project along the portion of the development perimeter that is adjacent to either an existing or proposed fuel-modification area. The development shall provide for the continual maintenance of the areas intended to provide such access enduring that the access ways are unobstructed and maintained in good condition. Perimeter access should be provided through one of the following two measures unless otherwise improved by the CVFD.

a. The provision of an existing or proposed road along the development perimeter, or portion thereof that is exposed to a wildland urban interface, open space or fuel modified area, and which is accessible to firefighting equipment. Such a road shall be paved with all-weather material and is capable to supporting firefighting equipment, shall be at least twenty (20) feet in width and shall not exceed a grade of twelve (12) percent, unless otherwise approved by the CVFD.

b. Development projects shall provide access ways, at least twelve (12) feet in width, with grade of twelve (12) percent, and capable of supporting firefighting vehicles, between the development perimeter and proposed or existing streets. Access ways shall be spaced at intervals of no more than an average of three hundred fifty (350) feet along each street.

4.15.3 Methodology and Assumptions

The level of wildfire intensity for a fire approaching the project site was determined using BehavePlus Fire Modeling System 5.0.5. BehavePlus is a fire behavior prediction and fuel modeling system and is utilized by wildland fire experts nationwide. The fuel models in the computer program were referenced from *Aids to Determining Fuel Models for Estimating Fire Behavior* and were designed to aid in determining fuel types and used in calculating and estimating fire behavior. BehavePlus was used to measure the intensity of a fire moving towards the proposed project. The BehavePlus fire model describes a wildfire spreading through surface fuels, which are burnable materials within six feet of the ground and contiguous to the ground. This modeling is used as a worst-case scenario and provides a snapshot of fire behavior at a specific location under specific conditions. This modeling can assist in the design of the best fire defense system for the project and will provide data on the distances needed to ensure that structures are appropriately distanced to provide protection from the most extreme flame lengths and intensities that would be produced by a wildfire. The model was prepared using the worst-case scenario factors and fuel models to ensure additional safety factor. Modeling was completed for east/northeast Santa Ana wind event and onshore west wind scenarios. FlamMap fire mapping and analysis system was used for describing potential fire behavior for constant environmental conditions (weather and fuel moisture). Potential fire behavior calculations were prepared for surface fire spread, flame length, crown fire activity type, crown fire initiation, and crown fire spread. Refer to the Fire Protection Plan and Fire Behavior Report (Appendix O) for detailed information regarding modeling

inputs including wildland interface fuel types, wind patterns, weather inputs, and topography and terrain.

4.15.4 Significance Thresholds

According to Appendix G of the CEQA Guidelines a significant visual impact would occur if implementation of the proposed project would result in any of the following:

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

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would implementation of the proposed project result in any of the following:

1. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

2. Would the project, 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?

3. Would the project 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?

4. Would the project 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?

4.15.5 Impact Analysis

4.15.5.1 Wildland Fire Risk of Loss

Threshold 1: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The project site is located within the City's Fire Hazard Overlay District. The proposed project includes the placement of new residential development within an area designated by the City as being subject to fire hazards. The proposed project would include removal of native fuels in the development area, grading of the project site, and the installation of irrigated landscaping. Given the potential for wildfire events in the project vicinity, the project would be designed and constructed in accordance with applicable regulations, including CFC, Chapter 7A of the Building Code, Section R337 of the California Residential Code, and the requirements of Municipal Code Chapter 16.06.160, *Fire Resistive Design Requirements*. The project incorporates fuel modification zones along the boundaries of the residential development, as shown in Figure 4.15-4, *Project Fuel Modification Zones*. The project proposes 100 feet of irrigated fuel modification on the west project interface and on much of the east project interface. The northern project interface includes a mowed dry zone, with an adjacent Special Maintenance Area wet zone. Portions of the east interface also include a Special Maintenance Area wet zone.

The potential for fire to enter the site from adjacent native fuels was analyzed in the project's Fire Protection Plan and Fire Behavior Report. Fire can enter the site in one of four ways: direct contact with fire, radiant heat, convected heat, and embers and brands. The project's Fire Protection Plan and Fire Behavior Report modeled multiple scenarios to determine the potential fire to enter the project site. The modeled scenarios considered wildland interface fuel types, wind patterns, weather inputs, and topography and terrain, among other technical factors.

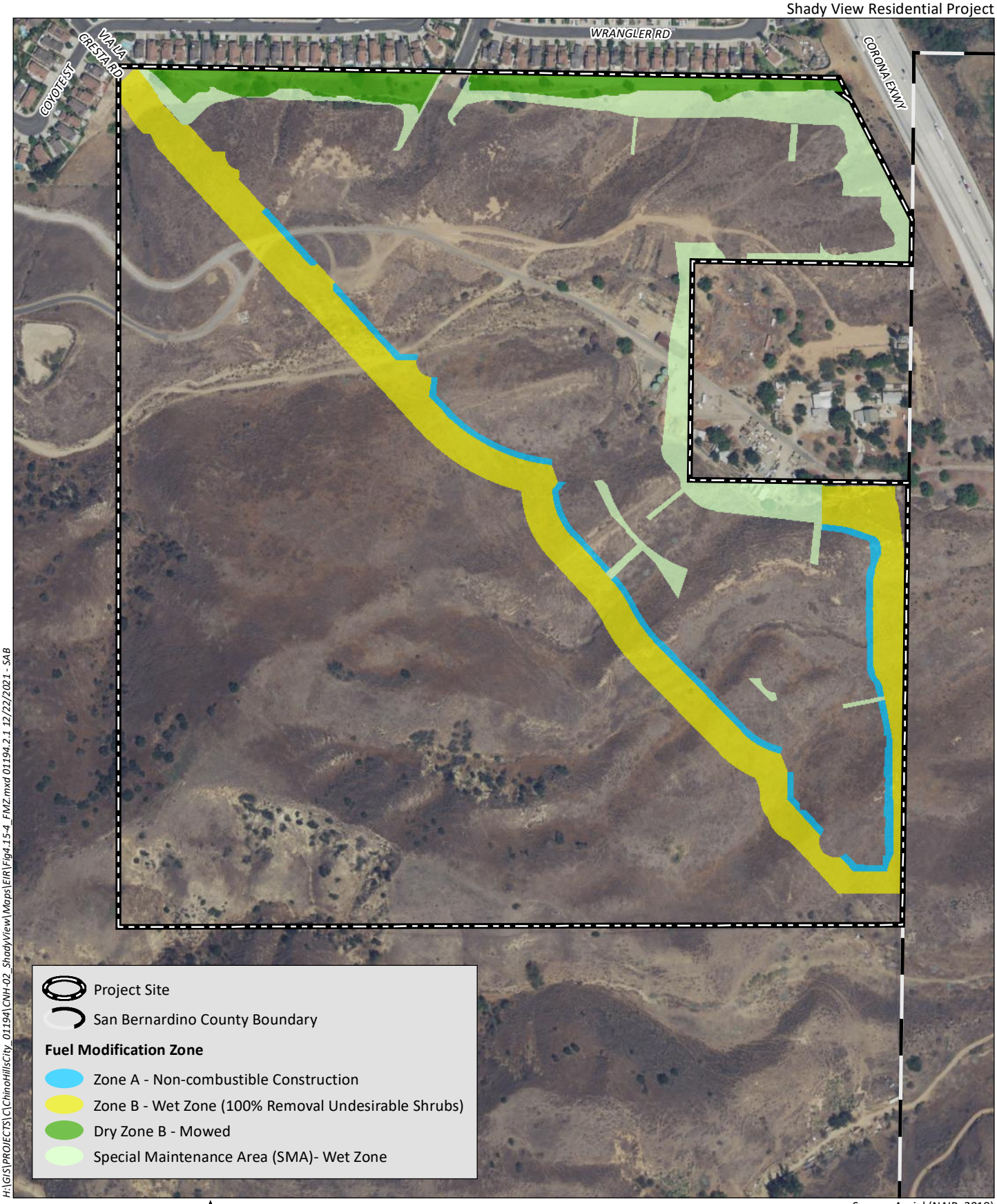
Direct contact with fire from adjacent native fuels has the potential to damage or ignite a structure within the project site. Multiple scenarios were modeled to determine the potential for direct contact with fire in adjacent native fuels. The maximum modeled flame length for fire in adjacent fuels is 24.3 feet. The area to the east of the project site is limited by the freeway. The amount of fuel to the east of the project site is mostly light to moderate, and these fuels do not have the depth necessary to produce extreme fire behavior. The project's 100-foot fuel modification zone on the west side of the project provides adequate structure protection in locations where fuels have the ability to burn into the project site. Vegetation to the south of the project is not a significant risk, as winds rarely come from this direction. Additionally, development to the north limits the risk of wildland fire encroaching into the project site from that direction.

Regarding radiant heat, the residence time for a fire within the adjacent wildland would be less than one minute due to lack of quantity of fuel necessary to burn at a high rate for a period long enough to create a radiant heat issue at the provided distance. A fire on adjacent wildland would not have sufficient heat fuel beyond the project's fuel modification zones to ignite any structures. Conditions required for fire encroachment due to convected heat are not present at the project site and convected heat is not considered a potential source of fire entering the project site.

Fire embers and brands can travel great distances. The project site would be susceptible to brands from both onshore and offshore winds. Onshore winds would bring fire from hilltops at higher elevations than the site which would give the embers and brands more distance to travel before they land. The fuels to the east in the Prado Basin are of a nature that would produce a large number of embers and brands during a wind-driven fire event within the basin. The project would be protected from this fire threat through compliance with California Residential Code Section R337, which contains standards for building materials, systems, and/or assemblies used in the exterior design and construction of new buildings located within a wildland-urban interface area.

Fire behavior modeling for the project indicates that a 50-foot fuel modification zone is adequate to protect structures from wildfire. The project proposes 100 feet of irrigated fuel modification on the west project interface and on much of the east project interface. The remaining interface areas would incorporate 50-foot fuel modification zones. The west project interface includes roadways (the extension of Via La Cresta and Private Street "D") that further increases protection of the adjacent structures for all but two of the proposed residential lots. This single loaded street with structures on the non-wildland side provides for a significant buffer and unlimited access for fire suppression activities.

The project does not meet the building separation standards of 30 feet separation from structure to structure identified in the Municipal Code for structures within the Fire Hazard Overlay District; however, the Municipal Code provides for alternative measures in lieu of the 30-foot separation. The project proposes a minimum separation between structures of 20 feet and the following additional design measures in lieu of the 30-foot minimum separation:



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Source: Aerial (NAIP, 2018)

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Project Fuel Modification Zones

Figure 4.15-4

- Fuel modification zones include an extended zone along the southern side of Via La Cresta and Private Street "D", extending the 100-foot minimum zone to provide a 50-foot Zone B fuel modification for roadway protection (refer to Figure 4.15-4).

- Radiant heat walls are included in the project design for portions of the southern and eastern project interfaces that include less than 100 feet of fuel modification zones.

- All interior landscape areas have been designated as Special Maintenance Areas and as such, would be maintained in perpetuity for fire safety purposes, in accordance with the project Fuel Modification Plan.

- The project does not include the use of Fuel Modification Zone C (thinning zones with native vegetation). All fuel modification zones associated with the project would comply with the more restrictive requirements for Fuel Modification Zones A or B.

- The CC&Rs for the project would include a restriction on the placement or planting of trees between structures. No trees would be allowed between structures, ground cover only would be allowed.

- For any structure that does not have the 30-foot distance to the next structure, the area below the windows (windows occurring on any level of the structure) would not have planters or other spaces for vegetation within three feet of the structure. The CC&Rs for the project would include this requirement.

- Windows or doors on structures which are less than 30 feet apart shall be placed so that they are not directly adjacent to the windows/doors of adjacent structures.

- All building eaves shall be constructed to meet the requirements of one hour rated exterior.

- All openings would be protected with listed devices or appliances, no simple wire mesh.

- Along the east interface, a retaining wall is proposed. The retaining wall would range in height from 2 feet on each end to 30 feet in the middle of the wall. Some of these areas would have an additional radiant heat wall on top of the retaining wall.

While the project incorporates a number of design measures, detailed above, in lieu of the 30-foot minimum separation, it is still considered deficient in meeting the 30-foot minimum separation.

The residential structures on lots 115 and 135 are deficient in meeting the 150-foot hose pull standard, which is the effective distance that firefighters can drag a hose from fire apparatus to attack a fire. The two identified lots cannot be covered for fire protection with 150 feet of hose pull, and thus, are considered deficient.

As discussed previously, the project would be constructed in accordance with applicable regulations, including CFC, Chapter 7A of the Building Code, Section R337 of the California Residential Code, and the requirements of Municipal Code Chapter 16.06.160, *Fire Resistive Design Requirements*. In addition, after development of the project, the project applicant would be required to maintain the fuel modification zones on the property as required by the CVFD. The project's design, including existing and future fuel modification activities, proposed radiant heat walls, other measures determined by CVFD

during project design and review, and compliance with existing regulations regarding development in the City's Fire Hazard Overlay District would reduce the flammability of the project and also facilitate quick containment in the event of a structure fire, so that it would not spread quickly off the project site and into the surrounding undeveloped areas. Nonetheless, two deficiencies have been identified for the project, including not meeting the 30-foot separation from structure to structure within the project site, as required by the City's Municipal Code, and the two residential lots that do not meet the 150-foot hose pull requirement. As such, the project would result in significant impacts associated with exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires.

4.15.5.2 Emergency Response Plan or Emergency Evacuation Plan

Threshold 2: Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

The City's EOP outlines procedures for mass evacuation and shelter. The EOP identifies law enforcement as the local authority that would lead evacuations, with CVFD and the City's Public Works and Operations Department providing support. No specific evacuation routes are provided in the EOP; however, it would be expected that major roadways and thoroughfares in the City, such as SR-71 and Chino Hills Parkway, would be utilized in emergency evacuations. The project would construct roadways consistent with City and CVFD requirements to ensure adequate emergency access. The project does not propose construction activities or road closures along major thoroughfares in the City.

The project would include two access points into the development—the extensions of Shady View Drive and Via La Cresta. These access points are based on the locations of the existing termini of Shady View Drive and Via La Cresta, which were established in 1998 and 1990 with the development to the north of the project site. These two points of ingress and egress are approximately 1,000 feet apart (from Shady View Drive centerline to Via La Cresta centerline, at the project boundary). The 1,000-foot separation is less than the minimum required separation of 1,550 feet for the two project access points required by CVFD. This separation deficiency is existing and nonconforming, and cannot be changed by the proposed project, as the area to the north of the project is developed with existing homes except for these two access points.

With the exception of two cul-de-sacs in the northeast corner of the project site, each project intersection provides two possible travel paths with several possible routes to the project access/exits points (Shady View Drive and Via La Cresta), as shown on Figure 4.15-5, *Travel Paths within the Project Site.* Residents of seven homes within the proposed development would have to travel more than 500 feet to reach a roadway where two travel paths are available. These homes are located in the northeastern portion of the project site and would have limited exposure to wildfire due to the limited amount of vegetation present between the homes and the freeway. No residents would be required to travel more than 750 feet to reach an access point with two travel paths. Chapter 16.06 of the Municipal Code includes general development standards, including 16.06.160, which contains fire resistive design requirements and specifics regarding lengths of cul-de-sacs. Section 16.06.160 indicates that cul-de-sacs shall not exceed 350 feet in length, except that they may be extended as allowed by this subsection of the Municipal Code, or as approved by the CVFD. The subsection of the Municipal Code also indicates that one of the following measures, or combination of such measures may be used to mitigate the effect of creating cul-de-sacs up to 600 feet in length:

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0 350 Feet

Source: Aerial (County of San Bernardino, 2020)

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Travel Paths Within the Project Site

Figure 4.15-5

- Limitation of the total number of dwelling units which have access to the cul-de-sac to no more than fifteen (15), and restriction of further subdivision of parcels and construction of additional independent residential units which have access to the cul-de-sac. Such restrictions shall be imposed through the conditions of approval of the development project or other method as approved by the Community Development Director; or

- A continuous perimeter access road at least twenty (20) feet in width is provided along the portion of the cul-de-sac exposed to fuel-modified areas such that it is drivable under normal conditions by firefighting vehicles, provides adequate maneuvering space for such vehicles, and is designed such that at least one point of access to the perimeter access road is taken from roads other than the cul-de-sac in question.

Additionally, this subsection of the Municipal Code contains requirements for cul-de-sac a minimum width. For private streets, which the project internal roadways would be, the cul-de-sac may have a minimum 26-foot-wide paved surface, providing no parking is allowed on the street. The project does not contain cul-de-sacs that have access to more than 15 dwelling units, and as such, would support the 600-foot cul-de-sac length identified by the Municipal Code. The project provides cul-de-sacs ranging from approximately 160 feet in length to approximately 510 feet in length. As such, the project would be consistent with the cul-de-sac standards contained in Municipal Code Section 16.06.160.

The project incorporates a number of measures to maintain emergency access at the project site during construction and operation. The City requires traffic control plans for any construction activity that would disrupt traffic flow on city streets and project conditions of approval would require that emergency access be maintained during construction. On street parking would be restricted along some project roadways to provide fire lane access. These areas would be marked with “No Parking – Fire Lane” signs consistent with CVFD standards. Proposed locations for restricted on street parking to provide a fire lane include the southwestern side of the Via La Cresta extension, between Shady View Drive and B Street, the western side of D Street between Via La Cresta and C Street, and the cul-de-sac portions of C Street, E-G Streets, and I-K Streets. Project roadways would be constructed consistent with City and CVFD requirements to ensure adequate emergency access.

The project’s Fuel Modification Plan (Firesafe Planning Solutions 2022) contains measures to be implemented to ensure appropriate emergency access, including requirements for CVFD vehicular access roads installation, maintenance, and clearance; gates in construction fencing with either a knox or a breakaway padlock; and fire lane standards for width, signage, and curbs. During the course of the City’s and CVFD’s required review of the proposed project’s applications, the site plan would be reviewed to ensure that adequate access to and from the site and around the proposed buildings would be provided for emergency vehicles. Compliance with City and CVFD requirements for access would ensure that the project would not result in significant impacts associated with an emergency response plan. Additionally, with adherence to City and CVFD requirements for emergency vehicle access, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan; however, the existing separation deficiency for the two project access points would result in a significant impact associated with emergency access.

4.15.5.3 Wildfire Pollutants

Threshold 3: Would the project, 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?

As discussed in Section 4.15.1, predominant wind direction at the project site is from the west, with the strongest Santa Ana winds coming from the east and northeast. Winds of up to 15 miles per hour can come from any direction, but the stronger winds are either onshore (from the west) or offshore (northeast or east/northeast). The east interface of the project site is mostly gentle-sloping areas (with slope grades of 15 percent or less). The west interface of the project site is much steeper and varied as it transitions into the hillsides and up ridgetops.

While wind channeling is present at the west project interface, the impact on the project site is minor. The predominant wind (from the west) brings potential fire from areas which are at elevations higher than the project site and create wind sheltering (lower wind speeds) at the western interface to the project site. Little to no wind channeling occurs with east/northeast wind. Wind sheltering is limited and results in a reduction in wind speed, as compared to what occurs with west wind. East/northeast wind would limit fire acceleration on the east interface of the project site. For areas on the east interface that would have acceleration with an east/northeast wind scenario, acceleration does not occur in areas with large, continuous fuel beds in line with wind and slope. SR-71 provides a solid non-combustible fire break on the eastern interface of the project site. Fire entering the project site from the east would have to originate from the area between the freeway and the project site or spot over the freeway from a fire located east of SR-71. The orientation of the wind, which is generally perpendicular to the freeway in this area, provides the maximum safety effect to the project site.

As determined in the project's Fire Protection Plan and Fire Behavior Report, the wind and its relationship to the topography at the project site is not a factor for additional fire hazards. While wind channeling is present at the west project interface, the impact on the project site is minor. As such, exacerbated wildfire risk impacts associated with slope, prevailing winds, and other factors that would exacerbate wildfire risks and thereby expose project occupants to pollutants concentrations from a wildfire or the uncontrolled spread of a wildfire would be less than significant.

4.15.5.4 Infrastructure

Threshold 4: Would the project 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 of the project would require the installation and maintenance of new infrastructure that is necessary to serve the proposed residential uses. The project would include the construction of new private roads, maintenance of various fuel modification zones around structures pursuant to Fire Code brush clearance requirements, as well as all required utilities such as electricity, natural gas, water, sewer, stormwater, and telecommunications infrastructure. Additionally, the project would include the construction of three relocated aboveground oil storage tanks and the rerouting of existing oil infrastructure pipeline to connect the new tanks with off-site oil facilities. Construction activities associated with the installation and maintenance of this new infrastructure would be temporary in

nature and would occur as part of the overall construction effort for the project. The specific activities associated with road construction, vegetation removal/replanting, utility trenching, and oil tank and pipeline relocation would not result in increased wildfire risks. Additionally, impacts associated with installation or construction of such improvements or infrastructure would be carried out in accordance with applicable regulations including those related to biological resources, hazardous materials, stormwater quality, air quality, greenhouse gas emissions, cultural and tribal cultural resources, paleontological resources, noise, and transportation. Construction-related effects relative to these issues are discussed in each respective section in Chapter 4.0, *Environmental Analysis*, of this EIR. As discussed therein, construction of the project, including infrastructure improvements, would not result in additional impacts to the environment with implementation of required mitigation identified in the respective EIR sections. As such, project impacts regarding construction of proposed infrastructure and exacerbated fire risk would be less than significant.

Although the project would require the construction, installation, and/or maintenance of new infrastructure on the project site, including electricity, natural gas, water, sewer, stormwater, and telecommunications infrastructure, the construction and operation of these facilities would, in part, serve to reduce wildfire risks in the area. This is because the proposed improvements would increase the project site's fire suppression capacity. For example, the newly paved roads will be designed to accommodate larger emergency vehicles providing enhanced emergency access to and around the project site. The water infrastructure at the project site would provide water for fire suppression purposes. Additionally, the establishment and maintenance of brush clearance and fuel modification zones on-site would reduce fuel sources near structures, and the provision of water infrastructure would further increase fire suppression capacity. As part of the overall project, applicable fire protection measures discussed in Section 4.15.5.1 would be implemented during the installation and maintenance of the proposed infrastructure, due to its location in the City's Fire Hazard Overlay District. For these reasons, the installation and maintenance of project-associated infrastructure would not exacerbate fire risk that may result in temporary or ongoing impacts to the environment. Impacts would be less than significant.

4.15.5.5 Post-Fire Risks

Threshold 5: Would the project 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?

The project site contains varied topography, with a large hillside in the southwest portion of the site, and a series of low rolling canyons and ridges in the northeast portion of the site. A major active drainage is present at the project site and runs west to east through the upper middle-portion of the site. Smaller canyons between low ridges trend west to east in the southern portion of the proposed development area. As discussed in Section 4.5, *Geology and Soils*, of this EIR, the proposed grading of the site, with the measures specified in the Preliminary Geotechnical Review for design cut, fill grading, and remedial grading would ensure that impacts associated with slope stability and landslides would be less than significant. The proposed project would follow the construction recommendations provided by the Preliminary Geotechnical Review and would also be constructed consistent with CBC requirements. Further, as discussed in Section 4.8, *Hydrology and Water Quality*, of this EIR, the project is not expected to result in significant adverse impacts with respect to runoff or drainage given compliance with existing stormwater regulations. In addition, as discussed throughout this section, with implementation of project design features and mitigation measures, the project would not result in significant impacts

associated with an increased risk of wildfire when compared to existing conditions, nor would the project exacerbate wildfire risks. Therefore, the project would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes, and impacts would be less than significant.

4.15.6 Mitigation Measures

4.15.6.1 Wildland Fire Risk of Loss

Potentially significant impacts associated with wildland fire risk of loss would occur. Implementation of mitigation measure WLF-1 would reduce these potential impacts to below a level of significance.

WLF-1 Structure Protection for All Structures

All structures within the proposed development shall be constructed per the 2019 California Residential Code Section R337 and shall be protected with National Fire Protection Association (NFPA) 13-D automatic fire sprinklers, including attic areas protection in lieu of meeting the City's requirement for 30-foot separation from structure to structure. The proposed structures shall be separated by a minimum of 20 feet. For residential structures on lots 115 and 135, NFPA-13D automatic fire protection sprinklers would be required for attic areas and small space protection.

4.15.6.2 Emergency Response Plan or Emergency Evacuation Plan

Potentially significant impacts are identified for emergency access associated with the deficiency for minimum separation of project access points. Implementation of mitigation measure WLF-1 would reduce impacts to below a level of significance.

4.15.6.3 Wildfire Pollutants or Uncontrollable Spread of a Wildfire

No significant impacts would occur as a result of slope, prevailing winds, or other factors that would exacerbate wildfire risks and thereby expose project occupants to pollutants concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, no mitigation is required.

4.15.6.4 Infrastructure

No significant impacts associated with the installation and maintenance of infrastructure that would exacerbate fire risk or that may result in temporary or ongoing impacts to the environment would occur as a result of the project. Therefore, no mitigation is required.

4.15.6.5 Post-Fire Risks

No significant impacts would occur as a result of downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, no mitigation is required.

4.15.7 Significance Determination

The significance of wildfire impacts before and after mitigation is summarized in Table 4.15-2, *Significance Determination Summary of Wildfire Impacts*. Implementation of the proposed project would result in significant wildfire impacts associated with required minimum building separation, a

hose pull deficiency, and a project access separation deficiency. Mitigation measure WLF-1 is provided to reduce impacts to a less than significant level. Impacts related to exacerbation of wildfire risks and wildfire pollutants, infrastructure, and post-fire risks would be less than significant, and no mitigation is required.

Table 4.15-2
SIGNIFICANCE DETERMINATION SUMMARY OF WILDFIRE IMPACTS

Issue	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Wildland Fire Risk of Loss	Potentially significant	WLF-1	Less than significant
Emergency Response Plan or Emergency Evacuation Plan	Potentially significant	WLF-1	Less than significant
Wildfire Pollutants	Less than significant	None required	Less than significant
Infrastructure	Less than significant	None required	Less than significant
Post-Fire Risks	Less than significant	None required	Less than significant

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5.0 CUMULATIVE IMPACTS

5.1 INTRODUCTION

Section 15130 of the CEQA Guidelines requires that an EIR address cumulative impacts of a project when its incremental effect would be cumulatively considerable. As defined in Section 15335, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. Cumulatively considerable means that the incremental effects of an individual project would be considerable when viewed in connection with the effects of past, current, or probable future projects.

According to Section 15130 of the State CEQA Guidelines, the discussion of cumulative effects "... need not provide as great detail as is provided of the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness." The evaluation of cumulative impacts is to be based on either:

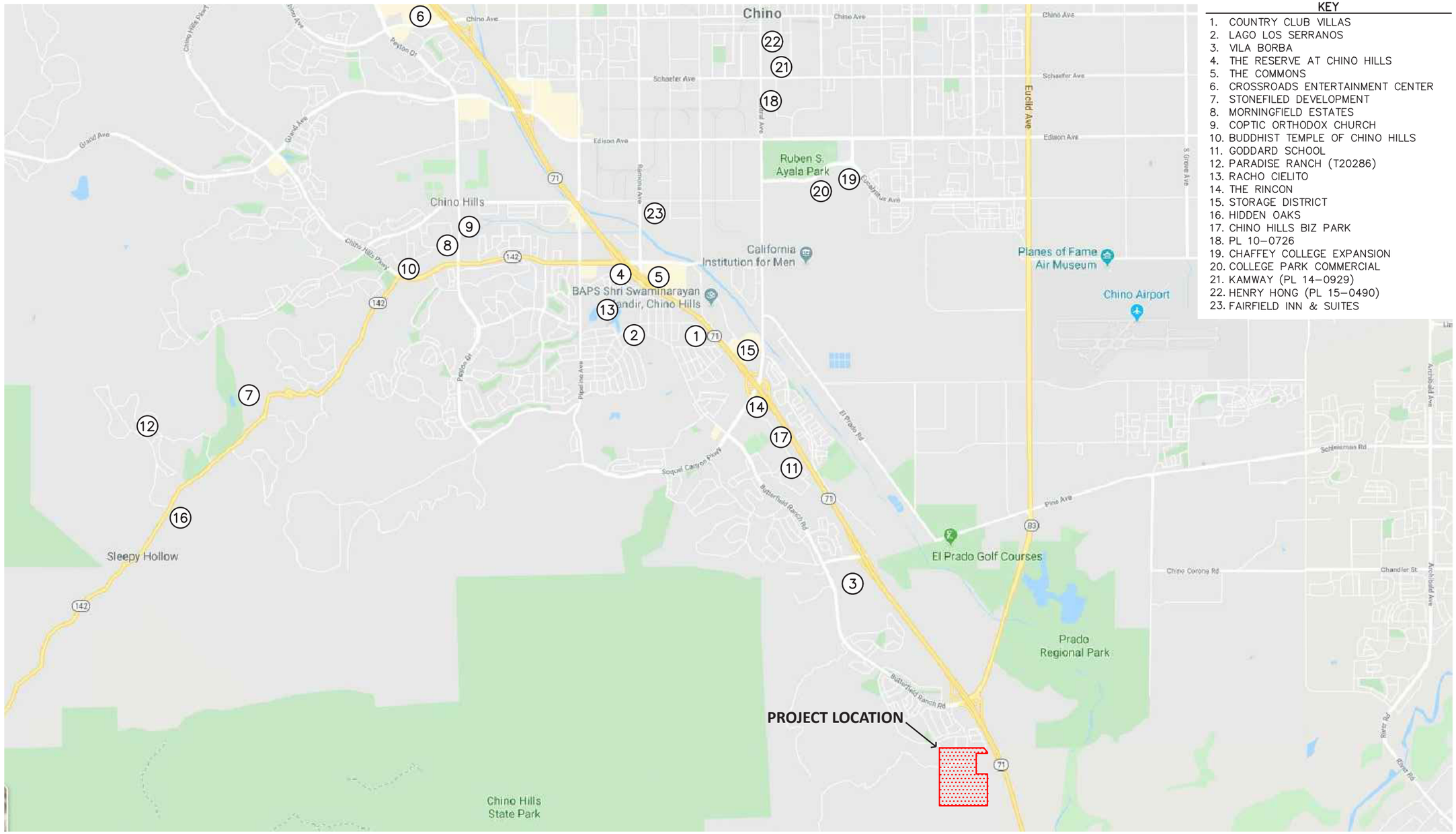
A. A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those impacts outside the control of the agency, or

B. A summary of projections contained in an adopted plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the Lead Agency.

The basis and geographic area for the analysis of cumulative impacts is dependent on the nature of the issue and the project. In some cases, regional planning addresses cumulative impacts, while in other cases, the analysis takes into consideration more localized effects. For the analysis of cumulative impacts which are localized (e.g., traffic and noise), a list of past, approved, and pending (i.e., active applications) projects in the City of Chino Hills and the City of Chino were identified based on their ability to contribute to and/or compound impacts with those of the project. The location of these cumulative projects is illustrated on Figure 5-1, *Cumulative Projects*. Table 5-1, *Cumulative Projects*, contains a brief description of the development associated with these projects (with the numbers in the list corresponding to the locations on Figure 5-1). For other topics, like air quality, the cumulative setting is the region, and analysis is instead based on regional planning documents.

Table 5-1
CUMULATIVE PROJECTS

Cumulative Project No.	Project Title	Location/Address	Project Description
		City of Chino Hills	
1	Country Club Villas	On Pomona Rincon Road between Wallace Avenue and Los Serranos Road	70 du condominium project Built/Occupied: Phase 1: 24 du condominiums Built/Partially occupied: Phase 2: 28 du condominiums Entitled/To Be Constructed: Phase 3: 18 du condominiums
2	Lago Los Serranos	Southwest corner of Ramona Avenue and Bird Farm Road	95 du condominium project Built/Partially Occupied: 69 du condominiums Under Construction: 26 du condominiums
3	Vila Borba	West and east of Butterfield Ranch Road near Pine Avenue	Entitled: Tract 16413 19 du single-family homes Entitled: Tract 16414 - 280 du multifamily units and 5-acre commercial center
4	The Reserve at Chino Hills	Reserve at Chino Hills Apartment Complex	Proposed/Under Review: 42 du multifamily
5	The Commons	South of Chino Hills Parkway, east of Ramona Avenue and north of SR-71	533,675 sf existing shopping center Built/Unoccupied: 63,300 sf of floor area for Anchor tenant Entitled/Unbuilt: 53,500 sf of floor area
6	Crossroads Entertainment Center	Northwest of Chino Avenue and SR-71	Entitled/Under Construction: 4,050 sf multi-tenant building consisting of 2,258 sf Burger King with drive thru and 1,792 sf retail/restaurant tenant space
7	Stonefield Development	Northwest of Carbon Canyon Road and east of Fairway Drive	Entitled: 28 du single-family homes
8	Morningfield Estates and Loving Savior of the Hills Lutheran Church and School Master Plan Addendum	South of Morningfield Drive, west of Peyton Drive, north of Chino Hills Parkway, adjacent to San Bernardino County Flood Channel	Entitled: 7-Lot Subdivision with semicustom single-family homes, plus 3 classrooms/71 student addition to the Lutheran School
9	Coptic Orthodox Church	East side of Peyton Drive, north of the Chino Creek Drainage Channel and south of the Chino Valley Community Church property	Entitled: 14,695 sf multi-purpose room, 8,645 sf sanctuary and 555 sf bookstore
10	Buddhist Temple of Chino Hills	Northeast of Chino Hills Parkway and Rustic Drive	Entitled: 23,400 sf Buddhist temple expansion



Source: Linscott, Law & Greenspan, 2022

Cumulative Project No.	Project Title	Location/Address	Project Description
11	Goddard School	South of Pomona Rincon Road and east of Picasso Drive	Entitled/Under Construction: 10,587 sf childcare facility/pre-school with two outdoor play areas; 9 classrooms with a capacity of 180 students and 22 employees.
12	Paradise Ranch (T20286)	Canyon Hills Road, north of Hillcrest Development	Proposed/Under Review: 52 du single-family homes
13	Rancho Cielito	48.37 acres is generally located north of Los Serranos Boulevard, south of Lakeview Drive and east of Pipeline Avenue	Proposed/Under Review: 354 residential apartment units, consisting of seven two-story and seven three-story residential carriage buildings, ten three-story residential buildings and two clubhouses.
14	The Rincon	Southwest corner of Soquel Canyon Parkway and SR-71	Entitled: 70,000 sf, 4-story, 119-room Hotel (Holiday Inn Express); Construction plans approved
15	Storage District	Vacant pad in Fairfield Ranch Business Park (to the northeast of the Chino Hills Hotel)	Entitled/Under Construction: 130,139 sf self-storage facility, including a 2,000 sf guest lobby and business service area
16	Hidden Oaks	East of Carbon Canyon Road at Canyon Hills Road	Proposed: 53 du single-family homes
17	Chino Hills Biz Park (formerly Heritage Professional Center)	Pomona Rincon Road (south of The Rincon)	Proposed/Under Review: 113,500 sf office building, 23,000 sf warehouse building, 120- room hotel, and 19,000 sf retail/commercial space
		City of Chino	
18	PL10-0726	Southeast corner of Shaefer Avenue and Central Avenue	13,672 sf offices
19	Chaffey College Expansion	Generally located south of College Park Avenue and west of Eucalyptus Avenue	93.5 acres Junior/Community College
20	College Park Commercial	Generally located south of College Park Avenue and west of Eucalyptus Avenue	7.5 acres commercial park
21	Kamway (PL 14-0929)	Northeast corner of Shaefer Avenue and Central Avenue	21,572 sf industrial building
22	Henry Hong (PL 15-0490)	Northeast corner of Shaefer Avenue and Central Avenue	62,200 sf industrial building
23	Fairfield Inn & Suites	Southwest corner of Yorba Avenue and Eucalyptus Avenue	111-room hotel

Source: Source: Linscott, Law & Greenspan 2021b
du = dwelling units; sf = square feet.

5.2 CUMULATIVE IMPACT ANALYSIS

The following discussion of cumulative impacts includes each environmental topic addressed in Chapter 4 of this EIR. A description of the area of influence for cumulative impacts with respect to each environmental topic is provided, followed by an analysis of the potential cumulatively considerable contributions of the proposed project to any significant cumulative impacts.

5.2.1 Aesthetics

The geographic scope for the aesthetics cumulative analysis includes the City of Chino Hills, primarily focused on the viewshed of the proposed project, which generally includes the portion of SR-71 near the project site and the residential neighborhoods to the north of the project. Additionally, aesthetics cumulative impacts geographic scope would include Prominent and Exceptionally Prominent Ridgelines within the City's Scenic Resources Overlay District.

As discussed in Section 4.1, *Aesthetics*, a Prominent Ridgeline extends onto the project site (refer to Figure 4.1-3). For motorists traveling on SR-71, the project may result in partial or total obstruction of views of the onsite Prominent Ridgeline. According to City Municipal Code Section 16.08.030, these scenic resources are important as they are generally visible at important gateways into the City, from its major transportation corridors/thoroughfares (SR-71, SR-142, arterials, and collector streets). Therefore, the cumulative analysis considers views of these resources from SR-71 and SR-142. There are a number of cumulative projects that occur within close proximity to SR-71. The majority of the Prominent and Exceptionally Prominent Ridgelines are located in the western and southeastern potions of the City, generally surrounding Chino Hills State Park and along the City's western side. Therefore, cumulative projects that lie between SR-71 and the Prominent and Exceptionally Prominent Ridgelines in the western and southeastern potions of the City would have the potential to contribute to cumulative impacts to protected views of Prominent and Exceptionally Prominent Ridgelines. Cumulative projects occurring near to and west of SR-71 include projects 1-4, 6, 11, 13, 14, and 17. Additionally, several cumulative projects occur along SR-142, including projects 7-10, 12, and 16. Cumulative projects 7, 12, and 16 occur further west in the City than other cumulative projects, in areas where Prominent and Exceptionally Prominent Ridgelines are mapped. Other cumulative projects (cumulative projects east of SR-71) would not contribute to impacts on protected views of Prominent and Exceptionally Prominent Ridgelines from SR-71 or SR-142. While the project site is located in the southernmost portion of the City, and includes areas of vacant land around it, many of the cumulative projects that would occur between SR-71 or SR-142 and Prominent and Exceptionally Prominent Ridgelines occur within a more developed portion of the City and would be surrounded by existing development, making completely unobstructed views of Prominent and Exceptionally Prominent Ridgelines less likely. Additionally, SR-71 contains sound walls and adjacent berms in some areas near cumulative projects. Each project would be required to assess impacts to scenic vistas, including Prominent and Exceptionally Prominent Ridgelines. The project would not contribute to a cumulatively considerable impact to protected public views of Prominent and Exceptionally Prominent Ridgelines from SR-71 based on the limited duration of views of the onsite Prominent Ridgeline to motorists on SR-71 for expected durations of 30 seconds as motorists pass through the project vicinity.

For adjacent land uses, such as the single-family residence east of the project site, and the South Trail community to the north of the project site, the cumulative projects are located too far (1.5 mile is distance to the nearest cumulative project, with the remainder of the cumulative projects at distances

of 2.5 miles or greater from the project site) to contribute to a cumulative impact to these adjacent land uses associated with views of Prominent and Exceptionally Prominent Ridgelines.

The project would result in visual changes to the project site, consisting of large-scale grading and development over much of the project site, with the creation of manufactured slopes and MSE walls to support the development of 159 single-family residential homes, a community recreation center, private interior streets, the tank site and three aboveground storage tanks, debris basins, utility infrastructure, and other associated improvements. Public views of the site are limited; views of the project site are available from several north/south oriented roadways in the southern portion of the development and partial views are available from other roadways in the development and from Mystic Canyon Park. Portions of the project site are visible to motorists on SR-71; however, these views are limited in duration for motorists and partially obstructed by topography and intervening vegetation. The proposed development of the project site is consistent with existing land use and zoning designations for the site and would be subject to site plan design and review consistent with City requirements. The project would result in substantial alterations to the visual appearance of the project site; however, public views of the project site are limited and generally obstructed or partially obstructed. With cumulative projects occurring at a minimum distance of 1.5 mile from the project site, and the bulk of cumulative projects occurring 2.5 miles or more from the project site, the project would not result in a cumulatively considerable impact associated with changes to the visual character of the project site.

5.2.2 Air Quality

The geographic scope for the analysis of cumulative air quality impacts is the SCAB. It is appropriate to consider the entire air basin as air emissions can travel substantial distances and are not confined by jurisdictional boundaries; rather, they are influenced by large-scale climatic and topographical features. While some air quality emissions can be localized, such as a CO hotspot or odor, the overall consideration of cumulative air quality is typically more regional. By its very nature, air pollution is largely a cumulative impact.

The SCAB is a federal and state nonattainment area for 8-hour ozone and $PM_{2.5}$. The SCAB is also a state nonattainment area for 1-hour ozone and PM_{10}. The nonattainment status of regional pollutants is a result of past and present development within the SCAB, and this regional impact is cumulative rather than attributable to any one source. Cumulative projects throughout the air basin generate construction and operational air pollutant emissions that contribute to air quality impacts. The thresholds of significance are relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to the existing cumulative air quality conditions. These thresholds are designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. If a project's emissions would be less than those threshold levels, the project would not be expected to result in a considerable incremental contribution to the significant cumulative impact. Additionally, the SCAQMD Air Quality Management Plan (AQMP), in combination with those from all other California nonattainment areas with serious (or worse) air quality problems as part of the State Implementation Plan, is intended to address cumulative impacts in the SCAB based on future growth predicted by growth projections from the local jurisdictions' adopted general plans; therefore, development consistent with the applicable general plan would be generally consistent with the growth projections in the air quality plans and would not result in a cumulative impact.

The proposed project and the other projects in the SCAB would contribute particulates and the ozone precursors VOC and NO_X to the area during short-term construction. As described in Section 4.2, *Air Quality*, emissions during project construction would exceed SCAQMD's daily construction threshold for NO_X. The project incorporates mitigation measure AQ-1, which requires the use of Tier IV off-road construction equipment during project construction activities. With implementation of this measure, NO_X emissions associated with construction activities would be reduced to below SCAQMD's significance threshold. As such, with implementation of mitigation, the project would not violate air quality standards or contribute substantially to an existing or projected air quality violation. As discussed above, growth that is consistent with local jurisdictions' adopted general plans has been considered in the development of the SCAQMD AQMP and State Implementation Plan and would not result in a cumulative impact. As the project is consistent with the City's General Plan, and incorporates mitigation to reduce air quality impacts to below significance thresholds, it would not contribute to a cumulative air quality impact. Therefore, the project's construction emissions would not be cumulatively considerable, and the impact would be less than significant. Long-term emissions would be well below regional thresholds and, therefore, not cumulatively considerable. Since the project would be below regional thresholds and, therefore, not cumulatively considerable, its emissions would be consistent with assumptions in the State Implementation Plan (which is based on population estimates of jurisdictions' General Plans; as the project is consistent with the General Plan, it is included in the assumptions utilized in development of the AQMP and State Implementation Plan), and long-term emissions would not produce a cumulatively significant impact to air quality or human health. As discussed in Section 4.2, no exceedances of LSTs, the CO standard, or substantial generation of TACs would occur as a result of the project. The project also would not result in the creation of odors affecting a substantial number of people. These impacts would be less than significant and not cumulatively considerable.

5.2.3 Biological Resources

The geographic scope for the analysis of cumulative impacts related to biological resources is defined as the City of Chino Hills and immediately surrounding lands. Similar to the proposed project, any cumulative projects in the City that would impact biological resources would be required to mitigate impacts to below a level of significance to the extent feasible. If mitigation would not reduce impacts to a less than significant level, then the combination of multiple projects impacting biological resources could result in a significant cumulative impact.

As discussed in Section 4.3, *Biological Resources*, of this EIR, implementation of the proposed project has the potential to cause significant impacts to sensitive wildlife species, specifically sensitive bat species, coast horned lizard, burrowing owl, and coastal California gnatcatcher, sensitive vegetation communities/habitats, nesting and migratory birds, and trees protected by local ordinances. Mitigation measures BIO-1 through BIO-7 would be implemented to ensure that the proposed project would not result in significant impacts to these biological resources. The proposed Project in combination with cumulative development would have the potential to combine to directly and/or indirectly affect special-status species in the City and surrounding lands, particularly in previously undeveloped and undisturbed areas. As such, cumulative impacts related to sensitive species are considered potentially significant. Sensitive vegetation impacted as a result of the project would be replaced through compensatory mitigation at a ratio of no less than 2:1, as detailed in mitigation measure BIO-5. Thus, the project would not contribute to a cumulative considerable significant impact associated with sensitive vegetation.

The project would also result in impacts to USACE/RWQCB non-wetland waters of the U.S. Compensatory streambed mitigation for permanent impacts to USACE/RWQCB jurisdiction will be required as part of subsequent Section 404/401 permitting requirements. Permanent impacts to USACE/RWQCB jurisdiction shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of jurisdictional streambed at ratio of no less than 2:1. Other projects that would impact jurisdictional resources would be required to mitigate impacts as well, at ratios commensurate with the type and location of the impacts, pursuant to regulatory agency requirements, thereby ensuring that cumulative impacts would result in no net loss of wetlands. Pursuant to BIO-5, and the implementation of applicable mitigation for other projects, construction of the project and other cumulative projects would not result in the net loss of jurisdictional resources. Accordingly, the project would not result in a cumulatively considerable contribution to loss of jurisdictional waters and wetlands. Therefore, implementation of the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact to biological resources.

5.2.4 Cultural Resources

The geographic area for the analysis of cumulative impacts related to historical resources is defined as the City of Chino Hills and surrounding areas. The Conservation Element of the Chino Hills General Plan provides a policy and several related actions to protect Chino Hills' potential historical resources (City 2015a). As discussed in Section 4.4, *Cultural Resources*, of this EIR, the proposed project would impact one historic archaeological site; however, the site was evaluated for historical significance and was determined to not be eligible for federal, state, or local listing. In addition, it is not included on a federal, state, or City register of designated properties; it is also not a contributor to any designated historic district. As such, the project would not result in a significant impact to historical resources, nor would it contribute to a cumulative impact to historical resources.

The geographic area for the analysis of cumulative impacts related to cultural and tribal cultural resources is defined as the City of Chino Hills and surrounding areas. Multiple cumulative projects would involve excavation and other ground-disturbing activities, which allows for the potential for discovering previously unknown buried archaeological resources and human remains. As discussed in Section 4.4, *Cultural Resources*, of this EIR, the proposed project could result in potentially significant impacts to unknown buried archaeological resources. However, mitigation measure CUL-1, consisting of cultural monitoring during ground disturbing activities, would be implemented to ensure that the proposed project would not result in significant impacts to these resources. This mitigation measure would also reduce the proposed project's potential cumulative impacts to unknown buried cultural resources to a less than significant level. Cumulative projects would apply similar cultural resources assessment, consultation, and monitoring requirements to evaluate and mitigate impacts to cultural resources. With implementation of mitigation to reduce impacts to archaeological resources, the project would not contribute to a significant cumulative impact associated with cultural resources.

5.2.5 Geology and Soils

The geographic context for the analysis of cumulative impacts related to geology and soils is the City of Chino Hills and immediately surrounding lands. Geology and soil features can be very specific to certain locations and sites, but can also have broad reaching elements, such as faults and underlying bedrock formations. However, potential geologic or soil hazards resulting from development are generally localized to the site and immediate surrounding lands rather than a broad reaching area. In this way, potential cumulative impacts resulting from seismic and geologic hazards would be minimized on a

site-by-site basis to the extent that standard construction methods and code requirements provide. Throughout the City, cumulative projects would also be susceptible to similar geologic hazards. The specific geologic condition of each individual project site, soil type, and project excavation requirements would dictate the severity of the potential geologic risks.

As described in Section 4.5, *Geology and Soils*, all potential site-specific geotechnical impacts would be avoided or reduced below a level of significance through implementation of mitigation measure GEO-1, which requires a setback of 50 feet for all structures associated with the project from the existing on-site fault; through adherence to the recommendations contained in the project's Preliminary Geotechnical Review; and through compliance with the CBC. These measures would all be required as project conditions of approval and incorporated into the construction contract specifications. Additionally, paleontological monitoring for the project, required as mitigation measure GEO-2, would ensure impacts to paleontological resources are less than significant. Mitigation measure GEO-2 requires paleontological monitoring during all initial cutting, grading, or excavation of previously undisturbed areas, and implements a plan for evaluation, documentation, and curation of fossils that may be encountered, when appropriate. Specifically, with the exception of erosion/sedimentation (as discussed below), potential geology and soils effects are inherently restricted to the areas proposed for development and would not contribute to cumulative impacts associated with other planned or proposed development. That is, issues including ground rupture, ground acceleration, liquefaction and related effects, landslides/slope stability, expansive/corrosive soils, subsidence/ shrinkage, settlement, and shallow groundwater would involve effects to (and not from) the site and/or are specific to on-site conditions. Accordingly, addressing these potential hazards for the project would involve using measures to conform to existing requirements and/or site-specific design and construction. Because of the site-specific nature of these potential hazards and implementation of mitigation measures GEO-1 and GEO-2 to address them, as well as the fact that the listed cumulative projects would also be subject to the noted standards, associated potential cumulative impacts related to the identified geology and soils issues would be less than significant.

During construction of the project, graded areas would be exposed to potential erosion and sedimentation impacts. Project-related erosion and sedimentation could contribute to associated cumulative effects in concert with other existing and future development in the project vicinity. Project implementation, however, would include a number of avoidance and minimization measures related to erosion and sedimentation impacts, including the types of BMPs described in Section 4.8*, Hydrology and Water Quality*. These (or other appropriate) measures in the project SWPPP (which is required by mitigation measure HYD-1) would ensure conformance with applicable federal (NPDES), state and local regulatory standards related to erosion and sedimentation, and would reduce any project-related contribution to cumulative impacts involving construction-generated erosion and sedimentation to below cumulatively significant levels. Erosion and sedimentation are not considered to be significant long-term concerns at the project site, as developed areas would be stabilized through installation of associated structures/hardscape and landscaping. As the cumulative projects listed in Table 5-1 would exhibit similar long-term conditions, the project would not result in a cumulatively considerable contribution to long-term erosion and sedimentation.

Overall, cumulative projects would be subject to the same regulations and engineering practices as the project, such as the City's Erosion Management Ordinance (Municipal Code Chapter 16.54.010), storm water regulation and associated BMPs, as well as CBC requirements. Potential cumulative impacts related to geology and soils would be less than significant.

5.2.6 Greenhouse Gas Emissions

The geographic scope of consideration for GHG emissions is global, as such emissions contribute, on a cumulative basis, to global climate change. By nature, GHG impacts are cumulative as they are the result of combined worldwide emissions over many years, and additional development would incrementally contribute to this cumulative impact. The discussion presented in Section 4.6, *Greenhouse Gas Emissions*, also serves as the project's cumulative impact analysis.

As detailed in that section, a number of plans, policies, and regulations have been adopted for the purpose of reducing cumulative GHG emissions. The project would be constructed consistent with the energy-efficiency standards, water reduction goals, and other standards contained in the 2022 Title 24 Part 6 Building Energy Efficiency Standards and Part 11 (CALGreen) Building Standards, or the code in place at the time building permit applications are submitted, including the requirement for onsite solar electricity generation. The San Bernardino County Regional Greenhouse Gas Reduction Plan shows that the City will reduce its community GHG emissions to a level consistent with CARB's per capita GHG reduction target for 2030 through consistency with state mandates including the Pavley vehicle standards, the state's low carbon fuel standard, and the RPS. Therefore, through mandatory compliance with state GHG reduction measures, the project would be consistent with the San Bernardino County Regional Greenhouse Gas Reduction Plan. As a result, the project would not result in a cumulatively considerable contribution to impacts related to GHG emissions.

5.2.7 Hazards and Hazardous Materials

As discussed in Section 4.7, *Hazards and Hazardous Materials*, the project is a residential use and would not generate new hazards or hazardous materials. Clean-up of existing on-site hazardous substances from past and/or existing uses would result in a reduction of hazardous materials. Consequently, the Project would not generate hazardous materials impacts that could combine with impacts from other projects to result in cumulative impacts. Therefore, the geographic scope for the analysis of cumulative impacts related to hazardous materials is defined as the project site and adjacent properties. The cumulative projects listed in Table 5-1 mainly consist of residential, commercial, institutional, and office uses; two of the cumulative projects, located in the City of Chino, propose industrial land uses that could require the transportation, use, or disposal of hazardous materials other than those typically present in residential, commercial, institutional, and office settings in small quantities. It is likely that all cumulative projects would require small amounts of hazardous materials to be present at each of the sites during the construction period, and would consist of lubricants, fuels, oils, cleaners and other such items typical of construction activities. Accordingly, each cumulative project would be required to comply with all applicable federal, state, and local regulations related to the handling and storage of hazardous materials, including the requirements for spill containment and cleanup procedures. Proper handling and storage of hazardous materials would minimize the potential for accidental spills, while implementation of spill containment and cleanup procedures would prevent significant hazard to the public or the environment in the event of accidental spills. Any cumulative project that proposes development of a potential hazardous materials site would be required to remediate the existing site contamination consistent with applicable regulations. Therefore, significant cumulative impacts related to hazardous materials would not occur.

The geographic context for the analysis of cumulative impacts related to emergency response and evacuations plans is the City of Chino Hills and immediately surrounding areas. The cumulative projects listed in Table 5-1 may require temporary roadway closures during construction that could cumulatively

impede emergency access and/or evacuation routes throughout Chino Hills. The City requires traffic control plans for any construction activity that would disrupt traffic flow on city streets and project conditions of approval would require that emergency access be maintained during construction. Each project would be required to undergo City (Chino Hills or Chino) and CVFD review of project applications, including site plan review to ensure adequate access to and from the site and within each project would be provided. As discussed in Section 4.7, *Hazards and Hazardous Materials*, of this EIR, the project would result in significant impacts related to emergency access, due to an existing separation deficiency for the two project access points at Via La Cresta and Shady View Drive; however, mitigation which requires that all structures within the proposed development be constructed per the 2019 California Residential Code Section R337 and be protected with National Fire Protection Association (NFPA) 13-D automatic fire sprinklers would reduce the project's significant emergency access impact to a less than significant level. Thus, implementation the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact related to emergency response and evacuation plans.

5.2.8 Hydrology and Water Quality

The geographic scope for analysis of impacts related to hydrology and water quality is the Santa Ana River Hydrologic Unit. Lands and water bodies within the watershed are part of an interrelated hydrologic system, such that modifications to a portion of a watershed or water pollution produced by development in one location may result in hydrology and water quality impacts that affect other water bodies in the watershed.

To the extent that other projects listed in Table 5-1 would be developing/operating at the same time as the project, related construction and operation activities could contribute to potential cumulative hydrology and water quality impacts associated with runoff generation, flooding hazards, drainage alteration, hydromodification, and water quality concerns. As described in Section 4.8, *Hydrology and Water Quality*, implementation of the project would require conformance with a number of regulatory requirements related to hydrology and water quality, including applicable elements of the CWA, NPDES, City storm water standards, FEMA floodplain standards, and RWQCB Basin Plan. Cumulative projects would also be required to comply with these regulatory requirements related to hydrology and water quality. Based on such conformance, including implementation of related project design measures, all identified project-level hydrology and water quality impacts associated with the project would be effectively avoided or reduced below a level of significance.

The described regulatory requirements constitute a regional effort to implement hydrology and water quality protections through a watershed-based program designed to meet applicable criteria such as Basin Plan Beneficial Uses and Water Quality Objectives. To this end, these standards require the implementation of efforts to reduce runoff/contaminant discharges and related effects to the maximum extent practicable, with the NPDES Municipal Permit identifying the specific goals of limiting or prohibiting storm water and non-storm water discharges, and promoting attainment of water quality objectives necessary to support designated beneficial uses. Based on the described regional/watershed-based approach required for hydrology and water quality issues in existing regulatory standards, as well as the fact that conformance with these requirements would be required for all identified projects within the cumulative projects area (including the project), cumulative hydrology/water quality impacts would be less than significant.

5.2.9 Land Use

The geographic scope for the land use cumulative analysis includes the City of Chino Hills. Land uses and development patterns are typically established in local land use planning documents specific to jurisdictions but can have implications on surrounding areas.

The physical division of a community is a site-specific impact, and in general, would not be cumulatively considerable unless multiple cumulative projects were located in very close proximity or adjacent to each other. The nearest cumulative project (cumulative project 3) is located approximately 1.5 mile north of the project site, and the other cumulative projects are located 2.5 miles (cumulative project 11) or further (the remaining cumulative projects) from the project site. As such, the project, combined with other cumulative projects would not result in a physical division of an established community and no cumulative impact would occur.

Cumulative projects within the City that are not consistent with existing land use designations would require approval of a General Plan amendment, as applicable. Projects that require a General Plan amendment are required to demonstrate conformance with pertinent goals, policies, and recommendations. The proposed project would be consistent with the General Plan as is demonstrated for the project in Section 4.9, *Land Use*, of this EIR. Additionally, the project would be consistent with the City's Development Code, SCAG's 2020 RTP/SCS, SCAQMD's AQMP, and the Santa Ana River Basin Plan, as discussed in detail in Section 4.9 of this EIR. As the project would not result in a significant impact related to consistency with applicable planning documents, the project would not result in a cumulatively considerable contribution to a land use compatibility impact.

5.2.10 Noise

The geographic scope for this analysis is the area immediately surrounding the project site and roadways that would be used by resident vehicles. Generally, noise impacts are limited to the area directly surrounding the noise generator, as noise attenuates with distance and only has the potential to combine with other noise sources in the immediate vicinity.

The project would temporarily elevate existing ambient noise levels at adjacent and nearby residential properties due to construction noise. Given the distance to the nearest cumulative project (cumulative project 3), which is located approximately 1.5 miles from the project site, and the distance of 2.5 miles or more for the remainder of the cumulative projects, the project would not contribute to a cumulative construction noise impact. In regards to groundborne vibration, project construction may include the use of equipment, such as a vibratory roller, that would generate vibration; however, such effects would be temporary and limited to daytime hours and the sort-tern construction period. Given the distance of 1.5 miles to the nearest cumulative project, vibrations associated with construction equipment from the project would not be cumulatively considerable with other cumulative projects. In addition, construction activities from the proposed project and cumulative projects would be required to comply with Municipal Code Section 8.08.020 that regulates construction activities. Therefore, cumulative construction noise and vibration impacts would not occur.

Cumulative noise effects resulting from the proposed project primarily would be associated with projected traffic volumes, which would combine with noise resulting from cumulative traffic volumes generated by other projects. The Noise Assessment Study performed for the proposed project (Appendix L) provides a comparison between existing noise levels and future noise levels, modeled using

cumulative projects' traffic data from the Traffic Study. The results of the traffic noise modeling for the existing, existing plus project, cumulative (year 2040, including growth and anticipated projects), and cumulative plus project scenarios is provided in Table 4.10-5 in Section 4.10, *Noise*. As shown in Table 4.10-5, the project changes in CNEL in the cumulative condition (2040) would result in changes in CNEL along analyzed roadway segments ranging from no change (0.0) on Butterfield Ranch Road between Brookwood Lane to Twin Knolls Drive to an increase of up to 6.6 CNEL along Shady View Drive between the project boundary and Mystic Canyon Drive. With the exception of the roadway segment along Shady View Drive between the project boundary and Mystic Canyon Drive (which doesn't contain through traffic in the current condition), all other analyzed roadway segments would result in CNEL increases of 1.0 or less. Existing and future noise levels along the analyzed segments of Butterfield Ranch Road exceed the 65 CNEL exterior noise compatibility level without the project. However, with the addition of project traffic the maximum increase in noise levels along Butterfield Ranch Road would be 0.2 dBA, below the 3.0 dBA level of a perceptible change in noise in typical urban outdoor environments. Accordingly, the proposed project's contribution to cumulative noise impacts would be less than cumulatively considerable.

5.2.11 Public Facilities and Services

The geographic scope for analysis of public facilities and services is the City of Chino Hills and immediately surrounding areas. The provision of public services and facilities is often specific to jurisdictional providers or confined by set service boundaries and funding specifications. Public facilities and services generally serve residents on a community-wide basis. Typically, changes in development influence the demand for public services and related facilities to be provided within a local city, county, or service district.

Regarding schools, as discussed in Section 4.11, *Public Facilities and Services*, the schools serving the project site are not currently operating at capacity, with remaining capacities of 115 students at Butterfield Ranch Elementary, 190 students at Townsend Junior High, and 436 students at Chino Hills High School. The project, as well as other cumulative projects, would be required to pay school mitigation fees that would serve as mitigation for project-related impacts to school facilities. In terms of the project and cumulative projects resulting in a cumulative increase in classroom demand, only eight cumulative projects (cumulative projects 1-4, 11, 13, 14, and 17) are proposed within the same attendances areas for the junior high and high school serving the project (Townsend Junior High and Chino Hills High School, respectively; Chino Valley Unified School District (CVUSD) 2022a and 2022b), and only one cumulative project (cumulative project 3) occurs within the attendance area boundary for Butterfield Ranch Elementary School (CVUSD 2022c). Of the eight cumulative projects that occur within the attendance areas for Townsend Junior High and Chino Hills High School, only five of the projects consists of residential uses (cumulative projects 1-4 and 13) with projects 1 and 2 being partially built and occupied already. While these projects would cumulatively contribute to increase classroom demand within the respective schools, the schools currently have excess capacity ranging from 115 to 436 students. Additionally, the project mitigation fees for each project would provide a means for funding additional capacity; however, the cumulative projects could contribute to a temporary cumulative impact associated with classroom demand in the short-term. However, this impact would be less than significant due to its temporary nature and the payment of mitigation fees by each cumulative project.

As discussed in Section 4.11, *Public Facilities and Services*, CVFD provides fire protection and emergency medical services in the cities of Chino Hills and Chino, and surrounding unincorporated areas. The City

has contracted with the San Bernardino County Sheriff's Department, which operates as the Chino Hills Police Department. The proposed project and 9 of the cumulative projects listed in Table 5-1 include residential development within Chino Hills that could introduce new residents into the City. The total number of residential units proposed from the cumulative projects excluding the proposed project is 1,000 units citywide. Including the proposed project, the number of proposed new residential units would potentially be 1,159. New residents would contribute to an increase demand for public services such as fire protection, police protection, schools, parks, and other public facilities. Additionally, non-residential cumulative projects would contribute to increase demands for police and fire protection services. Cumulative projects within the City of Chino would contribute to increased fire demand as CVFD services both Chino Hills and Chino, but would not contribute to increase demand on the Chino Hills Police Department, city parks, and other public facilities within Chino Hills.

However, similar to the project, cumulative projects would be required to pay development impact fees and would generate sales and property taxes over time, that would help to offset the additional costs to public service providers. These fees allow the City to have a source of funding available to provide new or additional facilities necessary to achieve and maintain adequate public service provision per population-based requirements and development as it occurs within an area. Development impact fees would be required to be paid prior to building permit issuance. Therefore, the potential for cumulative environmental impacts associated with public services and facilities effects would be minimized. For these reasons, the project would not result in a cumulatively considerable contribution to impacts related to public services and facilities.

5.2.12 Transportation

The geographic scope for the analysis of cumulative impacts related to transportation is defined as the City of Chino Hills and immediate surrounding areas.

OPR's guidance on methodology for cumulative impacts are based on a determination of whether the "incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probably future projects." When using total VMT as a metric, analyzing the combined impacts for a cumulative impacts analysis may be appropriate. A project that falls below the VMT threshold that is aligned with the long-term goals and relevant plans has no cumulative impact distinct from the project impact. Accordingly, a finding of a less than significant project impact would imply a less than significant cumulative impact, and vice versa. As discussed in Section 4.12, *Transportation*, the project would result in significant and unmitigable VMT impacts, and as such, would result in a significant cumulative impact.

5.2.13 Tribal Cultural Resources

The geographic area for the analysis of cumulative impacts related to tribal cultural resources is defined as the City of Chino Hills and surrounding areas. Multiple cumulative projects would involve excavation and other ground-disturbing activities, which allows for the potential for discovering previously unknown buried tribal cultural resources. As discussed in Section 4.13, *Tribal Cultural Resources*, of this EIR, the proposed project could result in potentially significant impacts to unknown buried tribal cultural resources. However, tribal outreach has resulted in the provision of mitigation measures for Native American monitoring; discovery of TCRs, human remains, and/or grave goods; and procedures for burials, funerary remains, and grave goods, which have been incorporated into the project mitigation (mitigation measures TCR-1 through TCR-3). Thus, the project is not expected to contribute to

cumulative impacts within the region to cultural tribal resources, and with the application of similar cultural resources/tribal assessment, consultation and monitoring requirements to the other cumulative projects as well, cumulative impacts to historical and tribal resources would be less than significant.

5.2.14 Utilities

The geographic scope for the public utilities cumulative analysis is the City of Chino Hills and surrounding areas. Public utilities can be specific to jurisdictions; however, some service providers offer service throughout a region and across multiple jurisdictions. Thus, changes in development influence the demand for utilities across the region and can drive the need for new or expanded utility infrastructure. Pending and future projects would be required to analyze public utilities demand and supply to avoid conflicts and provide upgrades or development impact fees toward new infrastructure facilities, as needed.

The City's 2020 UWMP projects that in cooperation with its member agencies, the City will be able to provide 100 percent of retail water demands during average, dry, and multiple-dry-year scenarios over the next 25 years (City 2021h). The 2020 UWMP develops water demands based on expected growth over the next 25 years. Based on expected General Plan growth (which includes the development of the project site and cumulative projects that are consistent with existing General Plan land use designations), the 2020 UWMP determined that sufficient water supplies would be available to serve the project in conjunction with other development. The project also would not result in the need for new or altered off-site water systems.

As discussed in Section 4.14, *Public Utilities*, CCWRF and Regional Plant No. 2 have existing capacity to handle flows from the proposed project and the City's General Plan has indicated that capacity at current wastewater treatment facilities is expected to be adequate to serve the City's wastewater requirements through year 2030 (City 2015a), which would include cumulative development consistent with the General Plan. Existing wastewater conveyance and treatment infrastructure would be adequate to serve the project and cumulative development projects.

The project and cumulative projects would be required to comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

The project would not result in a need for new off-site public utility systems or infrastructure or require substantial alterations to existing off-site utilities or infrastructure. The existing off-site utilities systems that currently serve the project area would be sufficient in serving the project. Therefore, the project would not result in a cumulatively considerable contribution to public utilities impacts when viewed together with past, present, and reasonably foreseeable future projects.

5.2.15 Wildfire

The geographic scope for the wildfire cumulative analysis is the City of Chino Hills and surrounding areas. Wildfires are unpredictable and given the right conditions, can spread over large areas. However, for the purposes of this analysis and the required compliance with fire regulations, including state and local requirements, the cumulative analysis considers the local area that would be prone to wildfire.

Cumulative projects 7, 12, and 16 are located within the City-designated Fire Hazard Overlay District. Cumulative project 16 is also located within the VHFHSZ. The proposed project and cumulative projects within fire hazard areas would be designed and constructed in accordance with applicable regulations,

including CFC, Chapter 7A of the Building Code, Section R337 of the California Residential Code, and the requirements of Municipal Code Chapter 16.06.160, *Fire Resistive Design Requirements*. Such projects would be subject to City and CVFD review of design and construction plans to ensure compliance with applicable requirements, including the provision of fuel modification zones, where applicable. Applicable regulatory standards are designed to minimize the potential for uncontrolled fires. As discussed in Section 4.15, *Wildfire,* the project would incorporate mitigation to reduce significant impacts associated with wildland fire risk of loss to a less than significant impact. Cumulative projects within fire hazard zones would be required to demonstrate less than significant wildfire risk impacts or implement mitigation measures to reduce risk of loss from wildland fires. Similarly, each cumulative project would be required to demonstrate adequate emergency access as part of the design review and City and CVFD project approval process. Each cumulative project would be required to incorporate design measures or mitigation to ensure that emergency access is provided and maintained for the project. As mitigation would reduce the project's impact associated with wildfire risk of loss and emergency access impacts to a less than significant level, the project would not contribute to significant cumulative impacts.

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6.0 OTHER MANDATORY DISCUSSION AREAS

This chapter addresses the issues of effects found not to be significant, growth inducement, significant effects which cannot be avoided if the proposed project is implemented, and significant irreversible environmental changes.

6.1 EFFECTS FOUND NOT TO BE SIGNIFICANT

The scope and content of this EIR was determined as a result of initial project review, preparation of an Initial Study, as well as consideration of comments received in response to the NOP, and a scoping meeting. The Initial Study, NOP, scoping meeting materials, and NOP comment letters are included in Appendix A of this Draft EIR. Based upon the Initial Study and the scoping process for the project, the City has determined that the project would not have the potential to cause significant impacts associated with the following issue areas:

- Agriculture and Forestry Resources;
- Energy;
- Mineral Resources; and
- Population and Housing.

Additionally, during the preparation of the Initial Study and scoping process for the project, the City has determined that at least one CEQA threshold for following resource topics would not have the potential to cause significant impacts. The thresholds that were determined to be not significant during the Initial Study and scoping process for the EIR are summarized below, with the remainder of the thresholds associated with the issue areas being discussed in the appropriate sections of this EIR. The issue areas that were determined to have at least one threshold for which the project would not result in significant effects include the following:

- Aesthetics (damaging resources with a state scenic highway; light and glare);
- Air Quality (odors);
- Biological Resources (adopted Habitat Conservation Plans or Natural Community Conservation Plans);
- Cultural Resources (disturbing human remains);
- Geology and Soils (septic tanks);
- Hazards and Hazardous Materials (airport land use plans);
- Hydrology and Water Quality (flooding in tsunami or seiche zones);
- Noise (exposure to excessive airport noise); and
- Utilities (wastewater).

6.1.1 Agriculture and Forestry Resources

The project site is not located on designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and the project would not convert farmland to non-agricultural uses. There are no agricultural uses or activities that occur within the project site or surrounding area. No land on or near the project site is currently planned or used for agricultural production. A portion of the project site is zoned Agriculture-Ranch (R-A). The R-A zoning designation is a residential designation that provides for the preservation of large lot residential uses with related agricultural operations. The portion of the

project site with the R-A zoning designation is planned for debris basins, the relocated tank site, and open space uses. The site is not designated for agricultural use nor is it listed under a Williamson Act contract. No forest land, timberland, or land zoned for timberland production is present on the project site or in the surrounding area. Therefore, the project would not have the potential to affect farmland, forest land, timberland, or agricultural or forestry operations. No impact would occur.

6.1.2 Energy

6.1.2.1 Construction-related Energy Use

During construction of the project, temporary electric power for as-necessary lighting and electricity-powered tools would be provided by Southern California Edison. The electricity used for construction activities would be temporary and would have a negligible contribution to the project's overall energy consumption. Natural gas may be consumed as a result of project construction; however, its use would be temporary and negligible. Fuels used for construction activities would primarily consist of diesel and gasoline. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction and would include the transportation of construction materials and construction worker commutes to the project site. Heavy-duty construction equipment associated with construction activities, as well as haul trucks involved in the removal of construction and demolition materials, would consume petroleum-based fuel. Construction workers would travel to and from the project site throughout the duration of construction, presumably in gasoline-powered vehicles. While construction activities would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. The petroleum consumed during project construction would be typical of similar construction projects and would not require the use of new petroleum resources beyond what are typically consumed in California. Based on these considerations, construction of the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Impacts would be less than significant.

6.1.2.2 Operation-related Energy Use

Once the proposed project construction is completed, electricity and natural gas would be required for multiple purposes during long term operation of the project, including, but not limited to, building heating and cooling, lighting, appliances, and electronics. Project electricity and natural gas would be supplied by Southern California Edison and Southern California Gas Company. The proposed project would be designed to achieve 2022 Title 24 energy standards, at a minimum, through implementation of energy-reduction measures, such as energy-efficient lighting and appliances, water-efficient appliances and plumbing fixtures, water-efficient landscaping and irrigation, and the on-site generation of renewable solar energy. The project would include a number of sustainability features, as detailed in Chapter 3.0, *Project Description*, which would serve to reduce electrical energy demands of the project. Solar panels are proposed to be installed on each residential unit, and all homes would be fitted with EV capable infrastructure. Implementation of the project would not result in a substantial increase in demand of local or regional energy supplies compared to existing conditions, and would not result in wasteful, inefficient, or unnecessary consumption of energy. Impacts would be less than significant.

During operations, the majority of fuel consumption resulting from the project would involve the use of motor vehicles traveling to and from the project site, as well as fuels used for alternative modes of transportation that may be used by residents. It should be noted that over the lifetime of the project, the fuel efficiency of vehicles is expected to increase. As such, the amount of gasoline consumed as a

result of vehicular trips to and from the project site during operation is expected to decrease over time. Based on these considerations, petroleum consumption associated with the proposed project would not be considered inefficient or wasteful, and impacts would be less than significant.

As discussed above, the project would be consistent with the requirements of 2022 Title 24 Building Energy Efficiency Standards through implementation of energy-reduction measures. Relevant energy conservation plans specific to Chino Hills include the City's General Plan Housing Element, specifically Goal H-3, which aims to ensure that new housing in the City is sensitive to the natural environment by encouraging the use of energy conservation design and concepts. The project would not conflict or obstruct any local or state plans for renewable energy or energy efficiency. Impacts would be less than significant.

6.1.3 Mineral Resources

According to the General Plan, no significant mineral deposits are known to exist in the City (City 2015a), and as such, no significant mineral deposits are expected to be present at the project site. No mining operations exist on or in the vicinity of the project site, and no mining activities are proposed by the project. While oil extraction is occurring in the vicinity, and the project site contains some existing oil infrastructure (tanks and associated piping), this infrastructure would be relocated as part of the project and the project would not affect the oil extraction activities occurring in the area. For these reasons, the project would not result in a loss of availability of a known mineral resource that would be of value to the region and residents of the state and impacts would be less than significant. The City's General Plan does not depict locally-important mineral resources as occurring in the project vicinity. The project would not result in the loss of availability of locally-important mineral resource recovery sites; therefore, no impact would occur.

6.1.4 Population and Housing

According to the General Plan, the City has experienced rapid residential growth since its incorporation in 1991. The current RTP/SCS, adopted in September 2020, is for the planning period 2020–2045 and indicates that total Citywide population grew from 48,041 in 1993 to 79,700 in 2016 and forecasts a total population of 92,800 in 2045 (SCAG 2020). SCAG data indicates the total number of households in the City grew from 16,286 in 1993 to 23,800 in 2016, with a projection of 28,000 households in the City for 2045. Growth inducing impacts are a result of those characteristics of a project that foster or encourage population and/or economic growth. These characteristics include adding residential units, expanding infrastructure, or generating employment opportunities. The project proposes 159 single-family dwelling units and associated features. Based on an average household size of 3.37 people (City 2019), the proposed project is expected to have a population of approximately 536. However, the population increase would be consistent with projections made by SCAG and as planned for in the General Plan. The project site does not contain existing residents or dwelling units. The proposed project would not remove housing; therefore, it would not displace substantial numbers of people and would not necessitate the construction of housing elsewhere. The project would increase the availability of housing in the area. As such, project impacts associated with population and housing would be less than significant.

6.1.5 Aesthetics

6.1.5.1 State Scenic Highway

Based on a review of the California Scenic Highway Mapping System, the project site is not located within or in proximity to a State-designated scenic highway (Caltrans 2019). However, the Riverside County portion of SR-71 is designated as an eligible scenic highway. This portion of SR-71 is located to the east of the project site. While this portion is eligible, it is not officially designated as a scenic highway. No scenic highways within Chino Hills have been designated by the state or the City. According to the General Plan Final EIR, there are no candidates for the scenic highway land use designation. As such, no impact related to damaging scenic resources within a state-designated scenic highway would occur.

6.1.5.2 Light and Glare

The project would introduce new sources of light to the site. The project would include on-site lighting for residential units, pedestrian pathways, landscaping, and signage. Residential lighting would be placed on each residential unit. Residential lighting fixtures would conform to dark sky standards, incorporating hoods or other design elements that would direct light downward toward pedestrian walkways. Exterior residential lighting would be high-efficacy with a typical carriage light on each unit. Residential light fixtures would vary with the different architectural themes proposed for the development and would be consistent with the style of the residential unit. Street lights would be installed along the extended Shady View Drive and Via La Cresta, as well as along the 11 new interior streets. Street lighting would be consistent with other street lights throughout the City and would comply with City requirements. Lighting would also be included within all project amenity areas, with the exception of the preserved open space area. Amenity lighting would be appropriate for their location and would be designed to meet the requirements of the City's Municipal Code. As such, impacts associated with new lighting at the project site would be less than significant.

Glare impacts can occur because of artificial light or sunlight reflecting off of a surface. Glare can create discomfort or present safety concerns. The project would be constructed with primarily stucco facades with wood and brick accents. Roofing material would consist of concrete tile. Such architectural elements are not sources of glare. Glass would be limited to windows and doors, typical of residential construction, and no other highly reflective surfaces would be provided. The number of windows and overall surface area of glass on the homes would not be at a scale to generate adverse glare effects. Solar panels on the residential units would be constructed of non-reflective, non-glare material.

6.1.6 Air Quality

6.1.6.1 Odors

According to the SCAQMD *CEQA Air Quality Handbook*, land uses that are associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding facilities (SCAQMD 1993). As a development consisting of residential uses, the project does not include any of these uses that have been identified as being associated with objectionable odors. Thus, the project is not expected to result in objectionable odors, or other nuisance emissions that adversely affect a substantial number of people.

Emissions from construction equipment, such as diesel exhaust, and VOCs from architectural coatings and paving activities may generate odors; however, these odors would be temporary, intermittent, and not expected to affect a substantial number of people. Additionally, noxious odors would be confined to the immediate vicinity of construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Furthermore, short-term construction-related odors are expected to cease upon the drying or hardening of the odor-producing materials. Long-term operation of the project would not be a substantial source of objectionable odors. Such odors or other emissions would not be sufficient to adversely affect a substantial number of people or result in a nuisance as defined by SCAQMD Rule 402. Therefore, impacts associated with objectionable odors or other nuisance emissions would be less than significant.

6.1.7 Biological Resources

6.1.7.1 Adopted Habitat Conservation Plans or Natural Community Conservation Plans

The General Plan Final EIR indicates that the General Plan supports the conservation of Chino Hills State Park, and that no other Habitat Conservation Plans (HCPs) occur within the City. The project site is not located within an HCP or Natural Community Conservation Plan (NCCP). Therefore, the development of the project site would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP. Therefore, no impact would occur.

6.1.8 Cultural Resources

6.1.8.1 Human Remains

No cemeteries, formal or informal, have been identified or are known to be present on-site or within the project vicinity; however, it is possible for human remains to be discovered during certain construction activities, such as grading. In the event of such discovery, Health and Safety Code Section 7050.5 requires that no further disturbance occurs until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD). The MLD may inspect the site of the discovery of the Native American remains and may recommend means for treating, with appropriate dignity, the human remains and any associated grave goods. The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning the treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This would also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (Assembly Bill) [AB] 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction. With compliance with these Code requirements, impacts to human remains would be less than significant.

6.1.9 Geology and Soils

6.1.9.1 Septic Tanks

The project does not propose the use of septic tanks. Structures would be connected to the existing sewer system for disposal and treatment of wastewater. No impact would occur.

6.1.10 Hazards and Hazardous Materials

6.1.10.1 Airport Land Use Plans

The nearest airport to the project site is Chino Airport, located approximately three miles to the northeast of the site. The site is not addressed in the Chino Airport Land Use Plan (San Bernardino County Airport Land Use Commission 1991) or included within an airport safety zone (City 2015c). No impact would occur.

6.1.11 Hydrology and Water Quality

6.1.11.1 Flooding in Tsunamis or Seiche Zones

As discussed in section 4.8.5.4, the project site is not located within a known flood hazards zone or in proximity to an open water body, and the site is approximately 25 miles from the Pacific Ocean at the closest point. The project site is not located within the delineated flood boundaries of the Prado Basin to the east of the site. The project is not located within close proximity to large, open bodies of water that would subject the project site to a seiche (a seiche is an oscillation or series of oscillations in an enclosed waterbody). There is a water tank approximately 0.7 mile northwest of the project site, but it is enclosed and would not result in impacts to the site due to a seiche. The Pacific Ocean is located approximately 25 miles from the project site; consequently, there is no potential for the project site to be inundated by a tsunami. Thus, implementation of the project would not risk the release of pollutants due to project inundation from tsunami or seiche. No impact would occur.

6.1.12 Noise

6.1.12.1 Airport Noise

The project is subject to some aircraft noise and is located approximately 3 miles northwest of the Corona Municipal airport, approximately 3.2 miles southwest of the Chino Airport, and approximately 9 miles southwest of the Ontario International Airport. The project site is not located within the airport influence area or 65 CNEL noise contour for any of those airports (Riverside County Airport Land Use Commission 2004; San Bernardino County Airport Land Use Commission 1991; City of Ontario 2011). The City, and thus, the project site, is located outside the 65 dBA CNEL noise impact zone for the Chino Airport (City 2015c). Implementation of the proposed project would not affect airport operations. The project would not expose people residing or working in the project area to excessive noise. The impact would be less than significant, and no mitigation would be required.

6.1.13 Utilities

6.1.13.1 Wastewater

Wastewater collection and conveyance within the City is provided by the City's Sewer Division. The southern portion of the City, in which the project site is located, is served by the IEUA Carbon Canyon Water Recycling Facility that works in tandem with IEUA's Regional Plant No. 2 and serves the areas of Chino, Chino Hills, Montclair, and Upland. The City of Chino Hills Storm Drain Master Plan and the Water, Recycled Water, and Sewer Master Plan anticipate the infrastructure improvements needed to serve current and expected development. The City's wastewater collection system conveys the entire City collected wastewater to the IEUA for treatment and reuse, or disposal. Capacity at current wastewater treatment facilities is expected to be adequate to serve the City's wastewater requirements through the year 2030 (Chino Hills 2015a). According to the General Plan, an extensive wastewater infrastructure system is already in place in the developed portions of the City. Sewer lines are relatively new and in good condition in the majority of the City and can accommodate additional development proposed under the General Plan (Chino Hills 2015a). The impact would be less than significant, and no mitigation would be required.

6.2 GROWTH INDUCEMENT

CEQA Guidelines Section 15126.2(e) requires that EIRs include an evaluation of potential growth inducement impacts to "Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." This can include projects which remove obstacles to population growth, such as through the provision of expanded public utility capacity that may allow additional construction in the associated service area (e.g., the major expansion of a wastewater treatment plant). The referenced CEQA Guidelines section also notes that "It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

6.2.1 Short-term Effects

During the project construction phase, demand for various construction trade skills and labor would increase. It is anticipated that this demand would be met by the local labor force and would not require importation of a substantial number of workers that could cause an increased demand for temporary or permanent housing in this area. Therefore, the project would not result in a significant short term growth inducing impact. Rather, the project would provide a public benefit by providing new employment opportunities for the community during the construction period.

6.2.2 Long-term Effects

Growth inducing impacts are a result of those characteristics of a project that foster or encourage population and/or economic growth. These characteristics include adding residential units, expanding infrastructure, or generating employment opportunities. As discussed in section 6.1.*4 Population and housing* above, the project proposes 159 single-family dwelling units and associated features. Based on an average household size of 3.37 people (City 2019), the proposed project is expected to have a population of approximately 536 people. However, the population increase would be consistent with projections made by SCAG and as planned for in the General Plan. According to the General Plan, the City has experienced rapid residential growth since its incorporation in 1991. The current RTP/SCS,

adopted in September 2020, is for the planning period 2020–2045 and indicates that total Citywide population grew from 48,041 in 1993 to 79,700 in 2016 and further to 82,661 in 2021, and forecasts a total population of 92,800 in 2045 (SCAG 2020, City 2021). Thus the 536 estimated net new residents generated by the project would represent 5.3 percent of the population growth forecasted by SCAG. Therefore, the projects residents would be well within SCAG's population projections and would not result in a significant growth inducing impact. The project would not cause an exceedance of SCAGs employment projections contained in the 2020-2045 RTP/SCS and the Project would be unlikely to create an indirect demand for additional housing or households in the area. The project would require the extension of utility services from the neighboring development to the project site, However, no new utilities or service systems will be required because of this project.

Based on the availability of existing water infrastructure to serve the project and the adequate water supply projected for the City and expected General Plan growth (which includes the development of the project site consistent with existing General Plan land use designations), the project would not result in the need for new or expanded water facilities. Sewer system improvements are proposed as part of the project, including the installation of sewer pipelines within the project site, which would connect to the existing sewer lines in Shady View Drive and Via La Cresta to the north of the project. CCWRF and Regional Plant No. 2 have existing capacity to handle flows from the proposed project and the City's General Plan has indicated that capacity at current wastewater treatment facilities is expected to be adequate to serve the City's wastewater requirements through year 2030 (City 2015a). As discussed in Section 4.8, *Hydrology and Water Quality*, of this Draft EIR, the project site currently includes six drainage areas (drainage areas A-F), and all runoff is eventually discharged to Chino Creek Reach 1B and 1A, the Prado Basin Management Zone, and Reach 3 of the Santa Ana River. Project implementation would result in modification of the existing on-site drainage pattern and directions through proposed grading and construction. The proposed project would provide on-site drainage improvements and four debris basins. Therefore, the proposed storm drain system for the project would have sufficient capacity to convey the 100-year storm event without causing flooding on- or off-site. While new storm water drainage facilities would be constructed within the project site in conjunction with the project, the proposed facilities would connect to the existing municipal storm drain system, the capacity of which would not be adversely affected by the project, as flows leaving the project site are projected to be reduced as compared to the existing condition. With existing services located adjacent to the project site, implementation of the would not require the relocation or construction of new or expanded electric power or natural gas distribution facilities nor would it require the relocation or construction of new telecommunication infrastructure. Overall, the project would be consistent with the growth forecast for the City and would be consistent with regional policies to effectively utilize infrastructure and reduce regional congestion. Therefore, direct and indirect long-term growth-inducing impacts would be less than significant.

6.3 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires an EIR to identify significant environmental effects that cannot be avoided if a project is implemented. As discussed in Chapter 4.0, *Environmental Analysis*, of this Draft EIR, implementation of the project would not result in significant and unavoidable Project-level impacts that cannot be feasibly mitigated, with the exception of a significant and unavoidable Vehicle Miles Traveled (VMT) impact. All other potentially significant impacts would be mitigated to levels below significance thresholds.

6.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126(d) of the State CEQA Guidelines requires an evaluation of significant irreversible environmental changes which would occur should a project be implemented. Irreversible environmental changes typically fall into three categories: (1) primary impacts, such as the use of nonrenewable resources (i.e., biological habitat, agricultural land, mineral deposits, water bodies, energy resources, and cultural resources); (2) secondary impacts, such as road improvements which provide access to previously inaccessible areas; and (3) environmental accidents potentially associated with the project. Section 15126.2(d) of the State CEQA Guidelines states that irretrievable commitments of resources should be evaluated to assure that current consumption of such resources is justified.

6.4.1 Primary Impacts Related to Nonrenewable Resources

Section 15126.2(d) of the CEQA Guidelines states that irretrievable commitments of resources should be evaluated to assure that current consumption of such resources is justified. The project would consume a limited commitment of natural resources in construction and operation, but due to mitigation and project design, would not result in significant irreversible environmental changes.

Implementation of the proposed project would not result in significant irreversible impacts to agricultural land or forestry resources, mineral deposits, and energy resources, as described in Section 6.1. As discussed in section 4.3 *Biological Resources*, the proposed project would not affect sensitive plant species, but would result in potentially significant impacts to sensitive wildlife species, including sensitive bat species, coast horned lizard, burrowing owl, and coastal California gnatcatcher. However, through the implementation of mitigation measures BIO-1 though BIO-4 impacts to sensitive wildlife species would be lowered to less than significant levels. Project grading would result in permanent impacts to approximately 0.89 acre of CDFW jurisdiction within the study area and 0.21 acre of USACE/RWQCB non-wetland waters of the U.S.; however, mitigation through on-site or off-site enhancement, restoration, and/or creation of jurisdictional streambed at ratio of no less than 2:1 as detailed in Measure BIO-5, would reduce impacts jurisdictional waters to less than significant levels. The project would result in potentially significant impacts associated with nesting birds; however, compliance with mitigation measure BIO-6 would ensure compliance with MBTA, resulting in a less than significant impact to nesting birds. Additionally, the project would result in potentially significant impacts to trees protected by local ordinances; however, implementation of mitigation measure BIO-7, which would require a tree survey and replacement of removed trees, would reduce impacts to a less than significant level.

Water bodies in the project vicinity include Chino Creek, Prado Basin Management Zone, and the Santa Ana River. As discussed in Section 5.8, *Hydrology and Water Quality*, the project would comply with applicable regulations and implementation of construction and post-construction BMPs to prevent and/or treat pollutant discharge into receiving waters.

The project would entail the commitment of energy and non-renewable resources, such as energy in the form of electricity, energy derived from fossil fuels, natural gas, construction materials (i.e., concrete, asphalt, sand and gravel, petrochemicals, steel, and lumber and forest products), potable water, and labor during the construction phases. The project features a number of sustainability elements to minimize its consumption of energy and non-renewable resources, as described in Section 6.1.2 and associated impacts would be less than significant. Nevertheless, use of these resources on any level

would have an incremental effect on the regional consumption of these commodities, and therefore result in long-term, irretrievable losses of non-renewable resources, such as fuel and energy.

Several prehistoric and historic resources were identified within one mile of the project site. Cultural and paleontological resources could potentially be disturbed during project grading, but would be salvaged, as necessary, and any resources encountered would be recovered in accordance with mitigation, as described in Sections 4.4, *Cultural Resources*, 4.6, *Geology and* Soils, and 4.13, *Tribal Cultural Resources.* Impacts to paleontological and cultural resources would not result in irreversible changes to those resources.

6.4.2 Secondary Impacts Related to Access to Previously Inaccessible Areas

The project would include the extension of Via La Cresta and Shady View Drive from their existing termini in the South Trail community to the north. Via La Cresta would be extended in a southeast direction into the project site and Shady View Drive would extend to the southwest to intersect the extension of Via La Cresta. While the project does include the extension of two existing roadways onto the project site, the project was previously accessible via an unpaved road and is directly adjacent to a residential development. The project would not involve road or highway improvements that would provide access to previously inaccessible areas. Therefore, implementation of the proposed project would not result in a significant irreversible impact with regard to access to previously inaccessible areas.

6.4.3 Impacts Related to Environmental Accidents

With respect to environmental accidents, and as further discussed in Section 4.7, *Hazards and Hazardous Materials*, of this EIR, potential impacts related to hazardous materials and associated health hazards from implementation of the proposed project would be avoided or reduced to below a level of significance through mandatory conformance with applicable regulatory/industry standards and codes and identified mitigation. As discussed in Section 4.15, *Wildfire*, the project site is located within the City's Fire Hazard Overlay. Potential wildfire impacts would be avoided or reduced to below a level of significance through mandatory conformance with applicable regulatory/industry standards and codes and identified mitigation. Regarding radiant heat, the residence time for a fire within the adjacent wildland would be less than one minute due to lack of quantity of fuel necessary to burn at a high rate for a period long enough to create a radiant heat issue at the provided distance. The project site would be susceptible to fire embers and brands from both onshore and offshore winds. The project would be protected from this fire threat through compliance with California Residential Code Section R337, which contains standards for building materials, systems, and/or assemblies used in the exterior design and construction of new buildings located within a wildland-urban interface area. Fire behavior modeling for the project indicates that a 50-foot fuel modification zone is adequate to protect structures from wildfire. The project proposes 100 feet of irrigated fuel modification on the west project interface and on much of the east project interface. Combining buffers with project design features and compliance with regulations, there would be no significant irreversible environmental changes due to wildfire. Further, no major environmental accidents or hazards are anticipated to occur as a result of project implementation, with incorporation of the mitigation discussed in Section 4.7. The Project would comply with all required regulations and standards related to potentially hazardous materials, which would serve to protect against significant and irreversible environmental change that could result from the accidental release of hazardous materials.

7.0 ALTERNATIVES

7.1 INTRODUCTION

Section 15126.6(a) of the State CEQA Guidelines requires that EIRs describe "…a reasonable range of alternatives to a project, or the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." Section 15126.6(f) of the State CEQA Guidelines further states that "the range of alternatives in an EIR is governed by the 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." The State CEQA Guidelines provide several factors that should be considered with regard to the feasibility of an alternative. Those factors include: (1) site suitability; (2) economic viability; (3) availability of infrastructure; (4) general plan consistency; (5) other plans or regulatory limitations; (6) jurisdictional boundaries; and (7) whether the project applicant can reasonably acquire, control, or otherwise have access to the alternative site (if an off-site alternative is evaluated).

7.2 SUMMARY OF PROJECT OBJECTIVES AND SIGNIFICANT EFFECTS

In accordance with State CEQA Guidelines Section 15126.6(a), the project alternatives are assessed relative to their ability to: (1) meet the basic objectives of the project; and (2) avoid or substantially lessen the significant effects of the project.

7.2.1 Project Objectives

As described in Section 3.1 of this EIR, *Project Objectives*, the following are the objectives of the project:

- Develop a project that supports a balance of land uses, open spaces, and infrastructure.
- Provide additional high-quality housing that serves the local community and is compatible and complementary with land uses and architectural fabric of the surrounding community.
- Provide adequate parking and integrated pedestrian and bicycle pathways to serve the residents and guests of the proposed development and provide connectivity to the surrounding community.
- Protect an existing Prominent Ridgeline and increase the total amount of private, and protected open space by integrating the development with the hillside conditions.
- Minimize the impact on the natural environment by developing a project that complies with regional water quality standards and greenhouse gas emissions reduction targets through the provision of a number of energy-reduction measures, such as energy-efficient lighting and appliances, water-efficient appliances and plumbing fixtures, water-efficient landscaping and irrigation, and the on-site generation of renewable solar energy.
- Develop a project that endeavors to minimize risks from naturally occurring hazards by respecting and mitigating fire and seismic hazards through appropriate incorporation of

structural protection and fuel modification zones for fire hazards and through the provision of necessary structural setbacks from the existing on-site fault.

- Create an efficient and safe circulation and transportation system through the provision of roadways that meet City and Chino Valley Fire District safety and access standards, which accommodates the community's traffic demands and provides local connections to public streets.

- Provide a sufficient density of development consistent with project site zoning that supports the need for housing and associated infrastructure improvements.

- Provide a network of habitat and recreational opportunities through the preservation of 45 acres of natural open space on the southwest portion of the site and the provision of open space areas throughout the development that also provide separation between neighborhoods, while encouraging walkable linkages and connectivity through land use siting, open space, and pedestrian pathways.

- Plan and develop the project as a cohesive community within the City with unifying architectural and landscape design themes, utilizing variety in the design of structures within this context.

- Provide a variety of home configurations for both single and two-story homes.

7.2.2 Significant Impacts of the Proposed Project

Based on the evaluations in Section 4.0, *Environmental Analysis*, of this EIR, the project would result in unavoidable significant transportation impacts from vehicle miles traveled (VMT), even with implementation of the VMT reduction strategies that are proposed by the applicant as part of project design. The VMT reduction Transportation Demand Management (TDM) strategies that are applied to the project include improved design elements to enhance walkability and connectivity and improve street network characteristics; and provision of a pedestrian access network to link areas of the project site to encourage people to walk instead of drive. No feasible mitigation measures are available to further reduce VMT impacts. Additionally, the project would result in significant but mitigable impacts related to the environmental resources areas discussed below.

The project could result in potentially significant air quality impacts during construction associated with the maximum daily unmitigated emissions for nitrogen oxides (NO_X). The exceedance is largely due to the number of pieces of offroad equipment required for grading activities. Additionally, potentially significant air quality impacts related to the exposure of sensitive receptors to substantial diesel-particulate matter concentrations during construction would occur as a result of the project. Impacts would be reduced to below a level of significance through the implementation of mitigation measure AIR-1 described in Section 4.2.6.

Implementation of the project could result in potentially significant biological resources impacts to sensitive wildlife species (sensitive bat species, coast horned lizard, burrowing owl, and coastal California gnatcatcher), sensitive vegetation communities/habitats (California Department of Fish and Wildlife (CDFW) jurisdiction), jurisdictional waters and wetlands (U.S. Army Corps of Engineers (USACE)/Regional Water Quality Control Board (RWQCB) non-wetland waters of the U.S), migratory species (nesting birds), and trees protected by local ordinances. Impacts would be reduced to below a

level of significance through implementation of mitigation measures BIO-1 through BIO-7, as described in Section 4.3.6.

The project has the potential to impact unknown archaeological resources. This impact would be reduced to below a level of significance through implementation of an archaeological and Native American monitoring program during project construction, as described in mitigation measure CUL-1 in Section 4.4.6.

Implementation of the project has the potential to result in significant impacts associated with fault rupture and unknown paleontological resources. These impacts would be reduced to below a level of significance through implementation of mitigation measures GEO-1 and GEO-2, as described in Section 4.5.6.

Implementation of the project could result in a potentially significant hazards impacts related to the transport, use, and disposal of hazardous materials at the project site during construction and long-term operation of the project; and related to the release of hazardous materials during demolition, grading, and construction activities. Implementation of mitigation measures HYD-1 (discussed in Section 4.8, *Hydrology and Water Quality*) and HAZ-1 through HAZ-5 would reduce impacts to below a level of significance, as described in Section 4.7.6.

The project could result in potentially significant impacts associated with water quality during construction. Implementation of mitigation measures HYD-1 would reduce this impact to below a level of significance, as described in Section 4.8.6.

The project could result in potentially significant impacts associated with construction and operational noise. Mitigation measure NOI-1 would reduce impacts associated with construction noise to a less than significant level and mitigation measures NOI-2 and NOI-3 would reduce impacts associated with operational noise to a less than significant level, as described in Section 4.10.6.

Implementation of the proposed project could result in a potentially significant impact to unknown tribal cultural resources. Implementation of mitigation measures TCR-1 through TCR-3 would reduce impacts a less than significant level, as described in Section 4.13.6.

The project could result in potentially significant impacts associated with wildland fire risk of loss and emergency evacuation. Implementation of mitigation measures WLF-1 and WLF-2 would reduce these impacts to a less than significant level, as described in Section 4.15.6.

7.3 ALTERNATIVES CONSIDERED BUT REJECTED

Section 15126.6(c) of the State CEQA Guidelines requires that an EIR identify alternatives that were considered and rejected as infeasible, and briefly explain the reasons for their rejection. Alternatives considered but rejected from further study for the project include the Project Location Alternative and Eleven Unit Alternative as outlined below.

7.3.1 Project Location Alternative

The State CEQA Guidelines recommend that off-site alternative locations be considered if relocating the project would result in the avoidance of significant impacts of a project. The project would result in significant and unmitigable VMT impacts. As described below, no alternative location is available that

would reduce the VMT impacts; therefore, relocation of the project to an alternative location is not feasible and is rejected from further consideration.

Factors that need to be considered when identifying an off-site location for the project include the size of the site, sensitive environmental resources on the site, its location relative to major transportation corridors (e.g., SR-71), the General Plan land use designation, and ability to meet the project objectives. The project applicant is under contract to purchase the project parcel. According to the City's Housing Element, over 93 percent of developable residential lands within the City are currently built-out, and the remaining available residential sites currently have entitlements, active project applications, or are predominately located in the hillside and environmentally sensitive areas of the City (City 2022). Based on this information, alternative locations zoned for residential uses are limited, and would also, similar to the project, be located in the hillside and environmentally sensitive portions of the City. The existing project is consistent with the City's General Plan and zoning designations for the project site. Primary considerations for selecting the project location included available properties zoned for residential uses that did not have entitlements or active project applications and that could accommodate a housing development near existing infrastructure and regional transportation. As a result, the applicant selected the project location within an area adjacent to existing infrastructure that could be connected to for the project, adjacent to a major freeway corridor (i.e., the SR-71), and with land use and zoning designations that permit single family residential development. No alternative locations were identified for the project that could meet the project objectives and substantially reduce project impacts, due to available residentially-zoned lands being limited to hillside and environmentally sensitive portions of the City. Therefore, the Project Location Alternative is rejected.

7.3.2 Eleven Unit Alternative

The Eleven Unit Alternative would allow for the construction of eleven single-family residences at the site, which is the maximum number of units that could be developed at the project site and yield less than significant VMT impacts. As discussed above, over 93 percent of developable residential lands are currently built-out in the City. The remaining available residential sites currently have entitlements or active project applications, or are predominately located in the hillside and environmentally sensitive areas of the City (City 2022). The development of the project site with eleven units would not be the best utilization of the residentially-zoned site, given the limited availability of remaining residentially-zoned areas in the City. Additionally, the development of the site with only eleven units would not support the extension of infrastructure onto the project site, including proposed roadway and utility infrastructure. While the Eleven Unit Alternative would meet some project objectives, such as protecting an existing Prominent Ridgeline and providing open space, and would provide a project that minimizes risks by incorporating fuel modification zones and seismic setbacks, there are several objectives it would not meet. These objectives include providing sufficient density of development that supports the need for housing and associated infrastructure improvements and developing a project that supports a balance of land uses, open spaces, and infrastructure. As this alternative would only meet some of the project objectives in a limited way, the Eleven Unit Alternative is rejected and not carried forward.

7.4 PROPOSED PROJECT ALTERNATIVES

The following two alternatives are carried forward and evaluated in this analysis:

- No Project Alternative; and
- Reduced Project Alternative.

The following rationale was considered when developing this range of alternatives:

- The No Project Alternative is required per State CEQA Guidelines Section 15126.6(e). It provides a basis for comparing the impacts that would occur if the project were approved, relative to what would occur if the project were not approved.

- The Reduced Project Alternative is included in this section to evaluate whether any impacts would be reduced substantially when compared to the project.

These alternatives represent a reasonable range of alternatives, as defined in the State CEQA Guidelines, because they provide a feasible alternate development pattern that would reduce (but not eliminate) the significant impacts associated with the project. The impacts associated with these alternatives are compared to those identified for the project in the following analysis, and the alternatives are assessed relative to their ability to meet the basic objectives of the project. A summary of project and alternative impacts is provided in Table 7-1, *Comparison of Project and Alternative Impacts*, located at the end of this section.

7.4.1 No Project Alternative

7.4.1.1 Description

Section 15126.6(e) of the State CEQA Guidelines provides that the "no project" analysis "shall discuss the existing conditions at the time the notice of preparation is published, as well as what would be reasonably expected to occur in the foreseeable future if a project were not approved, based on current plans and consistent with available infrastructure and community services." For a development project, the "no project" alternative is defined as the circumstance under which the project does not proceed and a comparison of the environmental effects of the property remaining in its existing state against the environmental effects associated with the project. Accordingly, the No Project Alternative assumes that the project would not be adopted and no single-family residential buildings would be constructed at the project site. The existing conditions described in Chapter 2 of this EIR would remain at the project site.

7.4.1.2 Environmental Analysis

Aesthetics

The No Project Alternative would not result in any visual changes or aesthetic impacts at the project site. Similar to the project, no impacts to the Prominent Ridgeline located on the project site would occur under the No Project Alternative. No scenic vistas would be impacted. No grading, demolition of tanks, or construction activities would occur, and no visual changes to the project would occur as a result of the No Project Alternative. All less than significant aesthetic impacts that would occur as a result of the project would be eliminated under the No Project Alternative.

Air Quality

No demolition, grading, construction, or new development would occur under the No Project Alternative. Therefore, this alternative would not have the potential to increase air pollutant emissions from the site that would occur with the project. This alternative would result in lower environmental effects associated with air quality, including the elimination of the potentially significant air quality impacts associated with unmitigated emissions of NOx and the exposure of sensitive receptors to substantial diesel-particulate matter concentrations during construction. Although these potentially significant impacts would be reduced to a less then significant level for the project, the No Project Alternative would eliminate these impacts because no new construction or demolition would occur.

Biological Resources

Under this alternative, the project site would remain as it currently exists. No development would occur and there would be no impact to biological resources. The No Project Alternative would avoid impacts to biological resources resulting from the project, including impacts to sensitive wildlife species (sensitive bat species, coast horned lizard, burrowing owl, and coastal California gnatcatcher), sensitive vegetation communities/habitats (CDFW jurisdiction), jurisdictional waters and wetlands (USACE/RWQCB non-wetland waters of the U.S), migratory species (nesting birds), and trees protected by local ordinances.

Cultural Resources

Under the No Project Alternative, no excavation or grading activities would occur and the potential for impacts to unknown subsurface archaeological resources from implementation of the project would be avoided. As described in Section 4.4, *Cultural Resources*, of this EIR, the identified potential for impacts to unknown archaeological resources associated with implementation of the project would be significant but mitigable with the implementation of a monitoring program. No archaeological resources impacts would occur under the No Project Alternative.

Geology and Soils

The No Project Alternative would not result in development or ground disturbance on the project site, and no associated impacts related to geology and soils would occur. The project would result in two potentially significant impacts at the site associated with fault rupture and the discovery of unknown paleontological resources; however, the implementation of mitigation would reduce project impacts to a less than significant level. The No Project Alternative would eliminate these potentially significant impacts as there would be no ground disturbance on the site and no construction of residences. Additionally, the less than significant impacts of the project associated with geology and soils would also be avoided. It should also be noted that the project site would remain subject to a number of existing geologic hazards under the No Project Alternative (e.g., seismic ground shaking, the existing fault at the project site), as described in Section 4.5, *Geology and Soils*.

Greenhouse Gas Emissions

The No Project Alternative would not result in new greenhouse gas (GHG) emissions or GHG impacts. This is compared with the project which is anticipated to have less than significant GHG emissions associated with construction and operation of the project. No GHG impacts would occur as a result of the No Project Alternative.

Hazards and Hazardous Materials

The No Project Alternative would not result in development or ground disturbance at the project site, and no associated impacts related to hazards and hazardous materials would occur. As described in Section 4.7, *Hazards and Hazardous Materials*, the site contains existing oil infrastructure that would be relocated as part of the project. The relocated oil storage infrastructure constructed as part of the project would result in potentially significant hazardous materials impacts, requiring mitigation. Additionally, past uses at the project site have resulted in the known presence of total petroleum hydrocarbons (TPH) as diesel range (TPH-diesel) and TPH as motor oil range (TPH-motor oil), heavy metals, and trichloroethylene (TCE)., in a portion of the project site. Construction of the project would result in disturbance of these areas and the potential release of these materials, resulting in a potentially significant impact associated with the release of hazardous materials. Additionally, the potential presence of asbestos-containing material (ACM), lead-based paint (LBP), and polychlorinated biphenyls (PCBs) in existing structures proposed for demolition is a potentially significant impact of the project. Potential adverse effects of the project would be addressed through implementation of mitigation measures requiring the preparation of a project-specific stormwater pollution prevention plan (SWPPP) in conformance with all applicable requirements of the National Pollutant Discharge Elimination System Construction General Permit, pipeline and tank maintenance consistent with California Department of Conservation Geologic Energy Management Division (CalGEM) requirements, site management during grading and soil removal to prevent the release of hazardous materials, a Removal Action Workplan if site cleanup is needed after the site investigation being conducted with Department of Toxic Substances Control (DTSC) oversight, and ACM, LBP, and PCB surveys of existing structures. Project impacts would be less than significant with mitigation. The No Project Alternative would leave the project site in its current condition; the existing oil infrastructure and hazardous materials contamination would continue to occur at the project site. The presence of hazardous materials at the site and the potential for the release or disturbance of hazardous materials during project construction would result in the potential exposure of people to hazardous substances, including TPH-diesel and TPH-motor oil, heavy metals, and TCE, and potential ACM, LBP, and PCBs, if they are determined to be present. Although there would be no development activities and no impact would occur thus avoiding the potentially significant impact of the project, a potential benefit of the project to remove potentially hazardous materials would not be realized with this alternative. This benefit includes the removal of potentially contaminated soil at the project site in several locations; the implementation of a Removal Action Workplan under DTSC oversight, if further cleanup is required; and the removal of ACM, LBP, and PCB, containing materials, if they are determined to be present at the project site.

The project would have a potentially significant impact with respect to emergency response and evacuation plans associated with the deficiency for minimum separation of project access points, as described in Section 4.7; with would be mitigation to a less than significant level with implementation of mitigation requiring compliance with the 2019 California Residential Code Section R337 and structure protection with automatic fire sprinklers. As no development would occur under the No Project Alternative, no impacts associated emergency response and evacuation plans would occur.

Hydrology and Water Quality

As the No Project Alternative would not result in development at the project site, it would not result in potential impacts related to the generation of impervious surfaces, increases in runoff rates/ amounts, storm drain capacity, flooding, erosion/sedimentation, hydromodification, drainage alteration, and water pollutants. No action would be taken and no impacts would occur. Drainage and water quality

conditions on the project site would remain as they currently are. As described in Section 4.8, *Hydrology and Water Quality*, of this EIR, the project would increase impervious surfaces on the project site, alter drainage patterns, and introduce uses that could generate pollutants and impact the quality of storm water runoff. All of these impacts under the project would, however, be avoided or reduced below a level of significance through implementation of mitigation requiring the preparation of a SWPPP, and through required conformance with applicable regulatory/industry standards. No hydrology and water quality impacts would occur under the No Project Alternative and thus, impacts would be reduced as compared to the project.

Land Use

Under the No Project Alternative, the existing uses and physical conditions on the project site would remain. As with the project, the No Project Alternative would not physically divide an established community. The No Project Alternative would not result in any impacts associated with conflicts of existing land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. The No Project Alternative would not be consistent with the Low Density Residential land use designated for the project site by the General Plan. No significant land use impacts are anticipated with the project, and none would occur under the No Project Alternative.

Noise

As described in Section 4.10, *Noise*, of this EIR, the project would result in potentially significant noise impacts associated construction noise and exterior and interior noise levels in excess of established limits. The project incorporates mitigation which would reduce these impacts to a less than significant level. The No Project Alternative would not result in demolition or construction activities or new stationary and mobile noise sources in the vicinity of existing noise-sensitive land uses. Therefore, no noise impact would occur, and no mitigation would be required. The existing noise conditions on the project site would continue and there would be no new noise sources at the site that could potentially impact off-site uses.

Public Services

The less than significant impacts of the project with respect to public services such as police, fire, parks, other public facilities, and recreational facilities would not occur under this alternative. No development would occur under the No Project Alternative. As such, there would be no associated increase in population, and no resulting need to expand public services and facilities under the No Project Alternative. Impacts related to demand for these services would be reduced compared to the project.

Transportation

As no development is proposed under the No Project Alternative, no additional traffic beyond existing conditions would be generated and no impact would occur. Similarly, because no development would occur, there would be no associated transportation plan consistency, transportation design hazard, or emergency access impacts.

The project would result in significant and unmitigable transportation VMT impacts, even with implementation of VMT reduction strategies that are proposed as part of the project design. The No Project Alternative would not result in VMT impacts, and thus, would avoid the significant and unmitigable VMT impact that would occur as a result of the project. Additionally, the project would

result in a potentially significant impact with respect to emergency response and evacuation plans associated with the deficiency for minimum separation of project access points, which would be reduced to a less than significant level through wildfire mitigation requiring compliance with the 2019 California Residential Code Section R337 and structure protection with automatic fire sprinklers. The project would result in less than significant impacts associated with transportation plan consistency and transportation design hazards. These impacts would be avoided through implementation of the No Project Alternative, and no transportation impact would occur.

Tribal Cultural Resources

Under the No Project Alternative, no excavation or grading activities would occur and the potential for impacts to unknown tribal cultural resources from implementation of the project would be avoided. As described in Section 4.13, *Tribal Cultural Resources*, of this EIR, the identified potential for impacts to tribal cultural resources associated with implementation of the project would be significant but mitigable with the implementation of a monitoring program. No tribal cultural resource impacts are associated with the No Project Alternative.

Utilities

The No Project Alternative would not result in demand for additional water, sewer, solid waste disposal, or other utility services. No impact would occur for the No Project Alternative. Impacts related to demand for these services would be reduced compared to the project.

Wildfire

The No Project Alternative would not result in new development on the project site, and thus, would not result in impacts associated with wildland fire risk of loss, emergency response and evacuation plans, wildfire pollutants or uncontrolled spread of a wildfire, infrastructure, or post-fire risks. The project would result in potentially significant impacts associated with wildland fire risk of loss, which would be reduced to a less than significant level through implementation of mitigation requiring construction consistent with 2019 California Residential Code Section R337 and automatic fire sprinklers. Additionally, the project would result in a potentially significant impact with respect to emergency response and evacuation plans associated with the deficiency for minimum separation of project access points, which would be reduced to a less than significant level through implementation of the same mitigation measures as identified for wildland fire risk of loss. The project would result in less than significant impacts associated with wildfire pollutants or uncontrolled spread of a wildfire, infrastructure, or post-fire risks. As no wildfire impacts would occur as a result of the No Project Alternative, wildfire impacts under this alternative would be reduced compared to the project.

Consistency with Project Objectives

The No Project Alternative would result in a continuation of existing conditions at the project site, and no development would occur. Table 7-1, *Comparison of Project Objectives and the No Project Alternative*, provides a list of the project objectives (previously identified in Chapter 3.0, *Project Description*) and an evaluation of the No Project Alternative's consistency with each objective. As shown in Table 7-1, the No Project Alternative would fail to meet many of the project objectives.

Table 7-1
COMPARISON OF PROJECT OBJECTIVES AND THE NO PROJECT ALTERNATIVE

Project Objectives	No Project Alternative Consistency with Project Objectives
Develop a project that supports a balance of land uses, open spaces, and infrastructure.	The No Project Alternative would not meet this project objective as no land use development would occur under the No Project Alternative.
Provide additional high-quality housing that serves the local community and is compatible and complementary with land uses and architectural fabric of the surrounding community.	The No Project Alternative would not meet this project objective as it does not include the provision of housing.
Provide adequate parking and integrated pedestrian and bicycle pathways to serve the residents and guests of the proposed development and provide connectivity to the surrounding community.	The No Project Alternative would not meet this project objective as it does not include land development or associated parking, pedestrian, and bicycle pathways.
Protect an existing Prominent Ridgeline and increase the total amount of private and protected open space by integrating the development with the hillside conditions.	The No Project Alternative would not result impacts to the existing Prominent Ridgeline on the project site, but also would not increase the total amount of private and protected open space at the project site,
Minimize the impact on the natural environment by developing a project that complies with regional water quality standards and greenhouse gas emissions reduction targets through the provision of a number of energy-reduction measures, such as energy-efficient lighting and appliances, water-efficient appliances and plumbing fixtures, water-efficient landscaping and irrigation, and the on-site generation of renewable solar energy.	As the No Project Alternative does not include development at the site, no provision of energy-reduction measures would occur.
Develop a project that endeavors to minimize risks from naturally occurring hazards by respecting and mitigating fire and seismic hazards through appropriate incorporation of structural protection and fuel modification zones for fire hazards and through the provision of necessary structural setbacks from the existing on-site fault.	As this project objective centers around development of a project, the No Project Alternative would not meet this objective.
Create an efficient and safe circulation and transportation system through the provision of roadways that meet City and Chino Valley Fire District safety and access standards, which accommodates the community's traffic demands and provides local connections to public streets.	The No Project Alternative would not result in the creation of on-site roadways, and thus, would not meet this objective.
Provide a sufficient density of development consistent with project site zoning that supports the need for housing and associated infrastructure improvements.	As this project objective is specific to development density, the No Project Alternative would not meet this objective.

Project Objectives	No Project Alternative Consistency with Project Objectives
Provide a network of habitat and recreational opportunities through the preservation of 45 acres of natural open space on the southwest portion of the site and the provision of open space areas throughout the development that also provide separation between neighborhoods, while encouraging walkable linkages and connectivity through land use siting, open space, and pedestrian pathways.	No open space easement or deed restriction would occur under the No Project Alternative, and thus, 45 acres of natural open space would b be preserved; however, no development on the project site would occur under this alternative, and the existing open space areas on the project site would remain in their current condition.
Plan and develop the project as a cohesive community within the City with unifying architectural and landscape design themes, utilizing variety in the design of structures within this context.	As this project objective centers around development of a project, the No Project Alternative would not meet this objective. No structures would be built and no landscaping would be installed under the No Project Alternative.
Provide a variety of home configurations for both single and two-story homes.	As this project objective is specific to the development of residential structures, the No Project Alternative would not meet this objective.

7.4.1.3 Conclusion

The No Project Alternative would avoid the significant and unmitigable transportation VMT impact. The No Project Alternative would also avoid significant but mitigable impacts to air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, transportation, tribal cultural resources, and wildfire. It would also avoid all other impacts of the project related to aesthetics, air quality, biological resources, cultural resources, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use, noise, public services, transportation, tribal cultural resources, utilities, and wildfire. However, the benefits of the project would not be realized under the No Project Alternative, including the following:

- The provision of a high-quality residential development that complies with regional water quality standards and incorporates energy-reduction measures in proximity to existing infrastructure and regional transportation.

- Utilizing residentially-zoned areas within the City for their intended residential uses, given the limited availability of remaining developable residential lands in the City.

- The preservation of 45 acres of the natural open space areas on the project site, including an existing Prominent Ridgeline, via an open space easement or deed restriction.

- The project would remove aging oil infrastructure present on the project site and replace it with newly constructed tanks and infrastructure, consistent with CalGEM requirements. Newly constructed tanks and infrastructure would be installed consistent with existing regulations, and would include a leak detection system and numerous valves that can be shut off to contain potential spills or leaks. The construction of modern tanks and associated infrastructure consistent with current requirements would reduce the potential for accidental and or undetected releases from the oil infrastructure.

- The project would remove potentially hazardous materials that may be present at the project site, including: the removal of potentially contaminated soil at the project site in several locations; the implementation of a Removal Action Workplan under DTSC oversight, if further cleanup is required; and the removal of ACM, LBP, and PCB, containing materials, if determined to be present at the project site.

Based on the preceding analysis and the fact that no development of any of the project features would occur with the No Project Alternative, this alternative would fail to meet any of the basic project objectives listed above in Section 7.2.1.

7.4.2 Reduced Project Alternative

7.4.2.1 Description

The Reduced Project Alternative would consist of the development of the project site with a reduced residential development. This alternative would result in the development of the project site with approximately half of the single-family residences proposed for the project, resulting in the development of 79 single-family residential dwelling units at the project site (see Figure 7-1, *Reduced Project Alternative Site Plan Concept*). This alternative was selected to provide residential development for the site, along with the provision of the tank site, while avoiding sensitive biological resources on the project site; thereby reducing impacts to sensitive biological resources. The single-family residences proposed under this alternative would be similar to the project in terms of lot size, home square footages, and styles. The Reduced Project Alternative would include the construction of amenities as proposed for the project, including a private recreation center on a 1-acre parcel, along with pocket parks and open space areas. The proposed residential areas and amenities would occur within the portion of the site zoned for residential uses, similar to the project; however, the Reduced Project Alternative would be designed to avoid impacts to some CDFW streambed and USACE/RWQCB jurisdictional areas. Similar to the project, the Reduced Project Alternative would site development at a minimum of 50 feet from the existing on-site fault. The Reduced Project Alternative would include the proposed oil infrastructure relocation, with identical components for the proposed aboveground storage tanks as identified for the project, including the same tank site, tank sizes, tank locations, and associated piping for transmitting material to and from the tanks. Additionally, as described for the project, the Reduced Project Alternative would maintain the approximately 45 acres of undisturbed natural open space area in the southwest portion of the project site, including preservation of the on-site Prominent Ridgeline.

7.4.2.2 Environmental Analysis

Aesthetics

The Reduced Project Alternative would not result in impacts to the Prominent Ridgeline located on the project site, similar to the project. Similar to the project, the Reduced Project Alternative would not result in significant impacts associated with substantially altering scenic vistas for public views to the west, south, east, and north of the project site. Additionally, as identified for the project, the Reduced Project Alternative would not result in significant impacts associated with obstructing views of Exceptionally Prominent or Prominent Ridgelines, and impacts would be less than significant. Visual changes would occur at the project site under the Reduced Project Alternative, similar to the project. However, given the reduced number of residences that would be developed, visual changes would be

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Alternative 2 Conceptual Site Plan

Figure 7-1

reduced as compared to the project. A reduced area of grading would occur with reduced areas of landform alternation required; however, manufactured slopes and mechanically-stabilized earth walls would be required to support the development, similar to the project. As with the project, the Reduced Project Alternative would result in substantial alterations to the visual appearance of the project site; however, these changes would be reduced as compared to the project. As discussed for the project in Section 4.1, *Aesthetics* of this EIR, protected public views of the project site are limited and generally obstructed or partially obstructed. Private views for residences adjacent to the northern project boundary would be substantially altered, but changes to private views would not be considered a significant CEQA impact. Aesthetic impacts associated with the Reduced Project Alternative would be less than significant, similar to the project, but would be reduced compared to the project.

Air Quality

Demolition, grading, and construction activities would occur under the Reduced Project Alternative and would generate air emissions during construction and operation; however, air emissions during both construction and operations would be incrementally less overall when compared to the project, because fewer units would be constructed. Emissions during grading would be slightly reduced as it is anticipated that much of the development area would still need to be graded, but development of this alternative would avoid grading and development in the drainages on the project site. The project would result in potentially significant impacts associated with NOx emissions during project construction, due to the use of offroad construction equipment. While the Reduced Project Alternative would result in some reduced grading area, it could potentially result in a similar exceedance of NOx due to construction equipment used during grading. Therefore, the Reduced Project would have a potentially significant air quality impact during construction, which would be reduced to a less than significant level through mitigation, similar to the project. The Reduced Project Alternative would generate less daily vehicle trips than the project. As vehicle emissions would be the predominant source of operational emissions, this alternative would be expected to generate less air pollution than the project. Overall, both the project and the Reduced Project Alternative would result in similar air quality impacts, including a potentially significant construction impact, with remaining air quality impacts identified as less than significant. However, the impacts associated with the alternative would be reduced as compared to the project, due to the reduced amount of residential development proposed.

Biological Resources

The Reduced Project Alternative would be designed to avoid impacts to some on-site drainages, reducing the significant but mitigable impacts associated with sensitive vegetation communities (CDFW streambed) and jurisdictional waters and wetlands (USACE/RWQCB non-wetland waters of the U.S.). The Reduced Project Alternative would have a reduced development footprint compared to the project, with a conceptual site plan presented in Figure 7-1. This reduced footprint would avoid impacts to approximately 15 acres of California sagebrush scrub (including disturbed California sagebrush scrub) as compared to the project, reducing the acreage of impacted Coastal California gnatcatcher habitat. The Reduced Project Alternative would avoid impacts to jurisdictional areas associated with drainages A1, A2, B4, and a portion of drainage A. The Reduced Project Alternative would potentially result in a reduction of impacts sensitive wildlife species (sensitive bat species, coast horned lizard, burrowing owl, and coastal California gnatcatcher), migratory species (nesting birds), and trees protected by local ordinances. While impacts would be somewhat reduced under the Reduced Project Alternative, due to a reduced development area, impacts for the identified resources would still be potentially significant, requiring mitigation, similar to the project. Thus, the Reduced Project Alternative would have similar

impacts to the project for sensitive wildlife species (sensitive bat species, coast horned lizard, burrowing owl, and coastal California gnatcatcher), migratory species (nesting birds), and trees protected by local ordinances. However, the Reduced Project Alternative would reduce the significant but mitigable project impacts associated with sensitive vegetation communities and jurisdictional waters and wetlands by reducing or eliminating development in portions of the site where these resources occur, resulting in reduced impacts compared to the project.

Cultural Resources

As described in Section 4.4, *Cultural Resources*, of this EIR, no significant on-site cultural resources were identified, but there is the potential for unknown resources to be discovered during on-site grading. The noted impacts to cultural resources associated with implementation of the project would be reduced below a level of significance through mitigation measures requiring a monitoring program that would be implemented for the project. Ground disturbance associated with development of the Reduced Project Alternative would be slightly less than that associated with the project, because it is likely that slightly less grading would be required. Therefore, the likelihood of encountering cultural resources would be similar, but slightly less than the project. Both scenarios would have a significant but mitigable potential for impacts to unidentified archaeological resources, with the same mitigation requirements for construction monitoring.

Geology and Soils

The project would result in two potentially significant impacts at the site associated with fault rupture and the discovery of unknown paleontological resources; however, the implementation of mitigation would reduce project impacts to a less than significant level. Similar to the project, the Reduced Project Alternative would implement similar mitigation to reduce potential impacts associated with the on-site fault and the potential to discover unknown paleontological resources during grading. With reduced grading associated with the Reduced Project Alternative, ground disturbance would be slightly less than that associated with the project, and therefore, the likelihood of encountering paleontological resources would be similar, but slightly less than the project. The Reduced Project Alternative is expected to have similar less than significant impacts as the project associated with geology and soils, including less than significant impacts associated with soil erosion, unstable soils, and expansive soils.

Greenhouse Gas Emissions

The Reduced Project Alternative would result in site-specific GHG emissions associated with construction and operation of the project, but at a reduced amount given the approximately 50 percent reduction in the number of residential units. As a result, GHG impacts would remain less than significant but would be incrementally reduced under this alternative when compared to the project due to a reduction in traffic trips and development intensity.

Hazards and Hazardous Materials

As described in Section 4.7, *Hazards and Hazardous Materials*, the site contains existing oil infrastructure that would be relocated as part of the project. Under the Reduced Project Alternative and the project, the proposed oil storage infrastructure that would be constructed on the site would result in potentially significant hazardous materials impacts, requiring mitigation. Additionally, past uses at the project site have resulted in the known presence of total petroleum hydrocarbons, heavy metals, diesel, and petroleum hydrocarbons in a portion of the project site. Construction of the project would result in

disturbance of these areas and the potential release of these materials, resulting in a potentially significant impact. While the Reduced Project Alternative would result in reduced grading and could be designed to avoid these areas, the Reduced Project Alternative is intended to avoid areas containing drainages (including sensitive vegetation/communities and jurisdictional areas). As such, development of the Reduced Project Alternative would likely include disturbance in the area containing the identified materials and thus, would implement similar mitigation as the project to reduce impacts to a less than significant level.

Additionally, the Reduced Project Alternative would result in a potentially significant impact with respect to emergency response and evacuation plans associated with the deficiency for minimum separation of project access points, because the access points to the project site are based on existing termini of Shady View Drive and Via La Cresta. These potentially significant impacts would be reduced to a less than significant level through wildfire mitigation requiring compliance with the 2019 California Residential Code Section R337 and structure protection with automatic fire sprinklers for both the Reduced Project Alternative and the project. Impacts associated with emergency response and evacuation plans would be similar to the project under the Reduced Project Alternative, although fewer residences would be affected due to the reduced number of residences that would be constructed.

Hydrology and Water Quality

The Reduced Project Alternative would result in the same type of development as the project, except there would be approximately 50 percent fewer residences. Potential impacts related to the generation of impervious surfaces, increases in runoff rates/amounts, storm drain capacity, flooding, erosion/sedimentation, hydromodification, drainage alteration, and water pollutants would generally be similar to the project, given that the Reduced Project Alternative would result in the same uses as the project; however, impervious surfaces, increases in runoff rates/amounts, and storm drain impacts would be reduced as compared to the project based on the reduced amount of residences and reduced amount of associated impervious surfaces. As described in Section 4.8, *Hydrology and Water Quality*, of this EIR, hydrology and water quality impacts associated with the project would be avoided or reduced below a level of significance through implementation of mitigation requiring the preparation of a SWPPP, and through required conformance with applicable regulatory/industry standards. The Reduced Project Alternative would implement similar mitigation and would comply with applicable regulatory/industry standards. As a result, the less than significant with mitigation, and less than significant hydrology and water quality impacts associated with the Reduced Project Alternative would be similar compared to the project even though the intensity and use of the site may be slightly reduced under the Reduced Project Alternative.

Land Use

As with the project, the Reduced Project Alternative would not physically divide an established community. The Reduced Project Alternative would not result in any impacts associated with conflicts of existing land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. No significant land use impacts are anticipated with the project, and none would occur under the Reduced Project Alternative. It should be noted that this alternative would provide less housing as compared to the project, when residentially-zoned land within the City is almost built-out, with remaining residentially-zoned lands either in the process of entitlement, containing active project applications, or located within hillsides and environmentally sensitive areas. Land use impacts would be

less than significant but slightly greater than the project, due to underutilization of the project site for residential uses at the density prescribed by current General Plan.

Noise

As described in Section 4.10, *Noise*, of this EIR, the project would result in potentially significant noise impacts associated construction noise and exterior and interior noise levels in excess of established limits. The project incorporates mitigation which would reduce these impacts to a less than significant level. Additionally, project impacts associated with construction vibration and aircraft noise would be less than significant. The Reduced Project Alternative would involve less construction and less long-term operational traffic, which would in turn, result in reduced noise impacts compared to the project. While specific impacts to adjacent properties would depend on the design of the project, similar to the project, a reduced residential development would be required to conform with applicable City noise standards and to incorporate a construction noise management plan to reduce construction-related noise impacts to a less than significant level.

While this alternative would involve a new site plan that could potentially locate planned residential uses farther from SR-71, residential units and exterior usable spaces could still be exposed to noise from SR-71 in excess of applicable noise standards, requiring noise reduction design features measures similar to those identified for the project. It is expected that this alternative would also need to incorporate acoustic barriers along the exterior lot lines with direct sight to SR-71 and incorporate building wall and window acoustic standards, similar to the project, to be consistent with General Plan noise-land use compatibility standards. Land use impacts associated with noise compatibility would be reduced to less than significant with mitigation, similar for the project and the Reduced Project Alternative. Overall, similar to the project, noise impacts associated with the Reduced Project Alternative would be reduced to a less than significant level with mitigation or would be less than significant; however, impacts would likely be reduced compared to the project, depending on the specific design of the alternative development.

Public Services

Impacts related to demand for most public services, including police, fire, parks, other public facilities, and recreational facilities, would be about 50 percent less under this alternative compared to the project, proportional to the reduced number of residents. Overall, the Reduced Project Alternative would place less demand on public services than the project; however, impacts under either scenario would be less than significant.

Transportation

Development of the project site with approximately 50 percent residences would result in reduced traffic volumes and reduced VMT compared to the project. However, a reduction of 50 percent in the number of residential units would not eliminate the significant and unmitigable VMT impacts of the project. The Reduced Project Alternative would, likewise, result in significant and unmitigable VMT impacts even with implementation of VMT reduction strategies that are proposed as part of the project design, similar to the project. Additionally, the Reduced Project Alternative would result in a potentially significant impact with respect to emergency response and evacuation plans associated with the deficiency for minimum separation of project access points, because the access points to the project site are based on existing termini of Shady View Drive and Via La Cresta. These potentially significant

impacts would be reduced to a less than significant level through wildfire mitigation requiring compliance with the 2019 California Residential Code Section R337 and structure protection with automatic fire sprinklers for both the Reduced Project Alternative and the project. Similar to the project, the Reduced Project Alternative would result in less than significant impacts associated with transportation plan consistency and transportation design hazards.

Tribal Cultural Resources

As described in Section 4.13, *Tribal Cultural Resources*, of this EIR, the identified potential for impacts to tribal cultural resources associated with implementation of the project would be significant but mitigable with the implementation of a monitoring program. Ground disturbance associated with development of the Reduced Project Alternative would be less than that associated with the project, because it is likely that slightly less grading would be required. Therefore, the likelihood of encountering tribal cultural resources would be similar, but slightly less than the project. Both scenarios would have a significant but mitigable potential for impacts to unidentified tribal cultural resources, with the same mitigation requirements for construction monitoring.

Utilities

As the Reduced Project Alternative would involve the construction and operation of 50 percent less residences than the project, it would result in reduced demand for additional water, sewer, solid waste disposal, and other utility services. Impacts related to demand for public utilities under the project and this alternative would both be less than significant; overall, however, impacts under the Reduced Project Alternative would be comparatively less than the project.

Wildfire

The Reduced Project Alternative would result in an approximately 50 percent reduction of residences constructed at the project site. While the number of residences would be reduced, the exposure to wildland fire risk of loss would be similar to that of the project for those residences located on-site. Additionally, because the project site access points are based on existing termini of Shady View Drive and Via La Cresta, emergency response and evacuation impacts would be the same under the Reduced Project Alternative as those identified for the project, although they would affect a reduced number of residents. Mitigation for these impacts under the Reduced Project Alternative would be similar to those identified for the project (construction consistent with 2019 California Residential Code Section R337 and automatic fire sprinklers) and would reduce impacts to a less than significant level. The Reduced Project Alternative would result in less than significant impacts associated with wildfire pollutants or uncontrolled spread of a wildfire, infrastructure, or post-fire risks, similar to the project, although they would affect a reduced number of residents.

Consistency with Project Objectives

The Reduced Project Alternative would result in the development of the site with 79 residential dwelling units, the construction of amenities as proposed for the project, including a private recreation center on a 1-acre parcel, along with pocket parks and open space areas, and the removal and relocation of the existing oil infrastructure of the site. Table 7-2, *Comparison of Project Objectives and the Reduced Project Alternative*, provides a list of the project objectives (previously identified in Chapter 3.0, *Project Description*) and an evaluation of the Reduced Project Alternative's consistency with each objective. As

shown in Table 7-2, the Reduced Project Alternative would meet the project objectives, although in a reduced capacity for some objectives.

Table 7-2
COMPARISON OF PROJECT OBJECTIVES AND THE REDUCED PROJECT ALTERNATIVE

Project Objectives	Reduced Project Alternative Consistency with Project Objectives
Develop a project that supports a balance of land uses, open spaces, and infrastructure.	The Reduced Project Alternative would meet this project objective through the development of residential dwelling units and amenities, the tank site, associated infrastructure, and the maintenance of open space on a portion of the project site.
Provide additional high-quality housing that serves the local community and is compatible and complementary with land uses and architectural fabric of the surrounding community.	The Reduced Project Alternative would meet this project objective through the provision of similar-type housing as proposed for the project, albeit at a reduced number of dwelling units.
Provide adequate parking and integrated pedestrian and bicycle pathways to serve the residents and guests of the proposed development and provide connectivity to the surrounding community.	The Reduced Project Alternative would meet this project objective by providing adequate parking and integrated pedestrian and bicycle pathways to serve the proposed community, similar to the project.
Protect an existing Prominent Ridgeline and increase the total amount of private, and protected open space by integrating the development with the hillside conditions.	The Reduced Project Alternative would maintain the approximately 45 acres of undisturbed natural open space area in the southwest portion of the project site, including preservation of the on-site Prominent Ridgeline. Additional open space areas would occur under the Reduced Project Alternative, in the areas where proposed residential dwelling units were removed (refer to Figure 7-1).
Minimize the impact on the natural environment by developing a project that complies with regional water quality standards and greenhouse gas emissions reduction targets through the provision of a number of energy-reduction measures, such as energy-efficient lighting and appliances, water-efficient appliances and plumbing fixtures, water-efficient landscaping and irrigation, and the on-site generation of renewable solar energy.	The Reduced Project Alternative would be developed, similar to the project, to incorporate energy-reduction measures and comply with regional water quality standards and greenhouse gas emissions.
Develop a project that endeavors to minimize risks from naturally occurring hazards by respecting and mitigating fire and seismic hazards through appropriate incorporation of structural protection and fuel modification zones for fire hazards and through the provision of necessary structural setbacks from the existing on-site fault.	The Reduced Project Alternative would be required to meet Chino Valley Fire District requirements for mitigating fire hazards. The Reduced Project Alternative would be designed to mitigate fire and seismic hazards, would implement fuel modification zones, and would require a 50-foot setback from the existing on-site fault, similar to the project.

Project Objectives	Reduced Project Alternative Consistency with Project Objectives
Create an efficient and safe circulation and transportation system through the provision of roadways that meet City and Chino Valley Fire District safety and access standards, which accommodates the community's traffic demands and provides local connections to public streets.	The Reduced Project Alternative would be designed to create an efficient and safe circulation transportation system that would be subject to review and approval by the City and Chino Valley Fire District, similar to the project.
Provide a sufficient density of development consistent with project site zoning that supports the need for housing and associated infrastructure improvements.	The Reduced Project Alternative would provide housing consistent with density requirements of the existing zoning, although at a reduced level as compared to the project.
Provide a network of habitat and recreational opportunities through the preservation of 45 acres of natural open space on the southwest portion of the site and the provision of open space areas throughout the development that also provide separation between neighborhoods, while encouraging walkable linkages and connectivity through land use siting, open space, and pedestrian pathways.	The Reduced Project Alternative would provide habitat and recreational opportunities similar to the project, based on the preservation of 45 acres of natural open space. This alternative would provide additional open space areas by eliminating approximately half of the housing that the project proposes, which would be replaced with open space areas. Open spaces areas would include landscape lots and landscape buffer areas, similar to the project, providing walkable linkages and connectivity in the proposed community.
Plan and develop the project as a cohesive community within the City with unifying architectural and landscape design themes, utilizing variety in the design of structures within this context.	The Reduced Project Alternative would result in the development of a cohesive community within the City, with unifying architectural and landscape designs, similar to the project.
Provide a variety of home configurations for both single and two-story homes.	The Reduced Project Alternative would include the provision of single and two-story homes.

7.4.2.3 Conclusion

The Reduced Project Alternative would not avoid the significant, unmitigable VMT impact associated with the project. The Reduced Project Alternative would avoid significant but mitigable impacts to sensitive vegetation communities and jurisdictional impacts. Significant but mitigable impacts to air quality, biological resources (sensitive wildlife species, migratory species, and trees protected by local ordinances), cultural resources, geology and soils, hydrology and water quality, noise, tribal cultural resources, and wildfire would be slightly less than the project impacts due to a reduced grading area and a reduced number of residences, but the required mitigation would be the same. The project and the Reduced Project Alternative would have essentially the same significant impacts with the same mitigation required to reduce impacts to less than significant levels relative to hazards and hazardous materials. Less than significant impacts associated with both the project and this alternative with respect to aesthetics, GHG, public services, and utilities would be reduced for this alternative. The differences are primarily associated with the reduced intensity of development required for this alternative. Less than significant land use impacts would be slightly greater due to the reduction in residential units that would not fully capitalize on the site's residentially-zoned land given the limited availability of residentially-zoned land remaining in the City.

As the Reduced Density Alternative would involve a reduction of proposed residences by approximately 50 percent of the project but with the same uses and public improvements, it would meet the project objectives, but to a lesser extent than the proposed project given the reduction of residential units.

7.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines require the identification of an environmentally superior alternative among the alternatives analyzed in an EIR, which is typically selected based on an ability to avoid or substantially reduce significant environmental effects associated with the project. The guidelines also require that if the No Project Alternative is identified as the environmentally superior alternative, another environmentally superior alternative must be identified.

The project would result in a significant and unmitigable transportation VMT impact. There is no feasible mitigation that would reduce the transportation VMT impact to a less than significant level. For the remaining significant impacts identified for the project (air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, transportation, tribal cultural resources, and wildfire), mitigation measures have been identified to reduce potentially significant impacts to a less than significant level. However, the No Project Alternative is identified as the environmentally superior alternative as this alternative would not result in any new impacts because no development would occur under this alternative. Some adverse conditions would remain (e.g., on-site hazardous materials contamination) and some potential project benefits would not be realized (e.g., utilizing residentially-zoned land in the City and replacement of aging oil infrastructure). This alternative, however, would avoid the significant, unmitigable transportation VMT impacts, and would avoid all identified significant but mitigable impacts associated with the project related to air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, transportation, tribal cultural resources, and wildfire (refer to Table 7-3, *Comparison of Project and Alternative Impacts*). The No Project Alternative does not meet the purpose and objectives of the project, however, as outlined in Section 7.2.1.

Table 7-3
COMPARISON OF PROJECT AND ALTERNATIVE IMPACTS

Environmental Topic	Proposed Project	No Project Alternative	Reduced Project Alternative
Aesthetics	LS	N	LS<
Air Quality	SM	N	SM<
Biological Resources	SM	N	SM<
Cultural Resources	SM	N	SM<
Geology and Soils	SM	N	SM<
Greenhouse Gas Emissions	LS	N	LS<
Hazards and Hazardous Materials	SM	N	SM=
Hydrology and Water Quality	SM	N	SM<
Land Use	LS	N	LS>
Noise	SM	N	SM<
Public Services	LS	N	LS<
Transportation	SU	N	SU<
Tribal Cultural Resources	SM	N	SM<
Utilities	LS	N	LS<
Wildfire	SM	N	SM<

SU = significant, unmitigable impacts; SM = significant but mitigable impacts; LS = less than significant impacts; N = no impacts
<= comparatively reduced impact relative to the project (if impact designation is the same and impact varies)
> = comparatively greater impact relative to the project (if impact designation is the same and impact varies)
"=" = same/similar impacts relative to the project

With only one remaining alternative, the environmentally superior alternative would be the Reduced Project Alternative. This alternative would reduce many of the impacts of the project, except the significant but mitigable impacts to hazards and hazardous materials, which would be about the same for both the project and this alternative. Every other impact would be reduced with this alternative, except for less than significant land use impacts, which would be slightly greater due to the reduction in residential units compared to what is allowable under existing zoning standards for the site. The reduction is residential units under the Reduced Project Alternative means that the alternative would not fully capitalize on the site's residentially-zoned land given the limited availability of residentially-zoned land remaining in the City (the proposed project also does not provide the maximum number of residential units based on the zoning for the site; however, it would provide twice as many units at the Reduced Project Alternative). This alternative would meet all of the identified project objectives although some to a lesser extent than the project.

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9.3.6 Hydrology and Water Quality – Hunsaker & Associates Irvine, Inc.

David Francke, Project Manager
Jianhua "Gary" Guan, R.C.E 64519

9.3.7 Noise Assessment Study – HELIX Environmental Planning, Inc.

Brendan Sullivan, Noise Analyst
Martin Rolph, Noise Analyst
Jason Runyan, Noise Analyst
Charles Terry, Principal Acoustician
Joanne Dramko, AICP, Principal Noise Specialist, QA/QC
Dave Crook, AICP, Project Manager

9.3.8 Transportation – Linscott Law & Greenspan

Shane S. Green, P.E., Senior Transportation Engineer
Megan Lam, Transportation Engineer II
Richard Barreto, P.E., Principal
Zawwar Saiyed, P.E., Associate Principal