Program Environmental Impact Report
for the
Los Angeles County Housing Element Update

Prepared for:

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AQMP	Air Quality Management Plan
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AVAQMD	Antelope Valley Air Quality Management District
AB	Assembly Bill
BenMAP	Benefits Mapping and Analysis Program
BMP	best management practice
CARB	California Air Resources Board
CAAQS	California Ambient Air Quality Standards
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
Caltrans	California Department of Transportation
CalEEMod	California Emissions Estimator Model
CESA	California Endangered Species Act
CEC	California Energy Commission
Cal/EPA	California Environmental Protection Agency
CEQA	California Environmental Quality Act
CalGEM	California Geologic Energy Management Division
CALGreen	California Green Building Standards Code
CNDDB	California Natural Diversity Database
CNRA	California Natural Resources Agency
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CO	carbon monoxide
CUPA	Certified Unified Program Agency
LABS	City of Los Angeles Bureau of Sanitation
CWA	Clean Water Act
CSD	Community Standards District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DTSC	Department of Toxic Substances Control
DPM	diesel particulate matter
EISA	Energy Independence and Security Act
EO	Executive Order
FESA	federal Endangered Species Act
FHSZ	fire hazard severity zone
FAR	floor area ratio
GWP	global warming potential
OPR	Governor's Office of Planning and Research
GHG	greenhouse gas
HCP	Habitat Conservation Plan
HAP	hazardous air pollutant
HIA	health impact assessment

Acronym/Abbreviation	Definition
HQTA	high-quality transit area
HMA	Hillside Management Area
HFCs	hydrofluorocarbons
ITE	Institute of Transportation Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act
IFC	International Fire Code
I	Interstate
kWh	kilowatt-hours
LEED-ND	Leadership in Energy and Environmental Design–Neighborhood Development
LOS	level of service
LST	localized significance threshold
LACoFD	Los Angeles County Fire Department
LACL	Los Angeles County Library
Metro	Los Angeles County Metropolitan Transportation Authority
OWCMP	Los Angeles County Oak Woodlands Conservation Management Plan
COE	Los Angeles County Office of Education
OEM	Los Angeles County Office of Emergency Management
LACSD	Los Angeles County Sanitation Districts
LASD	Los Angeles County Sheriff's Department
LCFS	Low Carbon Fuel Standard
CH_4	methane
MT	metric ton
MPO	Metropolitan Planning Organization
mgd	million gallons per day
MMT	million metric tons
MRZ	Mineral Resource Zone
MM	Mitigation Measure
MDAB	Mojave Desert Air Basin
MATES	Multiple Air Toxics Exposure Study
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NCCP	Natural Communities Conservation Plan
NF_3	nitrogen trifluoride
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_x	oxides of nitrogen
O_3	ozone
PM	particulate matter
PM_{10}	particulate matter 10 microns or less in diameter
$PM_{2.5}$	particulate matter 2.5 microns or less in diameter
ppm	parts per million
PFCs	perfluorocarbons
PCBs	polychlorinated biphenyls
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PC	Production-Consumption

Acronym/Abbreviation	Definition
PEIR	Program Environmental Impact Report
RHNA	Regional Housing Needs Assessment
RTP	Regional Transportation Plan
RFS	Renewable Fuel Standard
RPS	Renewables Portfolio Standard
RCRA	Resource Conservation and Recovery Act
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel-Efficient
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMA	Seismic Margin Assessment
SB	Senate Bill
SEA	Significant Ecological Area
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SoCalGas	Southern California Gas Company
SRA	State Responsibility Area
SR	State Route
SWRCB	State Water Resources Control Board
SWPPP	stormwater pollution prevention plan
SO_2	sulfur dioxide
SF_6	sulfur hexafluoride
SO_x	sulfur oxides
SARA	Superfund Amendments and Reauthorization Act
SMARA	Surface Mining and Reclamation Act
SCS	Sustainable Communities Strategy
TAC	toxic air contaminant
TOD	Transit-Oriented District
USACE	U.S. Army Corps of Engineers
EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USFS	U.S. Forest Service
VMT	vehicle miles traveled
VHFHSZ	very high fire hazard severity zone
VOC	volatile organic compound
WQC	water quality certification
WRP	Water Reclamation Plant

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1 Executive Summary

Chapter 1 provides a summary of the Proposed Los Angeles County Housing Element Update (Proposed Project), its environmental consequences, mitigation measures, and alternatives.

1.1 Introduction

This Draft Program Environmental Impact Report (PEIR) has been prepared by the County of Los Angeles (County) to evaluate potential environmental effects that would result from implementation of the Proposed Project. This Draft PEIR has been prepared in conformance with the California Environmental Quality Act (CEQA) of 1970 statute (California Public Resources Code, Section 2100 et seq., as amended) and its implementing guidelines (14 CCR 15000 et seq.). The Proposed Project constitutes a "Project" as defined in the CEQA Guidelines Section 15378. Pursuant to Section 15367 of the State CEQA Guidelines, the County is the lead agency for the Proposed Project.

The County is updating the Housing Element of the General Plan for the 2021–2029 planning period. The Housing Element is one of the seven required elements of the General Plan per the California Government Code, beginning at Section 65583. Generally, state law mandates updates to the Housing Element every 8 years. The Housing Element serves as a policy guide to address the comprehensive housing needs of the unincorporated areas of Los Angeles County (unincorporated areas). The primary focus of the Housing Element is to ensure decent, safe, sanitary, and affordable housing for current and future residents of the unincorporated areas, including those with special needs. The County is required to ensure the availability of residential sites, at adequate densities and appropriate development standards, in the unincorporated areas to accommodate its fair share of the regional housing need, also known as the Regional Housing Needs Assessment (RHNA) allocation.

1.2 Environmental Procedures

CEQA requires the preparation of an EIR for any project that a lead agency determines may have a significant impact on the environment. CEQA also establishes mechanisms whereby the public and decision makers can be informed about the nature of the project being proposed and the extent and types of impacts that the project and its alternatives would have on the environment, if they were to be implemented.

The basic purposes of CEQA are as follows (14 CCR 15002):

1. Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities;
2. Identify the ways that impacts to the environment can be avoided or significantly reduced;
3. Prevent significant, avoidable impacts to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

An EIR is also one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Prior to approving a proposed project, the lead agency must consider the information contained in the EIR, determine whether the EIR was properly prepared in accordance with CEQA and the CEQA Guidelines, determine that it reflects the independent judgment of the lead agency, adopt findings concerning the project's significant environmental impacts and alternatives, and must adopt a Statement of Overriding Considerations if the proposed project would result in significant impacts that cannot be avoided.

1.2.1 EIR Organization

This PEIR is organized as follows:

Chapter 1, Executive Summary, of the EIR is provided at the beginning of this document. This summary outlines the conclusions of the environmental analysis and provides a summary of the Proposed Project and the Proposed Project alternatives analyzed in the PEIR. This chapter also includes a table summarizing all environmental impacts identified in this PEIR along with the associated mitigation measures proposed to reduce or avoid each impact.

Chapter 2, Introduction, serves as a forward to this EIR, introducing the Proposed Project, the applicable environmental procedures, and the organization of the EIR.

Chapter 3, Project Description, provides a thorough description of the Proposed Project elements, the purpose and need for the Proposed Project, Project objectives, and Project components.

Chapter 4, Environmental Analysis, describes the potential environmental impacts of the Proposed Project, as well as proposed mitigation measures to reduce or avoid any potentially significant impacts. The discussion in Chapter 4 is organized by 20 environmental issue areas as follows:

- Section 4.1 - Aesthetics
- Section 4.2 – Agriculture and Forestry Resources
- Section 4.3 – Air Quality
- Section 4.4 – Biological Resources
- Section 4.5 – Cultural Resources
- Section 4.6 – Energy
- Section 4.7 – Geology and Soils
- Section 4.8 – Greenhouse Gas Emissions
- Section 4.9 – Hazards and Hazardous Materials
- Section 4.10 – Hydrology and Water Quality
- Section 4.11 – Land Use and Planning
- Section 4.12 – Mineral Resources
- Section 4.13 – Noise and Vibration
- Section 4.14 – Population and Housing
- Section 4.15 – Public Services
- Section 4.16 – Recreation
- Section 4.17 – Transportation

- Section 4.18 – Tribal Cultural Resources
- Section 4.19 – Utilities and Service Systems
- Section 4.20 – Wildfire

The Draft PEIR assesses how the Proposed Project would impact each of the above-listed resource areas. Each environmental issue addressed in this Draft PEIR is presented in terms of the following subsections:

- **Environmental Setting:** Provides information describing the existing setting on and/or surrounding the Project Area that may be subject to change as a result of implementation of the Proposed Project. This setting discussion describes the conditions that existed when the NOP was sent to responsible agencies and the State Clearinghouse.
- **Relevant Plans, Policies, and Ordinances:** Provides a discussion of federal, state, regional, and local regulations, plans, policies, and ordinances applicable to the Proposed Project.
- **Thresholds of Significance:** Provides criteria for determining the significance of Proposed Project impacts for each environmental issue.
- **Methodology:** Provides the methods and approach for determining the level of significance for the Proposed Project impacts.
- **Environmental Impacts:** Provides a discussion of the characteristics of the Proposed Project that may have an impact on the environment, analyzes the nature and extent to which the Proposed Project is expected to change the existing environment, and indicates whether the Proposed Project's impacts would meet or exceed the levels of significance thresholds.
- **Cumulative Impacts:** Provides a discussion of the characteristics of the Proposed Project that may have a cumulative impact on the environment.
- **Mitigation Measures:** Identifies mitigation measures to reduce significant adverse impacts to the extent feasible.
- **Level of Significance After Mitigation:** Provides a discussion of significant unavoidable environmental impacts that cannot be feasibly mitigated or avoided, potentially significant environmental impacts that can be feasibly mitigated or avoided, and impacts that are not significant.
- **References:** Lists the sources cited during preparation of the Draft PEIR.

Chapter 5, Other CEQA Considerations, addresses significant environmental impacts that cannot be avoided, the significant irreversible environmental changes that would result from implementation of the Proposed Project, and growth-inducing impacts associated with the Proposed Project, and potential secondary impacts of mitigation measures implemented to reduce the impacts of the Proposed Project.

Chapter 6, **Alternatives**, discusses alternatives to the Proposed Project, including a No Project Alternative. This subsection describes the rationale for selecting the range of alternatives discussed in the PEIR and identifies the alternatives considered by the County that were rejected from further discussion as infeasible during the scoping process. Lastly, Chapter 6 includes a discussion of the environmental impacts of the alternatives that were carried forward for analysis and identifies the environmentally superior alternative.

Chapter 7, **List of Preparers**, gives names and contact information of those responsible for writing this Draft PEIR.

Appendices include various supporting documentation for the Proposed Project and environmental analysis, as listed in the Table of Contents.

1.2.2 Type and Purpose of Draft PEIR

This Draft PEIR has been prepared to satisfy the requirements for a PEIR. Although the legally required contents of a Program EIR are the same as those of a Project EIR, Program EIRs are typically more conceptual and may contain a more general or qualitative discussion of impacts, alternatives, and mitigation measures than a Project EIR. As provided in Section 15168 of the State CEQA Guidelines, a Program EIR may be prepared on a series of actions that may be characterized as one large project. Use of a Program EIR provides the County (as lead agency) with the opportunity to consider broad policy alternatives and program wide mitigation measures and provides the County with greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive basis. According to Section 15168(a) of the State CEQA Program, a program EIR may be prepared on a series of actions that can be characterized as one large project and are related either:

(1) Geographically

(2) A logical part in the chain of contemplated actions

(3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or

(4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

A program EIR is appropriate for the Proposed Project because it satisfies Section 15168(a). The Proposed Project is within one geographic area; is within a logical part in a chain of contemplated actions for the 6th Cycle Housing Element Update; would be under the County's rules, regulations, plans, and other general criteria; is carried out under one regulatory authority, the County; and would have generally similar environmental effects, as they relate to increasing housing units within the County, which can be mitigated in similar ways.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine whether an additional CEQA document needs to be prepared. However, if the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities could be found to be within the Program EIR scope and additional environmental documents may not be required (14 CCR 15168[c]). When a Program EIR is relied on for a subsequent activity, the lead agency must incorporate feasible mitigation measures and alternatives developed in the Program EIR into the subsequent activities (14 CCR 15168[c][3]). If a subsequent activity would have effects that were not examined in the Program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or an EIR. In this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The State CEQA Guidelines encourages the use of Program EIRs, citing five advantages in Section 15168(b):

(1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,

(2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,

(3) Avoid duplicative reconsideration of basic policy considerations,

(4) Allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and

(5) Allow reduction in paperwork.

Further, a California Appellate Court described the difference between a Project EIR and a Program EIR. A Project-level EIR generally focuses on the environmental changes caused by a development project; a Program EIR, on the other hand, generally looks at the broad policy of a planning document (i.e., a general plan) and may not address potential site-specific impacts of the individual projects that may fall within the planning document (Citing *Citizens for a Sustainable Treasure Island v. City and County of San Francisco* [2014] 227 Cal.App.4th 1036). The Proposed Project involves the implementation of a broad policy planning document. The project-level details of the implementation of the Proposed Project would not be known at the time of preparation of the EIR. The Program EIR approach would provide a sufficient level of analysis for the broad nature of the Proposed Project. The level of specificity required in an EIR is determined by the nature of the project and the rule of reason. (Citing *Al Larson Boat Shop, Inc. v. Board of Harbor Commissioners* [1993] 18 Cal.App.4th 729, 741-742.) Therefore, the Program EIR is an appropriate approach for the Proposed Project.

1.3 Project Location

The area for the Project (Project Area) includes only the unincorporated areas of Los Angeles County (unincorporated areas), which is approximately 65% of the total land area in Los Angeles County. The unincorporated areas in the northern portion of Los Angeles County are covered by large amounts of sparsely populated land and include the Angeles National Forest, part of the Los Padres National Forest, and part of the Mojave Desert. The unincorporated areas in the southern portion of Los Angeles County consist of noncontiguous land areas, which are often referred to as the "unincorporated urban islands." While the Project Area includes all unincorporated areas of the County, the analysis within this Draft PEIR focuses on candidate housing sites located generally in the areas included as part of the Proposed Project's rezoning program because these are the areas where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered.

1.4 Project Summary

The Housing Element, required to be updated regularly, is subject to detailed statutory requirements and mandatory review by the State Department of Housing and Community Development. The planning period for a Housing Element update is determined for the County by Southern California Association of Government's (SCAG's) adoption of its Regional Transportation Plan/Sustainable Communities Strategy. For SCAG member jurisdictions, the 6th Cycle Housing Element planning period extends from 2021-2029. As part of Connect SoCal, SCAG assigns a number of housing units that the County is required to plan for in the 8-year Housing Element cycle, the RHNA allocation. A jurisdiction then needs to show that there are enough sites within the jurisdiction to build that amount of housing.

The Proposed Project would include an update to the Los Angeles County Housing Element and associated components. The Proposed Project consists of an adequate sites inventory; rezoning program; analysis of constraints and barriers; goals, policies, and implementation programs; amendments to Title 22 of the County Code; and amendments to the General Plan Land Use Element.

- **Adequate Sites Inventory**: The RHNA is mandated by state law to quantify future housing growth throughout the state. The RHNA allocation for the County for the 2021–2029 planning period is approximately 90,052 units, which is broken down by income category to accommodate the estimated growth need at various income levels. As required by state law, the Housing Element must identify the County's ability to accommodate this estimated growth through available sites and appropriate land use and zoning.
- **Rezoning Program**: It is determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a

rezoning program to accommodate its RHNA in the Housing Element. The areas were selected using a mapping application that the County developed.

- **Constraints and Barriers**: The Housing Element update will identify the specific standards and processes of potential and actual governmental constraints and evaluate their impact on the supply and affordability of housing.
- **Goals, Policies and Implementation Programs**: The Housing Element update will also include goals, policies, and implementation programs to address housing needs.
- **Amendments to Title 22**: The Zoning Code will be amended to add development standards pertaining to floor area dedicated to residential use in mixed use projects in the Mixed Use Development Zone (MXD).
- **Amendments to the General Plan Land Use Element**: The Land Use Legend will be amended to (1) add a minimum allowable residential density to certain land use designations; (2) establish that the allowable residential density specified by the General Commercial (CG) land use designation in the General Plan will also apply to the commercial land use designations in certain community-based plans, where such land use designations do not currently specify the allowable residential density; and (3) clarify that in designations that allow mixed uses (CR, CG, CM, MU and MU-R), the maximum Floor Area Ratio only applies to the commercial component, while the residential component is subject to the allowable density.

The Proposed Project's rezoning program includes areas that may result in changes to the environment that were not already considered in previous environmental analysis or studies. Additional housing sites in locations dispersed through the County may also be considered for future housing development, facilitated by the Proposed Project. However, further analysis is not included in this PEIR because the County had no further information and other potential sites or areas countywide are considered speculative at this time. Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

1.5 Summary of Project Alternatives

1.5.1 Alterative A: No-Project Alternative

The purpose of describing and analyzing a No Project Alternative is to allow decision-makers the ability to compare the impacts of approving versus not approving the Housing Element Update. The No Project Alternative is the circumstance under which future housing development within the rezoning program pursuant to the Housing Element Update would not proceed, but the existing environmental conditions would not necessarily be preserved without development as property owners of parcels within the rezoning program could choose to develop their respective properties per the 2014 Housing Element adopted on February 4, 2014. Under this alternative the parcels within the rezoning program would retain their current General Plan land use and zoning designations and no changes would be made to address the requirements of state law.

1.5.2 Alternative B: Reduced Buffer Alternative

The Reduced Buffer Alternative includes sufficient sites to meet the County's RHNA allocation but would reduce the extent of total housing sites that provides a buffer for the RHNA allocation and prevents spot-zoning. This alternative would not provide the 15%–30% buffer for the RHNA allocation in the event the RHNA eligible sites are not developed as 100% affordable units. This alternative would not include gap parcels to avoid spot zoning, provide a buffer for the RHNA allocation, and provide parcels for moderate and above moderate-income housing. This alternative would reduce the rezoning program to include just the required 39,339 very-low-income and low-income units, 14,180 moderate-income units, and 36,533 above-moderate-income units.

1.6 Issues To Be Resolved

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR contain issues to be resolved including the choice among alternatives and whether or how to mitigate significant impacts. With regard to the Proposed Project, the major issues to be resolved include decisions by the lead agency as to the following:

1. Whether this Draft PEIR adequately describes the environmental impacts of the Proposed Project.
2. Whether the benefits of the Proposed Project override those environmental impacts which cannot be feasibly avoided or mitigated to a level of insignificance.
3. Whether the proposed land use changes are compatible with the character of the existing area.
4. Whether the identified goals, policies, or mitigation measures should be adopted or modified.
5. Whether there are other mitigation measures that should be applied to the Proposed Project besides the Mitigation Measures identified in the Draft PEIR.
6. Whether there are any alternatives to the Proposed Project that would substantially lessen any of the significant impacts of the Proposed Project and achieve most of the basic Project objectives.

1.7 Areas of Controversy

A Notice of Preparation for this Draft PEIR was released on January 5, 2021, beginning the 30-day public scoping period for the EIR (Appendix A). During the public scoping period, input is obtained from public agencies and the general public regarding the environmental issues and concerns that may potentially result from the Proposed Project. Comments on the NOP were received from two individuals, seven agencies, and two groups, which are provided in Appendix A. The County hosted the virtual Scoping Meeting on Saturday, January 23, 2021, from 10:00 a.m. to 11:30 a.m. Registration was made available through the County's website at https://planning.lacounty.gov/housing/involved and Spanish translation was made available. At the conclusion of the presentation, attendees of the webinar were able to provide comments and questions about the Proposed Project to the County, and the Housing Element and CEQA Consultants during the questions and answers portion of the meeting.

The primary areas of controversy identified by the public and agencies included the following potential issues (the Draft PEIR section that addresses the issue raised is provided in parentheses):

- Potential impacts on air quality (Section 4.3, Air Quality)
- Potential for housing to remove nesting habitat and bat roosting habitat (Section 4.4, Biological Resources)

- Potential increase in jobs/housing imbalance (Section 4.14, Population and Housing)
- Potential impacts on the Regional Road Network (Section 4.17, Transportation and Traffic)
- Potential for increased traffic (Section 4.17, Transportation)
- Potential increase in demand on utilities (4.19, Utilities and Service Systems)

1.8 Summary of Environmental Impacts, Mitigation Measures, And Levels of Significance After Mitigation

Table 1-1 summarizes the conclusions of the environmental analysis contained in this Draft PEIR. Impacts are identified as potentially significant or less than significant and for all potentially significant impacts mitigation measures are identified. The level of significance after imposition of the mitigation measures is also presented.

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Aesthetics			
AE-1: Have a substantial adverse effect on a scenic vista.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
AE-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
AE-3: Substantially degrade the existing visual character or quality of the site and its surroundings.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
AE-4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
Agriculture and Forestry Services			
AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use.	No Impact	No mitigation measures are required.	Not Applicable
AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract.	No Impact	No mitigation measures are required.	Not Applicable
AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).	No Impact	No mitigation measures are required.	Not Applicable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
AG-4: Result in the loss of forest land or conversion of forest land to nonforest use.	No Impact	No mitigation measures are required.	Not Applicable
AG-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to nonforest use.	No Impact	No mitigation measures are required.	Not Applicable
Air Quality			
AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.	Potentially Significant	**MM AQ-1 Construction Equipment Emissions Reductions and Fugitive Dust Control.** If, during subsequent project-level environmental review, construction-related criteria air pollutants are determined to have the potential to exceed the applicable air quality management district (AQMD) adopted thresholds of significance, the County Department of Regional Planning shall require that applicants for new development projects incorporate mitigation measures as identified in the CEQA document prepared for the project to reduce air pollutant emissions during construction activities. Mitigation measures that may be identified during the environmental review include but are not limited to: a. Using construction equipment rated by the United States Environmental Protection Agency as having Tier 3 (model year 2006 or newer) or Tier 4 (model year 2008 or newer) emission limits, applicable for engines between 50 and 750 horsepower. b. Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.	Significant and Unavoidable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		c. Limiting nonessential idling of construction equipment to no more than five consecutive minutes. d. Water all active construction areas at least three times daily, or as often as needed to control dust emissions. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible. e. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer). f. Pave, apply water three times daily or as often as necessary to control dust, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. g. Sweep daily (with water sweepers using reclaimed water if possible), or as often as needed, all paved access roads, parking areas, and staging areas at the construction site to control dust. h. Sweep public streets daily (with water sweepers using reclaimed water if possible) in the vicinity of the project site, or as often as needed, to keep streets free of visible soil material. i. Hydroseed or apply non-toxic soil stabilizers to inactive construction areas. j. Enclose, cover, water three times daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).	

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		MM AQ-2Architectural Coating VOC Emissions. To address the impact relative to VOC emissions, Super-Compliant VOC-content architectural coatings (0 grams per liter to less than 10 grams per liter VOC) shall be used during Proposed Project construction and operation application of paints and other architectural coatings to reduce ozone precursors. If paints and coatings with VOC content of 0 grams/liter to less than 10 grams/liter cannot be utilized, the developer shall avoid application of architectural coatings during the peak smog season: July, August, and September. **MM AQ-3 Encourage Electric Vehicles**. Subsequent future projects under the Proposed Project shall install Level 2 EV charging stations in 15% of all parking spaces for multi-family developments and pre-wiring to allow for a Level 2 EV charging stations in all single-family residential garages. **MM AQ-4Energy Conservation**. The following energy conservation measures into Proposed Project building plans: a) Install Energy Star rated heating, cooling, lighting, and appliances. b) Use of Heating, Ventilation and Air Conditioning (HVAC) equipment with a Seasonal Energy Efficiency Ratio (SEER) of 12 or higher. c) Installation of water heaters with an energy factor of 0.92 or higher. d) Install solar water heaters or tank-less water heaters. e) Use passive solar cooling/heating.	

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		MM AQ-5 Low-VOC/Green Cleaning Product Educational Program. The County shall develop and implement a Low-VOC/Green Cleaning Product and Paint education program that can be provided to applicants, developers, tenants, and residents of development under the Proposed Project. **MM TRA- 1 Residential Use Neighborhood Design/Site Enhancement** (see Transportation Section of this Table) **MM TRA-2 Residential Use Land use/Location** (see Transportation Section of this Table) **MM TRA-3 Residential Use Parking Policy/Parking** (see Transportation Section of this Table) **MM TRA-4 Residential Use Commute Trip Reduction** (see Transportation Section of this Table) **MM TRA-5 Mixed Use Land use/Location (see** Transportation Section of this Table) **MM TRA-6 Mixed Use Commute Trip Reduction** (see Transportation Section of this Table) **MM TRA-7 Mixed Use Regional VMT Reduction/Mitigation Fee** (see Transportation Section of this Table)	
AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation.	Potentially Significant	**MM AQ-1** **MM AQ-2** **MM AQ-3** **MM AQ-4** **MM AQ-5**	Significant and Unavoidable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		MM AQ-6	
AQ-3 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).	Potentially Significant	MM AQ-1 MM AQ-2 MM AQ-3 MM AQ-4 MM AQ-5 MM AQ-6	Significant and Unavoidable
AQ-4 Expose sensitive receptors to substantial pollutant concentrations.	Potentially Significant	MM AQ-1 MM AQ-7 Applicants for sensitive land uses, including residences, within the following distances as measured from the property line of the project to the property line of the source/edge of the nearest travel lane, from these facilities: • Industrial facilities within 1,000 feet • Distribution centers (40 or more trucks per day) within 1,000 feet • Major transportation projects (50,000 or more vehicles per day) within 1,000 feet • Dry cleaners using perchloroethylene within 300 feet • Large gasoline dispensing facilities (defined as a facility with a throughput of 3.6 million gallons per year or greater) within 50 feet; or any typical gas dispensing facility (with a throughput of less than 3.6 million gallons per year) within 50 feet. Applicants with developments meeting the above criteria shall submit a health risk assessment (HRA) to the County prior to future discretionary project approval. The HRA shall be prepared in accordance	Significant and Unavoidable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		with policies and procedures of the state Office of Environmental Health Hazard Assessment (OEHHA) and the applicable Air Quality Management District. The latest OEHHA guidelines shall be used for the analysis, including age sensitivity factors, breathing rates, and body weights. If the HRA shows that the incremental cancer risk exceeds ten in one million (10E-06) or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and non-cancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0), including appropriate enforcement mechanisms. Measures to reduce risk may include but are not limited to: Air intakes located away from high volume roadways and/or truck loading zones, unless it can be demonstrated to the County Department of Regional Planning that there are operational limitations. Heating, ventilation, and air conditioning systems of the buildings provided with appropriately sized maximum efficiency rating value (MERV) filters. Mitigation measures identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site development plan as a component of the Proposed Project. The air intake design and MERV filter requirements shall be noted and/or reflected on all building plans submitted to the County and shall be verified by the County Department of Regional Planning.	
AQ-5 Create objectionable odors affecting a substantial number of people.	Less Than Significant	No mitigation measures are required.	Not Applicable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Biological Resources			
B-1 Development of the Project would impact, either directly or through habitat modifications, species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Potentially Significant	**MM BIO-1:** Biological resources shall be analyzed on a project-specific level by a qualified biological consultant. A general survey shall be conducted to characterize the project site, focused surveys should be conducted as necessary to determine the presence/absence of special-status species (e.g., focused sensitive plant or wildlife surveys), and a jurisdictional delineation may be required if there are signs of potentially regulated wetlands and non-wetland waters. A biological resources assessment report shall be prepared to characterize the biological resources on site, analyze project-specific impacts to biological resources, and propose appropriate mitigation measures to offset those impacts. The report shall include site location, literature sources, methodology, timing of surveys, vegetation map, site photographs, and descriptions of biological resources on site (e.g., observed and detected species as well as an analysis of those species with potential to occur on site). **MM BIO-2:** If there is potential for direct impacts to special-status species with implementation of construction activities, the project-specific biological resources assessment report mentioned in Mitigation Measure BIO–1 shall include mitigation measures requiring pre-construction surveys for special-status species and/or construction monitoring to ensure avoidance, relocation, or safe escape of special-status species from the construction activities, as appropriate. If special-status species are found to be nesting, brooding, denning, etc. on site during the pre-construction survey or monitoring, construction	Less Than Significant

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		activity shall be halted until offspring are weaned, fledged, etc. and are able to escape the site or be safely relocated to appropriate off-site habitat areas. Relocations into areas of appropriate restored habitat would have the best chance of replacing/incrementing populations that are lost due to habitat converted to development. Relocation to restored habitat areas should be the preferred goal of this measure. A qualified biologist shall be on site to conduct surveys, to perform or oversee implementation of protective measures, and to determine when construction activity may resume.	
B-2 Development of the Project would result in the loss of riparian habitat or sensitive natural communities identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	Potentially Significant	**MM BIO-1** **MM BIO-2**	Less Than Significant
B-3 The Project would impact on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Potentially Significant	**MM BIO-1** **MM BIO-3**: Prior to impacts occurring to U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) jurisdictional aquatic resources, the Proposed Project applicant or its designee shall obtain the following permits: ACOE 404 permit, RWQCB 401 Water Quality Certification, and CDFW Fish and Game Code 1600 Streambed Alteration Agreement.	Less Than Significant
B-4 The Project would affect wildlife movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	No Impact	No mitigation measures are required.	Not Applicable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
B-5 The Project would require compliance with adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state policies or ordinances protecting biological resources.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
Cultural Resources			
C-1 Cause a substantial adverse change in the significance of an historical resource pursuant to Section 15064.5.	Potentially Significant Impact	**MM C-1 Evaluate Historic Built Environment Resources:** Prior to the approval of future development projects in the Planning Area facilitated as part of the Proposed County Housing Element Update, a qualified architectural historian shall record any previously identified built environment resources and evaluate all previously unevaluated buildings or structures over 45 years old within the project site in accordance with the County's Historic Preservation Ordinance and CEQA. The report shall include a detailed physical description of the resource(s) evaluated, detailed photographs, an appropriate site-specific historic context, and a historical significance evaluation in consideration of County, CRHR, and NRHP designation criteria and integrity requirements. The appropriate set of State of California Department of Parks and Recreation Series 523 Forms (DPR forms) shall be appended to the report. If historical resources are identified within the project site, the architectural historian shall develop clear mitigation measures in accordance with CEQA for addressing project-related impacts to historical resources. The architectural historian shall give consideration to all feasible mitigation, even if it cannot reduce impacts below a level of significance.	Significant and Unavoidable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		MM C-2 Review for Conformance with the Secretary of the Interior's Standards: Prior to the approval of future development projects in the Planning Area facilitated as part of the Proposed County Housing Element Update, a qualified architectural historian shall review all proposed alterations or modifications to historical resources within the project site for conformance with the Secretary of the Interior's Standards (Standards) for Rehabilitation. If the proposed work conforms to the Standards for Rehabilitation, impacts to historical resources would be considered less than significant, and no additional review would be required for purposes of CEQA. In most instances, a project that conforms to the Standards can be exempted from further review under CEQA, and no additional environmental documentation is necessary. If the architectural historian determines that the proposed work is not in conformance with the Standards, the project shall be further evaluated to determine whether impacts to the resource's significance can be lessened through effective project-specific mitigation.	
C-2 Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	Potentially Significant Impact	**MM C-3 WEAP Training**: All construction personnel and monitors who are not trained archaeologists shall be briefed regarding inadvertent discoveries prior to the start of construction activities. A basic presentation and handout or pamphlet shall be prepared in order to ensure proper identification and treatment of inadvertent discoveries. The purpose of the Workers Environmental Awareness Program (WEAP) training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the project and explain the importance of and legal basis for the	Less Than Significant Impact

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		protection of significant archaeological resources. Each worker shall also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the site supervisor and archaeological monitor. **MM C-4 Inadvertent Discovery of Archaeological Resources:** A qualified archaeologist shall be retained and on-call to respond and address any inadvertent discoveries identified during initial excavation in native soil. Initial excavation is defined as initial construction-related earth moving of sediments from their place of deposition. As it pertains to archaeological monitoring, this definition excludes movement of sediments after they have been initially disturbed or displaced by project-related construction. A qualified archaeological principal investigator, meeting the Secretary of the Interior's Professional Qualification Standards, should oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits or material. The archaeological monitor will be responsible for maintaining daily monitoring logs. In the event that potential prehistoric or historical archaeological resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring within 100 feet of the find shall immediately stop and a qualified	

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		archaeologist must be notified immediately to assess the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find, the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work such as preparation of an archaeological treatment plan, testing, data recovery, or monitoring may be warranted. If monitoring is conducted, an archaeological monitoring report shall be prepared within 60 days following completion of ground disturbance and submitted to the County for review. This report should document compliance with approved mitigation, document the monitoring efforts, and include an appendix with daily monitoring logs. The final report shall be submitted to the SCCIC.	
C-3 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant Impact	**MM C-5 Paleontological Monitoring Program.** Prior to the commencement of any grading activity for individual proposed rezoning component, the applicant shall retain a qualified paleontologist to ensure the implementation of a paleontological monitoring program. The paleontologist shall meet the requirements of a qualified paleontologist, as defined by the Society of Vertebrate Paleontology (SVP 2010). The qualified paleontologist shall attend any preconstruction meetings and manage the paleontological monitor(s) if they are not doing the monitoring. A paleontological monitor shall be on site during all excavations below the depth of previously disturbed sediments. The paleontological monitor shall monitor construction excavations below a depth of five feet below ground surface in areas underlain	Less than Significant

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		by Quaternary alluvium. The qualified paleontologist shall determine the level of monitoring required based on subsurface conditions. If Pleistocene sedimentological indicators or paleontologically sensitive formations are not observed below five feet, the qualified paleontologist or paleontological monitor shall spot-check excavations at five-foot intervals to determine if Pleistocene sediments or other paleontologically sensitive geological units are being impacted. Project components underlain by Pleistocene sedimentary deposits, the Pico Formation, the Fernando Formation, the Puente Formation, or the Monterey Formation on the surface shall be monitored full-time for paleontological resources. The paleontological monitor shall be equipped with necessary tools for the collection of fossils and associated geological and paleontological data. If sedimentological indicators conducive to the preservation of microvertebrates (as defined by SVP [2010]) are encountered, test sediment samples shall be collected and screened on- or off-site to determine the presence of microvertebrate fossils. The monitor shall complete daily logs detailing the day's excavation activities and pertinent geological and paleontological data. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Following the	

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		paleontological monitoring program, a final monitoring report shall be submitted to the County for approval. The report shall summarize the monitoring program and include geological observations and any paleontological resources recovered during paleontological monitoring for the Project.	
C-4 Disturb any human remains, including those interred outside of formal cemeteries.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
Energy			
E-1 Would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
E-2 Would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
Geology and Soils			
G-1 Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:			
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42.)	No Impact	No mitigation measures are required.	Not Applicable
ii. Strong seismic ground shaking.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
iii. Seismic-related ground failure, including liquefaction.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
iv. Landslides	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
G-2 Result in substantial soil erosion or the loss of topsoil.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
G-3 Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
G-4 Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial risks to life or property.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
G-5 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.	No Impact	No mitigation measures are required.	Not Applicable
Greenhouse Gas Emissions			
GHG-1 Generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
GHG-2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
Hazards and Hazardous Materials			
H-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
H-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
H-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
H-4: Be located on a site which is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
H-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would result in a safety hazard for people residing or working in the Project Area.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
H-6: For a project in the vicinity of a private airstrip, result in a safety hazard for people residing or working in the Project Area.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
H-7: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
H-8: Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to the urbanized areas or where residences are intermixed with wildlands.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Hydrology			
HYD-1 Violate and water-quality standards or waste-discharge requirements.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
HYD-2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
HYD-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
HYD-4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
HYD-5: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
HYD-6: Otherwise substantially degrade water quality.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
HYD-7: Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
HYD-8: Place within a 100-year flood hazard area structures which would impede or redirect flood flows.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
HYD-9: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
HYD-10: Be subject to inundation by seiche, tsunami, or mudflow.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
Land Use			
LU-1: Physically divide an established community.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
LU-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
LU-3: Conflict with any applicable habitat conservation plan or natural community conservation plan.	No Impact	No mitigation measures are required.	Not Applicable
Mineral Resources			
M-1: Result in the loss of availability of a known mineral resource that would be of	Less Than Significant Impact	No mitigation measures are required.	Not Applicable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
value to the region and the residents of the state.			
M-2: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
Noise and Vibration			
N-1: Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. For noise compatibility, noise levels at noise-sensitive exterior areas exceed 65 dBA CNEL. For noise compatibility, interior noise levels in habitable noise-sensitive areas exceed 45 dBA CNEL.	Potentially Significant	**MM N-1** Prior to the issuance of building permits for any project that involves a noise-sensitive use within the 65 dBA CNEL contour (i.e., areas in or above 65 dBA CNEL) along major roadways, freeways, and rail transit routes, the project property owner/developers shall retain an acoustical engineer to conduct an acoustic analysis and identify, where appropriate, site design features (e.g., setbacks, berms, or sound walls), and/or required building acoustical improvements (e.g., sound transmission class rated windows, doors, and attic baffling) to ensure compliance with the County's Noise Compatibility Criteria and the California State Building Code and California Noise Insulation Standards (Title 24 of the California Code of Regulations).	Significant and Unavoidable
N-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	Potentially Significant	**MM N-2**Individual projects that use vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers near sensitive receptors shall be evaluated for potential vibration impacts. If construction-related vibration is determined to be perceptible at vibration-sensitive uses (i.e., exceed the County's standard of 0.01 inches per second (in/sec) vibration velocity [within the range of 1 to 100 Hz frequency]), additional requirements, such as use of less-vibration-intensive equipment or construction techniques, shall be	Significant and Unavoidable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		implemented during construction (e.g., drilled piles to eliminate use of vibration-intensive pile driver). MM N-3New development that occurs within 200 feet of a railroad track (according to the FTA's vibration screening distances) shall be evaluated for potential vibration impacts. The project property owner/developers shall retain an acoustical engineer to conduct an acoustic analysis and identify, where appropriate, site design features and/or required building construction improvements to ensure that vibration impacts would remain below acceptable levels of 0.08 root mean square (RMS) in/sec vibration velocity for residential uses.	
N-3: A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Project-related traffic noise increase the ambient noise level at noise-sensitive locations by 3 dBA or more and the ambient noise levels under with-project conditions fall within the "Normally Unacceptable" or "Clearly Unacceptable" categories; OR Project-related traffic noise increases the ambient noise level at noise-sensitive locations by 5 dBA or more.	Potentially Significant	No feasible mitigation measures.	Significant and Unavoidable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
N-4: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	Potentially Significant	**MM N-4** Construction activities associated with new development that occurs near sensitive receptors shall be evaluated for potential noise impacts. Mitigation measures such as installation of temporary sound barriers for construction activities that occur adjacent to occupied noise-sensitive structures, equipping construction equipment with more effective mufflers, sound-insulating hoods or enclosures, vibration dampers, and other BACT, and reducing non-essential idling of construction equipment to no more than five minutes shall be incorporated into the construction operations to reduce construction-related noise to the extent feasible.	Significant and Unavoidable
N-5: For a project located within an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project Area to excessive noise levels.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
N-6: For a project within the vicinity of a private airstrip, expose people residing or working the Project Area to excessive noise levels.	No Impact	No mitigation measures are required.	Not Applicable
Population and Housing			
P-1: Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	Less Than Significant Impact	No mitigation measures are required.	Not Applicable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
P-2: Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere or displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
Public Services			
FP-1: Result in a substantial adverse physical impact associated with the provisions 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 fire protection services.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
Recreation			
R-1: Would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
R-2: Includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Transportation and Traffic			
T-1: Conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
T-2: Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).	Potentially Significant	**MM TRA-1 Neighborhood Design/Site Enhancement:** • Provide pedestrian network improvements (CAPCOA SDT-1) • Providing a pedestrian access network to link areas of a Project encourages people to walk instead of drive. This mode shift results in people driving less and thus a reduction in VMT. The provision of sidewalks on-site that connect to off-site pedestrian walkways linking to other complementary land uses is estimated to result in a VMT reduction • Provide Traffic Calming Measures (CAPCOA SDT-2) • Features such as marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, etc. encourage people to walk or bike. • Incorporate Bike-Lane Street Design On-site (CAPCOA SDT-5) • Incorporate bicycle lanes, routes, and shared-use paths into street systems and large developments. This is a grouped strategy so quantification is not provided. • Provide bike-parking with Multi-Unit Residential Projects (CAPCOA SDT-7)	Significant and Unavoidable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		• Long-term bicycle parking provided at apartment complexes or condominiums without garages to promote bike use. This is a grouped strategy so quantification is not provided. • Provide Electric Vehicle Parking (CAPCOA SDT-8) • The provision of electric vehicle parking is grouped with use of electric vehicle and provision of neighborhood electric vehicle network, therefore, quantification is not provided **MM TRA-2 Land Use/Location:** • Increase Density (CAPCOA LUT-1) *Designing projects with increased dwelling units per unit area where allowed by the General Plan and/or Zoning Ordinance reduces GHG emissions associated with traffic in several ways* • Increase transit accessibility (CAPCOA LUT-5) *Enhancing and expanding non-motorized access to transit will encourage a shift toward taking transit, instead of driving. This may include adding sidewalks, walkways that connect to/from dead end streets, and walkways in easements to enhance connectivity in neighborhoods, bike lanes, and lighting and other amenities in the site design and site frontage improvements.* • Integrate Affordable and Below Market Rate Housing (CAPCOA LUT-6) *Affordable housing provides greater opportunity for lower income families to live closer to jobs centers and achieve jobs/housing match near transit. It also addresses to some degree the risk that new transit-oriented development would displace lower income families.*	

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		MM TRA-3 Parking Policy/Parking: • Unbundle Parking Costs from Property Cost (CAPCOA PDT-2) *Unbundling separates parking from property costs, requiring those who wish to purchase parking spaces to do so at an additional cost from the property cost. This removes the burden from those who do not wish to utilize a parking space*. • Encourage to not overpark projects to maintain the ability for projects to screen out in areas. Parking requirements can be updated in County's code. **MM TRA-4 Commute Trip Reduction:** • Provide Ridesharing Programs (CAPCOA TRT-3) *Increasing the vehicle occupancy by ride sharing will result in fewer cars driving the same trip, and thus a decrease in VMT. Funding maybe provided by Community Facilities, District, County Service Area.* • Subsidized or Discounted Transit Programs (CAPCOA TRT-4) *A project can provide subsidized/discounted daily or monthly public transit passes. It could provide free transfers between all shuttles and transit to participants. These passes can be partially or wholly subsidized by the employer, school, or development.* **MM TRA-5 Land use/Location:** • Increase diversity of Urban and Suburban Developments (Mixed-Use) (CAPCOA LUT-3)	

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		Having different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transport. **MM TRA-6 Commute Trip Reduction** • Implement Commute Trip Reduction Marketing (CAPCOA TRT-7) For larger multi-family and mixed-use parcels, a project can implement marketing strategies to reduce commute trips by establishing a kiosk in common amenity area where information regarding transportation options and commute trip reduction can be provided to residents. **MM TRA-7 Regional VMT Reduction/Mitigation Fee** • An impact fee maybe leveed on projects that have significant VMT impact as determined by the SCAG regional VMT reduction/ mitigation program.	
T-3: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
T-4: Result in inadequate emergency access.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
Tribal Cultural Resources			
TC-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place,	Less Than Significant Impact	No mitigation measures are required.	

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
or object with cultural value to a California Native American tribe, and that is: • Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or • A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?			
Utilities and Service Systems			
U-1: Would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
U-2: Would require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
U-3: Would result in a determination by the wastewater treatment provider which serves or may serve the project that is has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable

Table 1-1. Summary of Proposed Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Wildfire			
WF-1: Substantially impair an adopted emergency response plan or emergency evacuation plan.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
WF-2: Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
WF-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable
WF-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	Less Than Significant Impact	No mitigation measures are required.	Not Applicable

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2 Introduction

Chapter 2 provides an introduction to the Proposed Los Angeles County Housing Element Update (Proposed Project) for the County of Los Angeles (County) 2021-2029 planning period.

2.1 Purpose of Environmental Impact Report

This Draft Program Environmental Impact Report (PEIR) has been prepared by the County to evaluate potential environmental effects that would result from implementation of the Proposed Project. This Draft PEIR has been prepared in conformance with the California Environmental Quality Act (CEQA) statute (California Public Resources Code Section 2100, et seq.) and its implementing guidelines (14 CCR 15000 et seq., hereinafter "CEQA Guidelines"). The Proposed Project constitutes a "Project" as defined in CEQA Guidelines Section 15378. Pursuant to Section 15367 of the State CEQA Guidelines, the County is the lead agency for the Proposed Project.

CEQA requires the preparation of an EIR for any project that a lead agency determines may have a significant impact on the environment. According to Section 21002.1(a) of CEQA:

> The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided.

CEQA also establishes mechanisms whereby the public and decision makers can be informed about the nature of the project being proposed and the extent and types of impacts that the project and its alternatives would have on the environment, if they were to be implemented.

The basic purposes of CEQA are as follows (14 CCR 15002[a]):

1. Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities;
2. Identify the ways that impacts to the environment can be avoided or significantly reduced;
3. Prevent significant, avoidable impacts to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

This Draft PEIR was prepared in accordance with CEQA Guidelines Section 15151, which defines the standards for EIR adequacy as follows:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

2.2 Project Overview

The County is updating the Housing Element of the General Plan for the 2021–2029 planning period. The Housing Element is one of the seven required elements of the General Plan per the California Government Code, Section 65583 et seq. Generally, state law mandates updates to the Housing Element every 8 years. The Housing Element serves as a policy guide to address the comprehensive housing needs of the unincorporated areas of Los Angeles County (unincorporated areas). The primary focus of the Housing Element is to ensure decent, safe, sanitary, and affordable housing for current and future residents of the unincorporated areas, including those with special needs. The County is required to ensure the availability of residential sites, at adequate densities and with appropriate development standards, in the unincorporated areas to accommodate its fair share of the regional housing need, also known as the Regional Housing Needs Assessment (RHNA) allocation. The Proposed Project consists of the following main components:

- **Adequate Sites Inventory**: The RHNA for the County for the 2021–2029 planning period is 90,052 units, which is broken down by income category to accommodate estimated growth need at various income levels. The Housing Element update must include an Adequate Sites Inventory to demonstrate there are adequate sites meeting several criteria that could be developed to meet the RHNA. If a local jurisdiction cannot demonstrate that there are enough sites to accommodate the RHNA, the local jurisdiction is required to develop a rezoning program.
- **Rezoning Program**: The County must demonstrate adequate capacity for 90,052 units. Since the County can only accommodate 39,007 units, the RHNA gap of approximately 51,000 units will be accommodated by a rezoning program. In addition to the 51,000 units, the rezoning program includes areas to exceed the capacity to accommodate the RHNA because state guidance on implementation of Government Code Section 65863 (Senate Bill 166, No Net Loss Law) recommends that jurisdictions create a buffer in the Housing Inventory, especially for capacity to accommodate the lower income RHNA. Thus, for purposes of this PEIR it is conservatively assumed that the rezoning program would result in the addition of approximately 63,443 dwelling units and reduction of 16.0 million square feet of commercial uses.
- **Constraints and Barriers**: The Housing Element also identifies potential and actual governmental constraints to the maintenance, improvement, or development of housing for all income levels, including housing for people with disabilities.
- **Goals, Policies, and Implementation Program**: The Housing Element update will also include goals, policies, and implementation programs to address housing needs.
- **Amendments to Title 22 (Planning and Zoning) of the County Code**: The Zoning Code will be amended to add development standards pertaining to floor area dedicated to residential use in mixed use projects in the Mixed Use Development Zone (MXD).
- **Amendments to the General Plan Land Use Element**: The Land Use Legend will be amended to (1) add a minimum allowable residential density to certain land use designations and (2) establish that the allowable residential density specified by the General Commercial (CG) land use designation in the General Plan also applies to the commercial land use designations in certain community-based plans, where such land use designations do not currently specify an allowable residential density.

2.3 Type, Purpose, and Intended Uses of the PEIR

This Draft PEIR is intended to serve as a PEIR under CEQA. Although the legally required contents of a PEIR are the same as those of a Project EIR, PEIRs are typically more conceptual and may contain a more general or qualitative discussion of impacts, alternatives, and mitigation measures than a Project EIR. As provided in CEQA Guidelines Section 15168, a PEIR may be prepared on a series of actions that may be characterized as one large project. Use of a PEIR provides the County (as lead agency) with the opportunity to consider broad policy alternatives and program wide mitigation measures, and provides the County with greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive basis. According to CEQA Guidelines Section 15168(a), a PEIR may be prepared on a series of actions that can be characterized as one large project and are related either:

(1) Geographically
(2) As logical parts in the chain of contemplated actions
(3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
(4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally simi lar environmental effects which can be mitigated in similar ways.

A PEIR is appropriate for the Proposed Project because it satisfies Section 15168(a). The Project Area includes unincorporated Los Angeles County; is within a logical part in a chain of contemplated actions for the Sixth Cycle Housing Element Update; would be under the County's rules, regulations, plans, and other general criteria; is carried out under one regulatory authority, the County; and would have generally similar environmental effects, as they relate to increasing housing units within the County, which can be mitigated in similar ways.

Once a PEIR has been prepared, subsequent activities within the program must be evaluated to determine whether an additional CEQA document needs to be prepared. However, if the PEIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities could be found to be within the PEIR scope and additional environmental documents may not be required (14 CCR 15168[c]). When a PEIR is relied on for a subsequent activity, the lead agency must incorporate feasible mitigation measures and alternatives developed in the PEIR into the subsequent activities (14 CCR 15168[c][3]). If a subsequent activity would have effects that were not examined in the PEIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or an EIR (14 CCR 15168[c][1]). In this case, the PEIR still serves a valuable purpose as the first-tier environmental analysis. The CEQA Guidelines encourage the use of PEIRs, citing five advantages in Section 15168(b):

(1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,
(2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,
(3) Avoid duplicative reconsideration of basic policy considerations,
(4) Allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and
(5) Allow reduction in paperwork.

The Proposed Project involves the implementation of a broad policy planning document. The project-level details of the implementation of the Proposed Project would not be known at the time of preparation of the EIR. The PEIR approach would provide a sufficient level of analysis for the broad nature of the Proposed Project.

2.4 Notice of Preparation

The County has complied with the CEQA Guidelines by providing opportunities for early participation in the environmental review process. Specifically, in accordance with Section 15082(a) of the CEQA Guidelines, the County circulated a Notice of Preparation (NOP) for a 30-day public review. The NOP was sent to the State Clearinghouse, public agencies, special districts, responsible and trustee agencies, and other interested parties for a public review period that began on January 5, 2021, and ended on February 4, 2021 (CEQA Public Review and Scoping Period). The purpose of the NOP is to formally convey that the County, as the lead agency, solicited input regarding the scope and proposed content of the Draft PEIR.

Copies of the NOP were made available for electronic download on the County's website at https://planning.lacounty.gov/housing/.

The NOP included a description of the Proposed Project, identification of potential environmental effects associated with Proposed Project approval and implementation, and an invitation to agencies and the public to review and comment on the NOP; the NOP and comments are provided in Appendix A of this Draft PEIR. Comments on the NOP were received from two individuals, five agencies, and two groups. The NOP comment letters, which contain environmental concerns, are listed in Table 2-1, along with a summary of the environmental issues raised and the Draft PEIR section where the environmental topics are addressed.

Table 2-1. Notice of Preparation and Comment Letters Summary

Sender of Comments	Date Received	General Summary of Comments	Addressed In Section(s)
Individuals			
Concepcion Aguirre	January 11, 2021	The commenter discusses homeless encampments and raises issue with home values.	Section 4.14, Population and Housing
Adrienne Ortega	January 11, 2021	The commenter expresses disagreement with the Housing Element update and compact housing. Additionally, the commenter states adding density is a negative and immigrants are not counted, which further adds to the issue.	Section 4.14, Population and Housing
Regional/Local Agency			
California Department of Transportation (Caltrans)	January 15, 2021	Caltrans does not expect the Proposed Project to result in a direct adverse impact to existing state transportation facilities. However, to not induce excessive vehicle miles traveled, Caltrans recommends reducing or eliminating parking requirements.	Chapter 3, Project Description, and Section 4.17, Transportation
County of Ventura, Transportation Department	February 2, 2021	The County of Ventura is concerned about potential rezoning impacts on the Regional Road Network and the need to disclose and mitigate potential impacts.	Chapter 3, Project Description, and Section 4.17, Transportation

Table 2-1. Notice of Preparation and Comment Letters Summary

Sender of Comments	Date Received	General Summary of Comments	Addressed In Section(s)
South Coast Air Quality Management District (SCAQMD)	February 2, 2021	SCAQMD provides recommendations on the air quality analysis and requests all appendices related to air quality, health risk, and greenhouse gas analyses. SCAQMD provides resources for the air quality and greenhouse gas analyses and potential mitigation measures to be utilized to minimize any significant impacts.	Section 4.3, Air Quality, and Section 4.8, Greenhouse Gas Emissions
City of Santa Clarita	February 2, 2021	The commenter provides specific comments related to land use, traffic/transportation, jobs/housing imbalance, and utilities and service systems. • Land Use – The Santa Clarita Valley (SCV) Area Plan and Santa Clarita General Plan focus on higher density towards the urban core to preserve open space. The commenter raises concern about increasing densities outside of this core. • Traffic/Transportation - Proposed rezoning may potentially increase traffic. The city requests a fully revised traffic analysis zone analysis be conducted. • Jobs/Housing Imbalance – The city is concerned about any actions that may increase the existing jobs/housing imbalance in the SCV Area Plan • Utilities and Service Systems - Increase in density beyond what was anticipated in the SCV Area Plan can increase demand on utilities. The city requests appropriate utility demand analysis, including a Water Supply Assessment.	Section 4.11, Land Use and Planning; Section 4.14, Population and Housing; Section 4.17, Transportation; and Section 4.19, Utilities and Service Systems
California Department of Fish and Wildlife (CDFW)	February 3, 2021	CDFW discusses their role and is submitting comments as a Responsible Agency. CDFW recommends maximizing development where it already exists; reviewing any overlap with the South Coast Missing Linkages Project; conducting a biological resources survey, including measures to avoid impacts to nesting birds; and providing mitigation measures where future housing removes nesting habitat and bat roosting habitat. CDFW also includes general comments about disclosure, mitigation measures, baseline, data, direct/indirect/cumulative impacts, alternatives, California Endangered Species Act, jurisdictional waters, wetland resources, translocation/salvage of plants and animal species, compensatory mitigation, and long-term management.	Section 4.4, Biological Resources

Table 2-1. Notice of Preparation and Comment Letters Summary

Sender of Comments	Date Received	General Summary of Comments	Addressed In Section(s)
Organizations			
Building Industry Association of Southern California	February 4, 2020	The Building Industry Association recommends the PEIR be circulated for at least 60 days. They recommend careful consideration of the environmental consequences of too narrowly focusing new development away from undeveloped lands and to evaluate constraints on development.	Chapter 3, Project Description; Section 4.11, Land Use and Planning; Section 4.14, Population and Housing; Section 4.20, Wildfire
Acton Town Council	February 4, 2020	The comment letter summarizes the Proposed Project scope and offers comments related to these components. The Acton Town Council requests information on the Adequate Sites Inventory, rezoning program, goals, policies, and implementation programs, amendments to the current Housing Element, and amendments to Title 22. The commenter does note the PEIR should examine impacts related to soil and groundwater contamination, trash, wildfire, and vehicle miles traveled.	Chapter 3, Project Description; Section 4.15, Public Services; and Section 4.16, Recreation

2.5 Scoping Meeting

Pursuant to CEQA Statute Section 21083.9 and CEQA Guidelines Section 15082(c), the lead agency is required to conduct at least one scoping meeting for all projects of state-wide, regional, or area-wide significance as outlined in Section 15206 of the CEQA Guidelines. The scoping meeting is for jurisdictional agencies and interested persons or groups to provide comments regarding, but not limited to, the range of actions, alternatives, mitigation measures, and environmental effects to be analyzed.

On March 4, 2020, the Governor proclaimed a State of Emergency in California as a result of the threat of COVID-19. On March 17, 2020, the Governor issued Executive Order N-29-20 (superseding the Brown Act-related provisions of Executive Order N-25-20 issued on March 12, 2020), which allows a local legislative body to hold public meetings via teleconferencing and to make public meetings accessible telephonically or otherwise electronically to all members of the public seeking to observe and to address the local legislative body. Therefore, the Proposed Project's Scoping Meeting was held online, through a webinar type format, with the option to participate by telephone only. The County hosted the virtual Scoping Meeting on Saturday, January 23, 2021, from 10:00 a.m. to 11:30 a.m. Registration was made available through the County's website at https://planning.lacounty.gov/housing/involved and Spanish translation was made available.

At the conclusion of the presentation, attendees of the webinar were able to provide comments and questions about the Proposed Project to County staff and the project consultants during the question and answer portion of the meeting.

2.6 Public Review of the Draft PEIR

In accordance with the CEQA Guidelines, the Draft PEIR is distributed to responsible and trustee agencies, other affected agencies, bordering municipalities, interested parties, and all parties who requested a copy of the Draft PEIR for a 45-day public review period. A notice announcing the availability (Notice of Availability) of the Draft PEIR was published in the following local newspapers; The Acton-Agua Dulce News, The Antelope Valley Press, The Gardena Valley News, La Opinion, The Los Angeles Sentinel, The Malibu Times, The Pasadena Star News, The San Gabriel Valley Daily Tribune, The Argonaut, The Signal, The Whittier Daily News, The Daily Breeze, and The Acorn. The 45-day public review period of the Draft PEIR began on Wednesday, June 9, 2021, and ends on Monday, July 26, 2021. Comments on the Draft PEIR from public agencies (including responsible and trustee agencies), bordering municipalities, interested parties, and the general public will be accepted during the 45-day public review period.

Written comments would need to be received by the County on or before Monday, July 26, 2021, at 5:00 p.m. Written comments could be provided via email to housing@planning.lacounty.gov, or by mail to:

Tina Fung | Supervising Regional Planner
Housing Policy Section
Los Angeles County Department of Regional Planning
320 W. Temple Street, 13th Floor | Los Angeles, California 90012

The Draft PEIR can be viewed or downloaded at the County's website at http://planning.lacounty.gov/housing/eir.

2.7 Scope of Environmental Impact Report

2.7.1 Impacts Considered Less Than Significant

No environmental impact categories are identified here as not being significantly affected by, or affecting, the Proposed Project.

2.7.2 Potentially Significant Adverse Impacts

Twenty environmental factors have been identified as potentially significant impacts if the Proposed Project is implemented. Therefore, these impacts are analyzed in this Draft PEIR:

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

2.7.3 Significant Unavoidable Adverse Impacts

This Draft PEIR identifies significant and unavoidable adverse impacts, as defined by CEQA, which would result from implementation of the Proposed Project. Unavoidable adverse impacts may be considered significant on a project-specific basis, cumulatively significant, and/or potentially significant. If the County, as the Lead Agency, determines that unavoidable significant adverse impacts will result from the Proposed Project, the County must prepare a "Statement of Overriding Considerations" before it can approve the Project. A Statement of Overriding Considerations states that the decision-making body has balanced the benefits of the Proposed Project against its unavoidable significant environmental effects and has determined that the benefits of the Proposed Project outweigh the adverse effects. Therefore, the adverse effects are considered to be acceptable. The following impacts were found in the Draft PEIR to be significant and unavoidable are:

- Cultural Resources
- Air Quality
- Noise
- Transportation

2.8 Incorporation By Reference

All documents cited or referenced are incorporated into the PEIR in accordance with CEQA Guidelines Sections 15148 and 15150, including but not limited to the following:

- 2020-2045 Connect SoCal (Regional Transportation Plan/Sustainable Communities Strategy), SCAG (2020)
- Altadena Community Plan, County of Los Angeles, Department of Regional Planning (1986)
- County of Los Angeles 2035 General Plan, County of Los Angeles, Department of Regional Planning (2015)
- County of Los Angeles General Plan 2035 EIR County of Los Angeles, Department of Regional Planning (June 2014)
- Connect Southwest LA: A TOD Specific Plan for West Athens-Westmont, Department of Regional Planning (2020)
- East Los Angeles Community Plan, County of Los Angeles, Department of Regional Planning (1988)
- East Los Angeles 3rd Street Specific Plan, Department of Regional Planning (2020)
- Florence-Firestone Community Plan, County of Los Angeles, Department of Regional Planning (2019)
- Hacienda Heights Community Plan, County of Los Angeles, Department of Regional Planning (2011)
- Los Angeles County Traffic Impact Analysis Guidelines, Department of Public Works
- Santa Clarita Valley Area Plan, County of Los Angeles, Department of Regional Planning (2012)
- Santa Clarita Valley Area Plan Final EIR, County of Los Angeles, Department of Regional Planning (2012)
- West Athens/Westmont Community Plan, County of Los Angeles, Department of Regional Planning (1989)
- West Carson TOD Specific Plan, County of Los Angeles, Department of Regional Planning (2019)
- Willowbrook TOD Specific Plan, County of Los Angeles, Department of Regional Planning (2018)
- Zoning Ordinance, Title 22, Los Angeles County Code (2021)

In each instance where a document is incorporated by reference for purposes of this Draft PEIR, the Draft PEIR shall briefly summarize the incorporated document, or briefly summarize the incorporated data if the document cannot be summarized. In addition, the Draft PEIR shall explain the relationship between the incorporated part of the referenced document and the Draft PEIR.

This Draft PEIR relies upon previously adopted regional and statewide plans and programs, agency standards, and background studies in its analyses. All of the County documents that are incorporated by reference, are available for review online at http://planning.lacounty.gov/. Members of the public may contact the Department of Regional Planning at housing@planning.lacounty.gov or at 231.974.6417 for assistance in locating the documents.

2.9 Mitigation Monitoring Procedures

CEQA Guidelines Section 15097 requires that the mitigation measures and revisions to the Proposed Project identified in the PEIR are implemented. Therefore, CEQA requires that the lead agency must adopt a program for monitoring or reporting on the required revisions and the measures it has imposed to mitigate or avoid significant environmental effects. The Mitigation Monitoring and Reporting Program for the Proposed Project will be completed as part of the Final PEIR, prior to consideration of the Proposed Project by the County Regional Planning Commission and Los Angeles County Board of Supervisors.

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3 Project Description

Chapter 3 of this Draft Program Environmental Impact Report (PEIR) provides a description of the Proposed Los Angeles County Housing Element Update (Proposed Project). The purpose of this chapter is to describe the Proposed Project in a manner that will be meaningful for review by the public, reviewing agencies, and decision-makers in accordance with the California Environmental Quality Act (CEQA), California Public Resources Code Sections 21000 et seq., and the State CEQA Guidelines (14 CCR 15000 et seq.).

3.1 Introduction

California state law requires each city and county to adopt a general plan containing at least seven elements: land use, transportation, conservation, noise, open space, safety, and housing. The law mandating that housing be included as an element of each general plan is known as the Housing Element Law. California's Housing Element Law acknowledges that, in order for the private market to adequately address the housing needs and demand of Californians, local governments must adopt plans and regulatory systems that provide opportunities for (and do not unduly constrain), housing development. As a result, housing policy in California rests largely on the effective implementation of local general plans and, in particular, local housing elements.

The Housing Element is subject to detailed statutory requirements and mandatory review by the State Department of Housing and Community Development. This Housing Element Update is an update of the previous Housing Element for the County of Los Angeles (the County), which was adopted by the County Board of Supervisors on February 4, 2014.

The timing for jurisdictions to update their Housing Elements is based on the update schedule of the regional transportation plans (RTPs) by the federally designated metropolitan planning organizations. The County of Los Angeles is a member of the Southern California Association of Governments (SCAG), which is the designated metropolitan planning organization for the region. SCAG is required to update its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) every 4 years, which puts all member jurisdictions on a schedule to update their Housing Elements every 8 years. The SCAG Regional Council adopted the Connect SoCal plan (2020–2045 RTP/SCS) on September 3, 2020. For SCAG member jurisdictions, the 6th Cycle Housing Element planning period extends from 2021 to 2029. As part of Connect SoCal, SCAG assigns a number of housing units that the County is required to plan for in the 8-year Housing Element cycle. That number of units is called the Regional Housing Needs Allocation (RHNA), and it is broken down by income category, ensuring that all economic groups are accommodated. Table 3-1 provides the RHNA allocation required for unincorporated County by household income group.

Table 3-1. Unincorporated Los Angeles County RHNA

Income Level	Number of Units
Very Low Income	25,648
Low Income	13,691
Moderate Income	14,180
Above Moderate Income	36,533
Total RHNA Allocation	**90,052**

Source: SCAG 2021.
Note: RHNA = Regional Housing Needs Allocation.

Under the RHNA allocation, unincorporated County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. Of these units, a total of 39,339 units must accommodate the County's lower-income RHNA, which means they must be identified on multi-family-zoned sites that have a minimum density of 30 dwelling units per acre. The County provides capacity for housing through local zoning regulations. The County, however, is not required to physically construct 90,052 units as a result of the RHNA allocation. Section 3.3, Project Description, describes the project components in detail.

3.2 Project Location

Los Angeles County is geographically one of the largest counties in the country. Encompassing approximately 4,083 square miles, it stretches along 75 miles of the Pacific Coast of Southern California and is bordered by Orange County to the southeast, San Bernardino County to the east, Kern County to the north, and Ventura County to the west. It also includes two offshore islands, Santa Catalina Island and San Clemente Island. The regional location of Los Angeles County is shown in Figure 3-1, Regional Vicinity Map.

The area for the Project (Project Area) includes only the unincorporated areas of Los Angeles County (unincorporated areas), which is approximately 65% of the total land area in Los Angeles County. The unincorporated areas in the northern portion of the County are composed largely of sparsely populated land and include the Angeles National Forest, part of the Los Padres National Forest, and part of the Mojave Desert. The unincorporated areas in the southern portion of the County consist of noncontiguous land areas, which are often referred to as the "unincorporated urban islands." These unincorporated areas are shown in Figure 3-2, Unincorporated Areas of Los Angeles County. The General Plan divides Los Angeles County into 11 Planning Areas, as shown in Figure 3-3, Planning Areas.

- Antelope Valley Planning Area
- Coastal Islands Planning Area
- East San Gabriel Valley Planning Area
- Gateway Planning Area
- Metro Planning Area
- San Fernando Valley Planning Area
- Santa Clarita Valley Planning Area
- Santa Monica Mountains Planning Area
- South Bay Planning Area
- West San Gabriel Valley Planning Area
- Westside Planning Area

Although the Project Area includes all unincorporated areas of the County, the analysis within this Draft PEIR focuses on candidate housing sites located generally in the areas included as part of the Proposed Project's rezoning program, shown in Figure 3-4, Rezoning Program, because these are the areas that may potentially have significant environmental impacts based on direct, reasonably foreseeable, and indirect physical changes in the environment. The Proposed Project's rezoning program includes areas that may result in changes to the environment that were not already considered in previous environmental analyses or studies; refer to Section 3.3 for further details.

Figures 3-5A through 3-5G identify the areas within the rezoning program by Planning Area. As illustrated, the areas that would not be affected by the rezoning program are the Antelope Valley Planning Area, the Coastal Islands Planning Area, the Santa Clarita Valley Planning Area, and the Santa Monica Mountains Planning Area.

Figures 3-5A through 3-5G identify the areas within the rezoning program by Planning Area. As illustrated, the areas that would not be affected by the rezoning program are the Antelope Valley Planning Area, the Coastal Islands Planning Area, the Santa Clarita Valley Planning Area, and the Santa Monica Mountains Planning Area.

3.3 Project Description

The Proposed Project would include an update to the Los Angeles County Housing Element. As previously described, the Housing Element is one of the seven required elements of the County General Plan per the California Government Code, beginning at Section 65583. The Housing Element serves as a policy guide to address the comprehensive housing needs of the unincorporated areas. The primary focus of the Housing Element is to ensure decent, safe, sanitary, and affordable housing for current and future residents of the unincorporated areas, including those with special needs. The County is required to ensure the availability of residential sites, at adequate densities and appropriate development standards, in the unincorporated areas to accommodate its fair share of the regional housing need, its RHNA allocation. The Proposed Project consists of six main components, which are described in Section 3.3.2, Project Components.

3.3.1 Statement of Objectives

The purpose of the Proposed Project is to address the housing needs and objectives of the County to meet State Housing Law requirements. The following goals have been established for the Proposed Project:

Goal 1 A wide range of housing types in sufficient supply to meet the needs of current and future residents, particularly for persons with special needs, including but not limited to extremely low, very low and lower income households, seniors, persons with disabilities (including those with developmental disabilities), large households, female-headed households, people experiencing homelessness and at risk of homelessness, and farmworkers.

Goal 2 Communities with equitable access to employment opportunities, community facilities and services, and amenities.

Goal 3 A housing supply that ranges broadly in costs to enable all households, regardless of income, to secure adequate housing.

Goal 4 A comprehensive system of support services and housing that prevents and ends homelessness.

Goal 5 Opportunities for extremely low, very low, low, and moderate income households and those with special needs to attain and maintain affordable and adequate housing.

Goal 6 Neighborhoods with a stable supply of housing that is affordable to residents of all income levels and facilitates aging in place.

Goal 7 Protection against residential displacement.

Goal 8 Neighborhoods and housing environments that are livable, healthy, and safe for all residents.

Goal 9 An adequate supply of housing preserved and maintained in sound condition.

Goal 10 Accessibility to adequate housing for all persons without discrimination in accordance with state and federal fair housing laws.

Goal 11 Alignment of housing production with state and local sustainability goals in order to protect natural resources, reduce greenhouse gas emissions, and foster climate resilience.

Goal 12 Planning for and monitoring the long-term affordability of adequate housing.

3.3.2 Project Components

The Proposed Project consists of the following main components, as described in further detail below.

- Adequate Sites Inventory
- Rezoning Program
- Constraints and Barriers
- Goals, Policies, and Implementation Programs
- Amendments to Title 22 (Planning and Zoning) of the County Code
- Amendments to the General Plan Land Use Element

This PEIR considers and evaluates the Proposed Project as a whole, and the potential impacts associated with future housing development facilitated by the Proposed Project based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. The analysis, therefore, focuses on candidate housing sites as part of the Proposed Project's rezoning program at a programmatic level. The Proposed Project's rezoning program includes areas that may result in changes to the environment that were not already considered in previous environmental analysis or studies. Additional housing sites in locations dispersed through the County may also be considered for future development, facilitated by the Proposed Project. However, further analysis was not conducted because the County had no further information and other potential sites or areas countywide are considered speculative at this time.

Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district (TOD) specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

Adequate Sites Inventory

The RHNA is mandated by state law to quantify future housing growth throughout the state. This informs the local planning process by addressing existing and future housing need resulting from estimated growth in population, employment, and households. SCAG is responsible for oversight of the RHNA process in the SCAG region, which encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities in an area covering more than 38,000 square miles. The RHNA for the County for the 2021–2029 planning period is 90,052 units, which is broken down by income category to accommodate the estimated growth need at various income levels (see Table 3-1). As required by state law, the Housing Element must identify the County's ability to accommodate this estimated growth through available sites and appropriate land use policy and zoning. Refer to Figure 3-6, RHNA Capacity, which illustrates the County's overall RHNA capacity through various strategies, including the adequate sites inventory, the rezoning program, County-owned projects, entitled/pipeline projects, etc.

To demonstrate that there are enough sites within the unincorporated areas with adequate densities to accommodate the RHNA at each income level, the Housing Element Update will include an adequate sites inventory. In order to count toward the RHNA, sites must meet several criteria, including residential zoning of a certain density, a minimum lot size, and being vacant or underutilized. "Underutilized" means that the property is not built to its maximum capacity, so there is potential for more units on the site. If a local jurisdiction cannot demonstrate that there are enough sites to accommodate the RHNA, the local jurisdiction is required to develop a rezoning program. The rezoning ensures that there are enough sites with sufficient densities to address the housing need. As a part of the County's Housing Element Update, the County will include a rezoning program. The rezoning program aims to focus growth and increased density in the unincorporated areas with access to services and infrastructure and outside the County's environmentally sensitive and naturally constrained areas. Further details on the rezoning program are described in the following section.

Rezoning Program

It has been determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County has included a rezoning program in the Housing Element to accommodate its RHNA gap. Table 3-2 identifies the RHNA gap by household income group.

Table 3-2. RHNA Gap

Income Level	RHNA	Units County Can Accommodate Under Current Land Use and Zoning	RHNA Gap
Very Low and Low Income	39,339	19,071	20,268
Moderate Income	14,180	8,120	6,060
Above Moderate Income	36,533	11,816	24,717
Total	**90,052**	**39,007**	**51,045**

Source: SCAG 2021; County of Los Angeles, pers. comm., 2021.
Note: RHNA = Regional Housing Needs Allocation.

Methodology

The general locations of areas identified for the rezoning program were selected using a mapping application developed by the County. The mapping application uses objective criteria through a scoring system. Factors include the identification of existing infrastructure such as public water and sewer, existing commercial corridors, and infill communities. The rezoning methodology excludes areas identified in Figure C.1, Hazard, Environmental and Resource Constraints Map of the General Plan (County of Los Angeles 2014). Remaining areas were scored using additional criteria including, but not limited to, proximity to transit, amenities, and services; access to infrastructure such as public water and sewer; and location within higher resource areas in terms of educational attainment, employment, and economic mobility. The general locations of areas identified for the rezoning program are identified in Figures 3-4 and 3-5A through 3-5G.

The rezoning program includes areas that would exceed the total 51,045-unit gap. State guidance on implementation of California Government Code Section 65863 (Senate Bill 166, No Net Loss Law) recommends that jurisdictions create a buffer in the Housing Inventory of at least 15% to 30% more capacity than required, particularly for lower-income allocation, for the purposes of creating the inventory of sites. Additionally, the areas within the rezoning program identified for the purposes of this Draft PEIR include those that would not meet the

State Department of Housing and Community Development criteria for RHNA-eligible parcels and are included as part of the rezoning program to avoid spot zoning. These areas, along with the RHNA-eligible areas, were included in the Draft PEIR analysis to represent the "worst-case" scenario.

The analysis takes a conservative approach by analyzing a reasonable worst-case scenario of environmental impacts from future implementation of the 2021–2029 Housing Element, which is the additional units that would result from the rezoning program. The potential additional units may occur in a multitude of housing development types including, but not limited to, multi-family residential ranging from small apartment buildings with 2 to 10 units, medium apartment buildings with between 11 and 49 units, or large apartment buildings with between 50 and 200 units. Future units may also include accessory dwelling units and junior accessory dwelling units, which are exempt from CEQA and discretionary permits per California Government Code Sections 65852.2 and 65852.22.

Constraints and Barriers

Another component of the Housing Element Update is the identification and analysis of potential and actual governmental constraints to the maintenance, improvement, or development of housing for all income levels, including housing for people with disabilities. The Housing Element Update will identify the specific standards and processes of these constraints and evaluate their impact on the supply and affordability of housing. This analysis will determine whether local regulatory standards pose an actual constraint and must also demonstrate local efforts to remove constraints that hinder a local jurisdiction from meeting its housing needs. At a minimum, the analysis will address the following: codes and enforcement and on- and off-site improvement standards, constraints for people with disabilities, fees and exactions, land use controls, non-governmental constraints, and processing and permitting procedures. New state law requirements regarding lending, labor shortage, neighborhood opposition to housing, and other private and environmental constraints will also be addressed.

Goals, Policies, and Implementation Programs

The Housing Element Update will also include goals, policies, and implementation programs to address housing needs.

Goals General statements about the desired housing outcomes expressing the community's values. The goals of the Housing Element are carried forward and listed here in Section 3.3.1, Statement of Objectives.

Policies Specific statements that guide decision making. Please refer to the Housing Element for the complete list of policies.

Implementation Programs. Actions for carrying out the policies of the Housing Element. Each implementation program identifies lead/partner agencies and timelines. The Department of Regional Planning partners with other County agencies that oversee housing, such as the Los Angeles County Development Authority and the Los Angeles Homeless Services Authority, for the implementation and administration of these programs. Please refer to the Housing Element for the complete list of programs.

Amendments to Title 22 (Planning and Zoning) of the County Code

The Zoning Code will be amended to add development standards pertaining to floor area dedicated to residential use in mixed use projects in the Mixed Use Development Zone (MXD).

Amendments to the General Plan Land Use Element

The Land Use Legend will be amended to (1) add a minimum allowable residential density to certain land use designations and (2) establish that the allowable residential density specified by the General Commercial (CG) land use designation in the General Plan will also apply to the commercial land use designations in certain community-based plans, where such land use designations do not currently specify the allowable residential density.

The amendments shown in Table 3-3 will be made to the General Plan Land Use legend (as indicated in ~~strikeout~~/underline) to ensure consistency with the rezoning associated with the Proposed Project.

Table 3-3. General Plan Land Use Legend Amendments

Land Use	Code	Permitted Density or FAR	Purpose
Residential			
Residential 30	H30	Residential: ~~0~~ 20-30 du/net ac	Purpose: Single family residences, two family residences, multifamily residences.
Residential 50	H50	Residential: ~~0~~ 20-50 du/net ac	
Commercial			
General Commercial	CG	Residential: ~~0~~ 20-50 du/net ac** Non-Residential: Maximum FAR 1.0 Mixed Use: ~~0~~ 20-50 du/net ac** and FAR 1.0	Purpose: Local-serving commercial uses, including retail, restaurants, and personal and professional services; single family and multifamily residences; and residential and commercial mixed uses. **Also applicable to residential developments or the residential component in mixed-use developments on lots with one of the following land use designations: • Altadena Community Plan: Business Park (BP) or General Commercial (GC); • East Los Angeles Community Plan: Community Commercial (CC), Major Commercial (MC), or Commercial Manufacturing (CM); • Rowland Heights Community Plan: Commercial (C); • Walnut Park Neighborhood Plan: General Commercial (GC), Mixed Commercial (MC), or Office Commercial (OC); or • West Athens-Westmont Community Plan: Regional Commercial (C.1), Community Commercial (C.2), Neighborhood Commercial (C.3), Commercial Manufacturing (C.4), or Commercial Recreation (CR).
Mixed Use			
Mixed Use	MU	Residential: ~~0~~ 50-150 du/net ac Non-Residential: Maximum FAR 3.0	Purpose: Pedestrian-friendly and community-serving commercial uses that encourage walking, bicycling, and transit use; residential and commercial mixed uses; and multifamily residences.

Table 3-3. General Plan Land Use Legend Amendments

Land Use	Code	Permitted Density or FAR	Purpose
		Mixed Use: ~~0~~ 50-150 du/net ac and FAR 3.0	

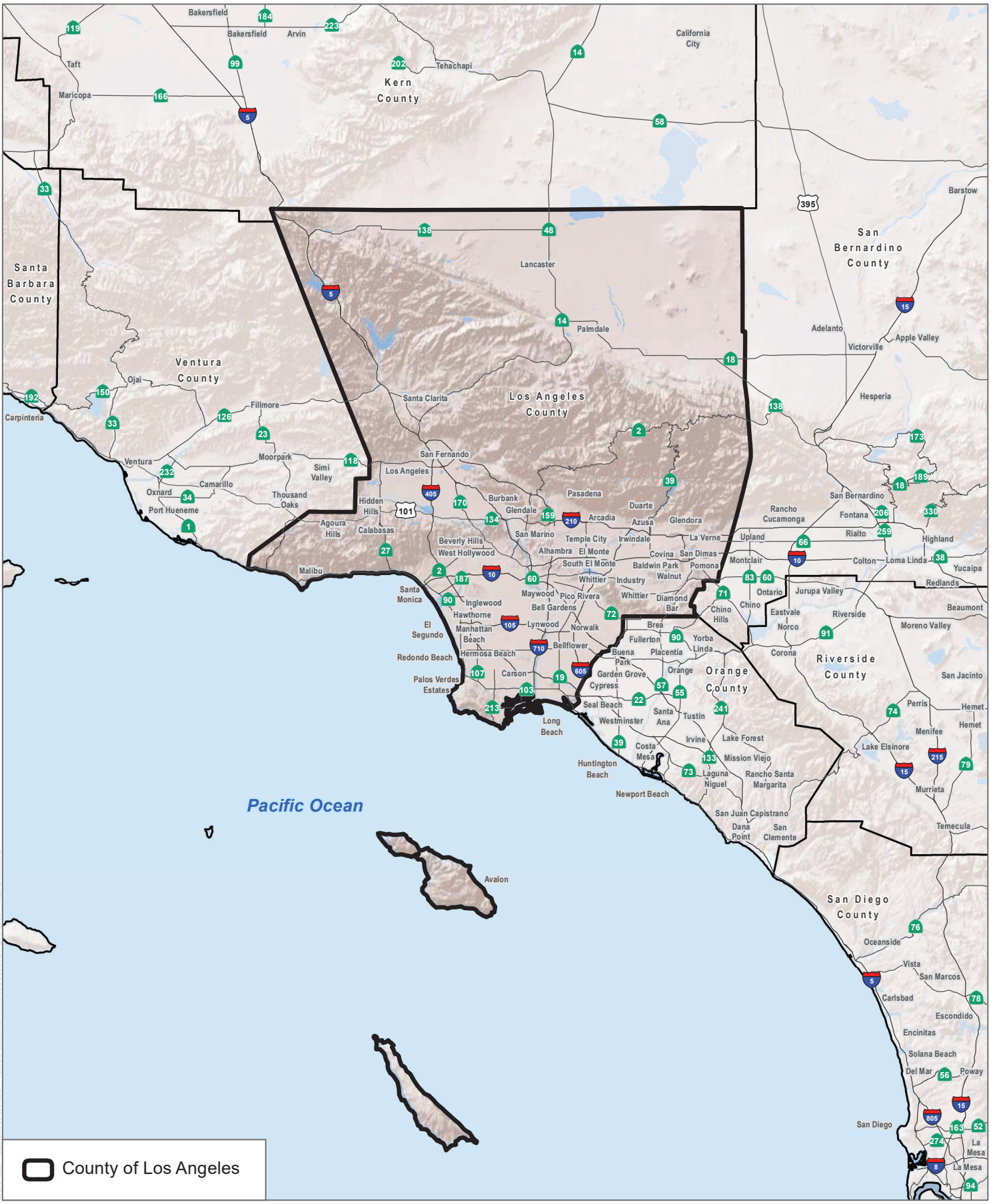
Notes: FAR = floor area ratio; du/net ac = dwelling units per net acre.

3.4 References

County of Los Angeles. 2014. Figure C.1 Hazard, Environmental and Resources Constraints Map. County of Los Angeles Department of Regional Planning. November 2014. https://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_C-1_Hazard_Environmental_Constraints.pdf.

County of Los Angeles. 2021. Comments and text edits provided by County of Los Angeles Department of Regional Planning to Dudek. May 2021.

SCAG (Southern California Association of Governments). 2021. SCAG 6th Cycle Final RHNA Allocation Plan (approved by HCD on 3/22/21). March 4, 2021. https://scag.ca.gov/sites/main/files/file-attachments/6th-cycle-rhna-final-allocation-plan.pdf?1616462966.



SOURCE: ESRI 2021; CPAD 2020

DUDEK

0 10 20 Miles

FIGURE 3-1

Regional Vicinity Map

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

DUDEK

0 5 10 Miles

FIGURE 3-2

Unincorporated Areas of Los Angeles County

Los Angeles County Housing Element Update

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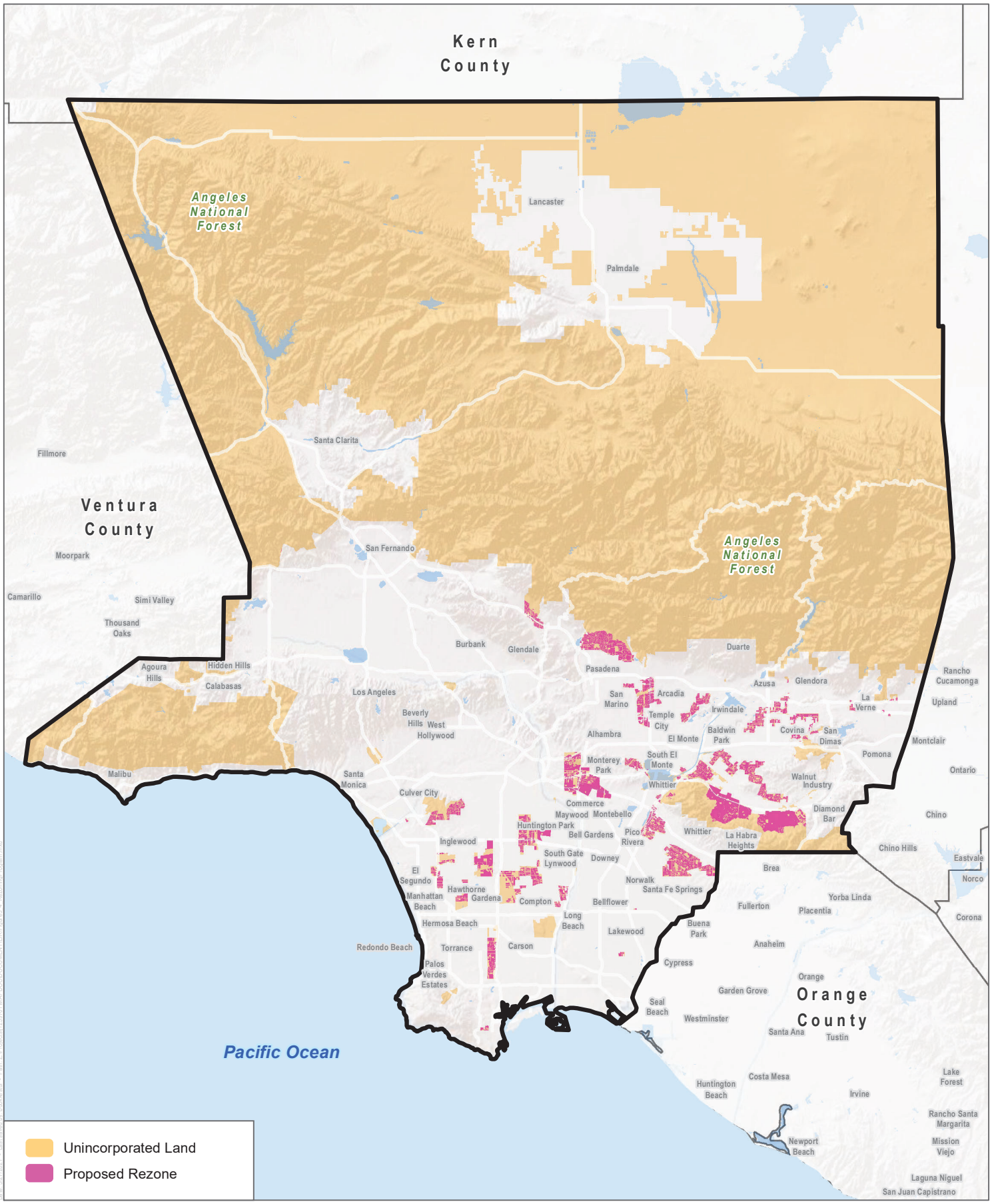
SOURCE: ESRI 2021; LA County 2021

FIGURE 3-3

Planning Areas

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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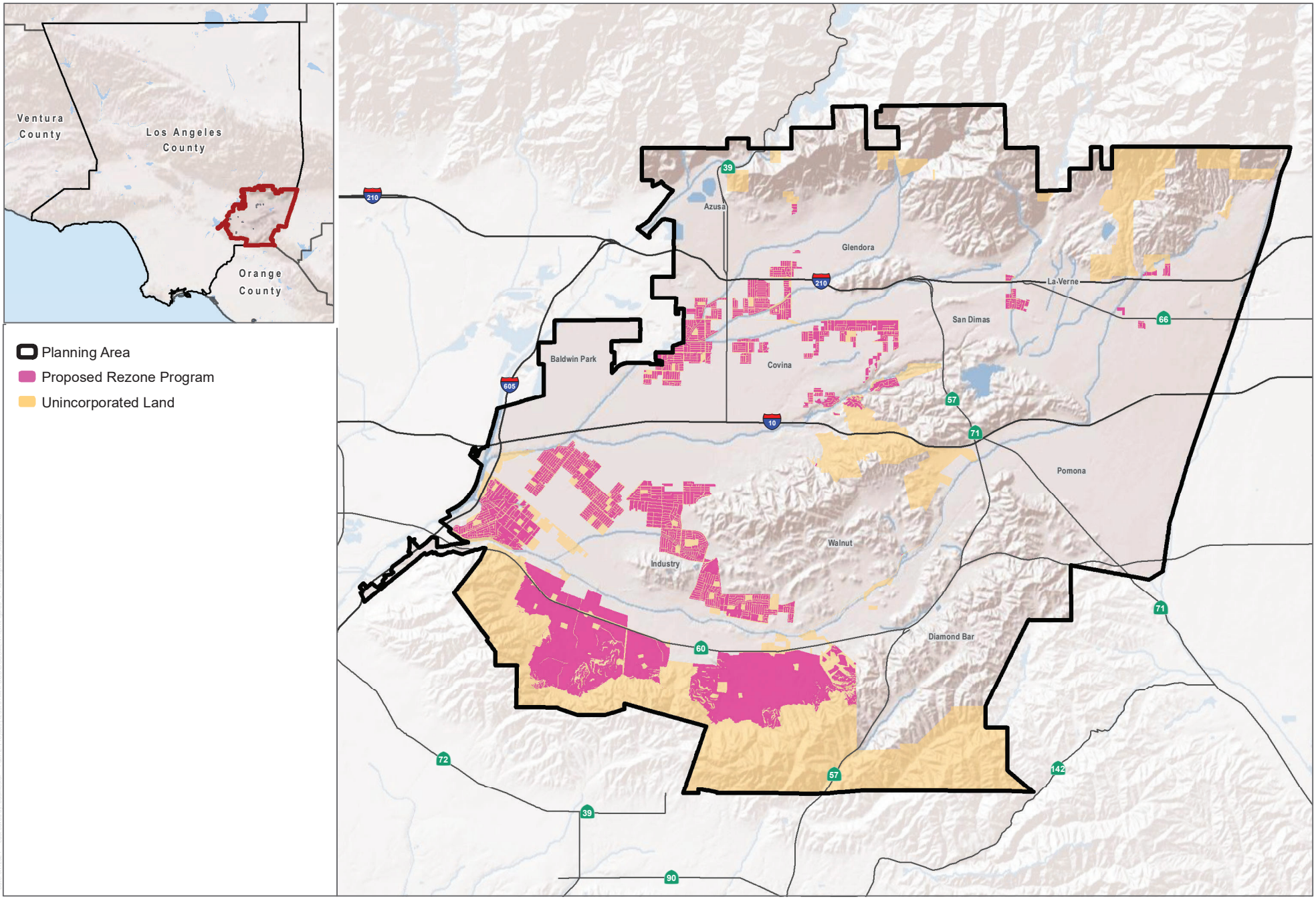
0 5 10 Miles

FIGURE 3-4

Rezoning Program

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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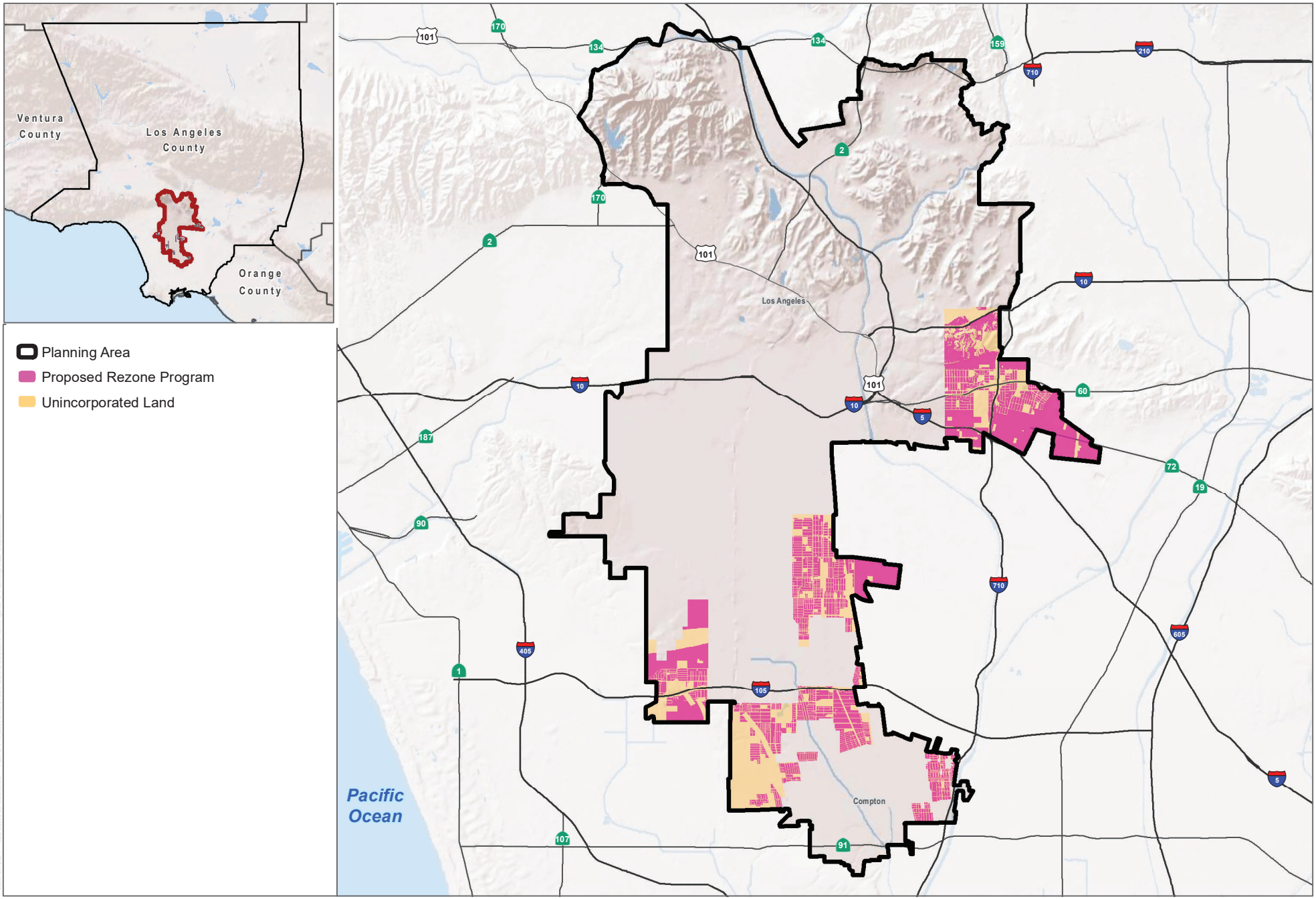
0 8,000 16,000 Feet

FIGURE 3-5A

East San Gabriel Valley Planning Area

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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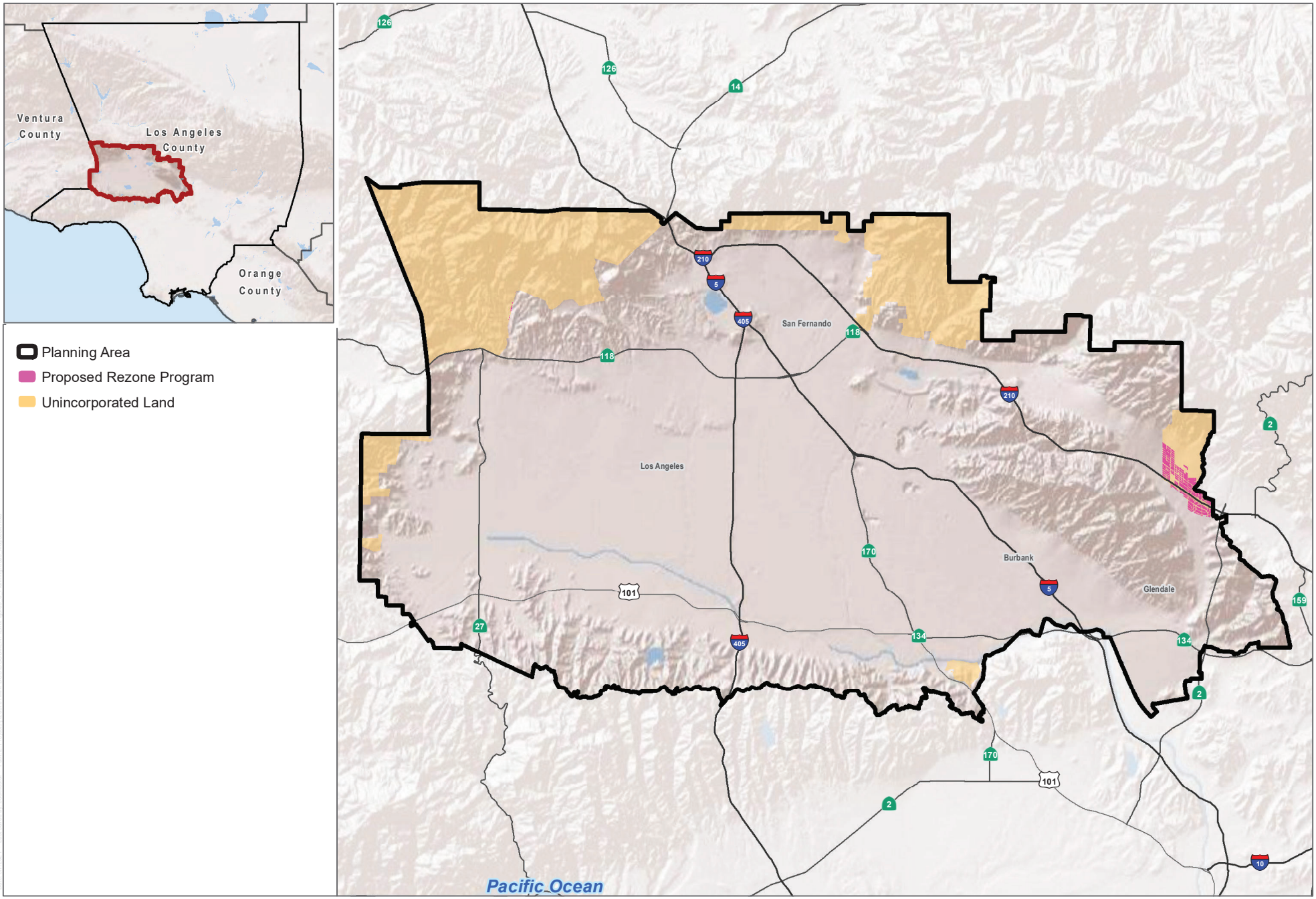
0 8,000 16,000 Feet

FIGURE 3-5B

Metro Planning Area

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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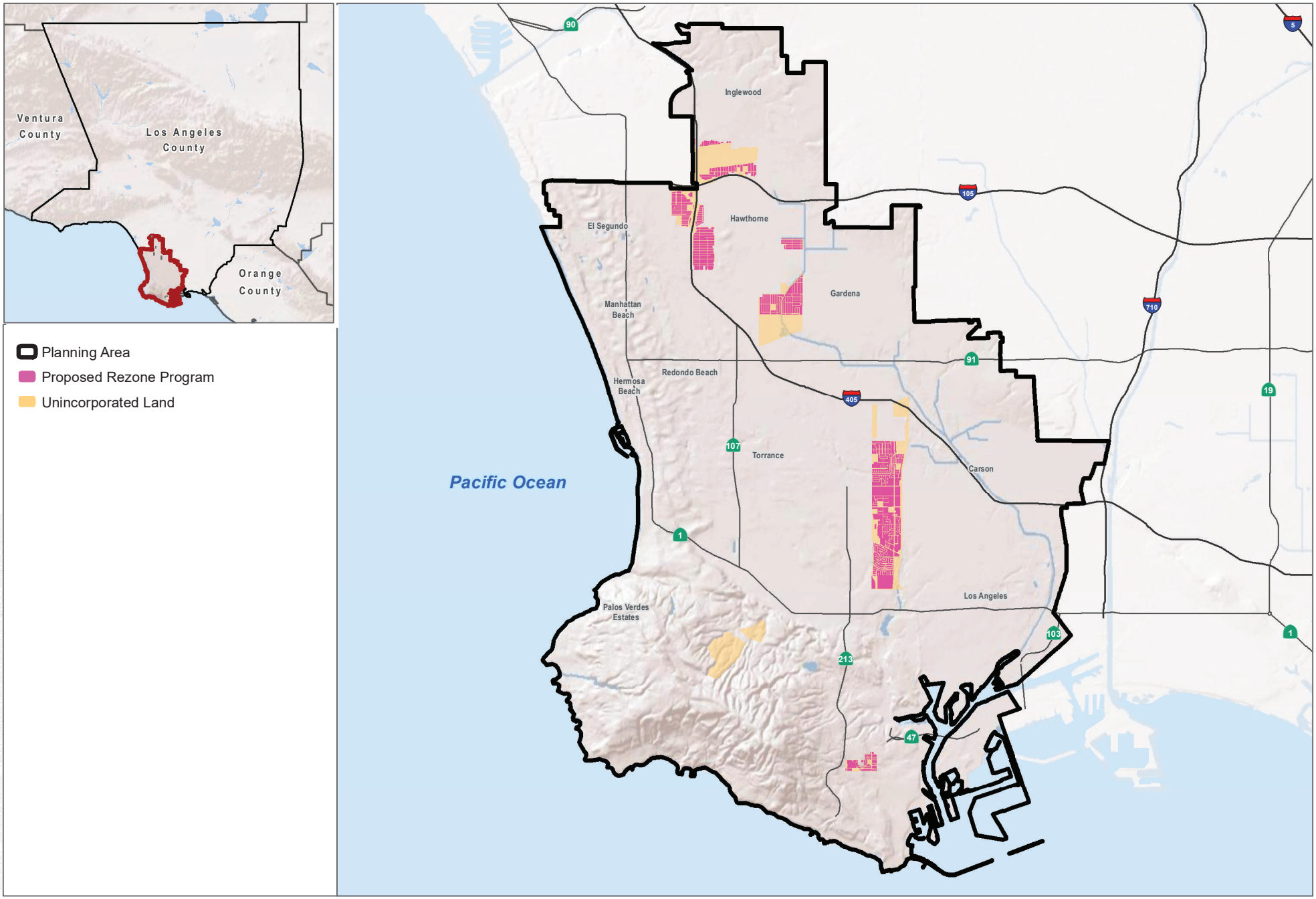
0 10,000 20,000 Feet

FIGURE 3-5C

San Fernando Valley Planning Area

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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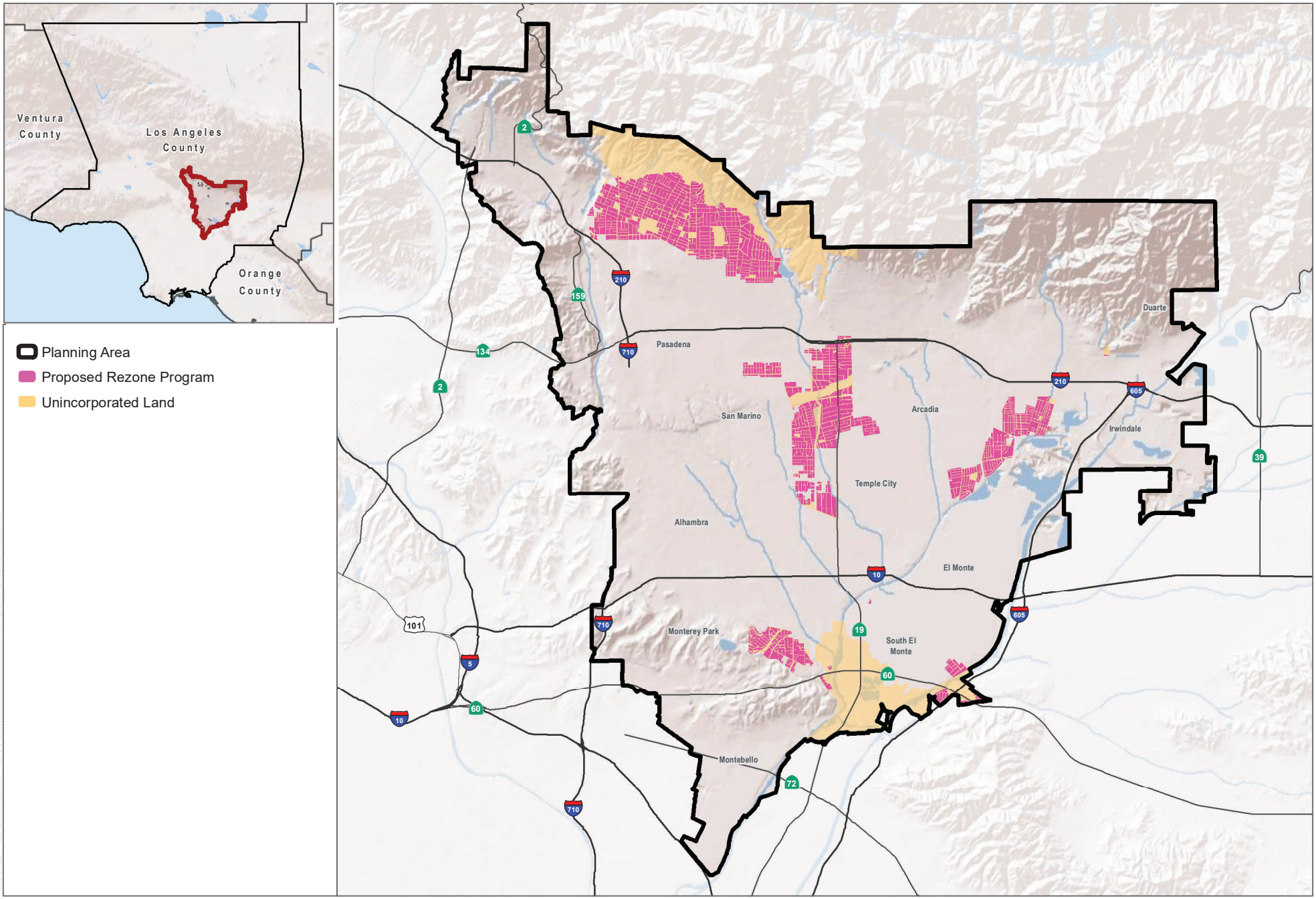
0 7,500 15,000 Feet

FIGURE 3-5D

South Bay Planning Area

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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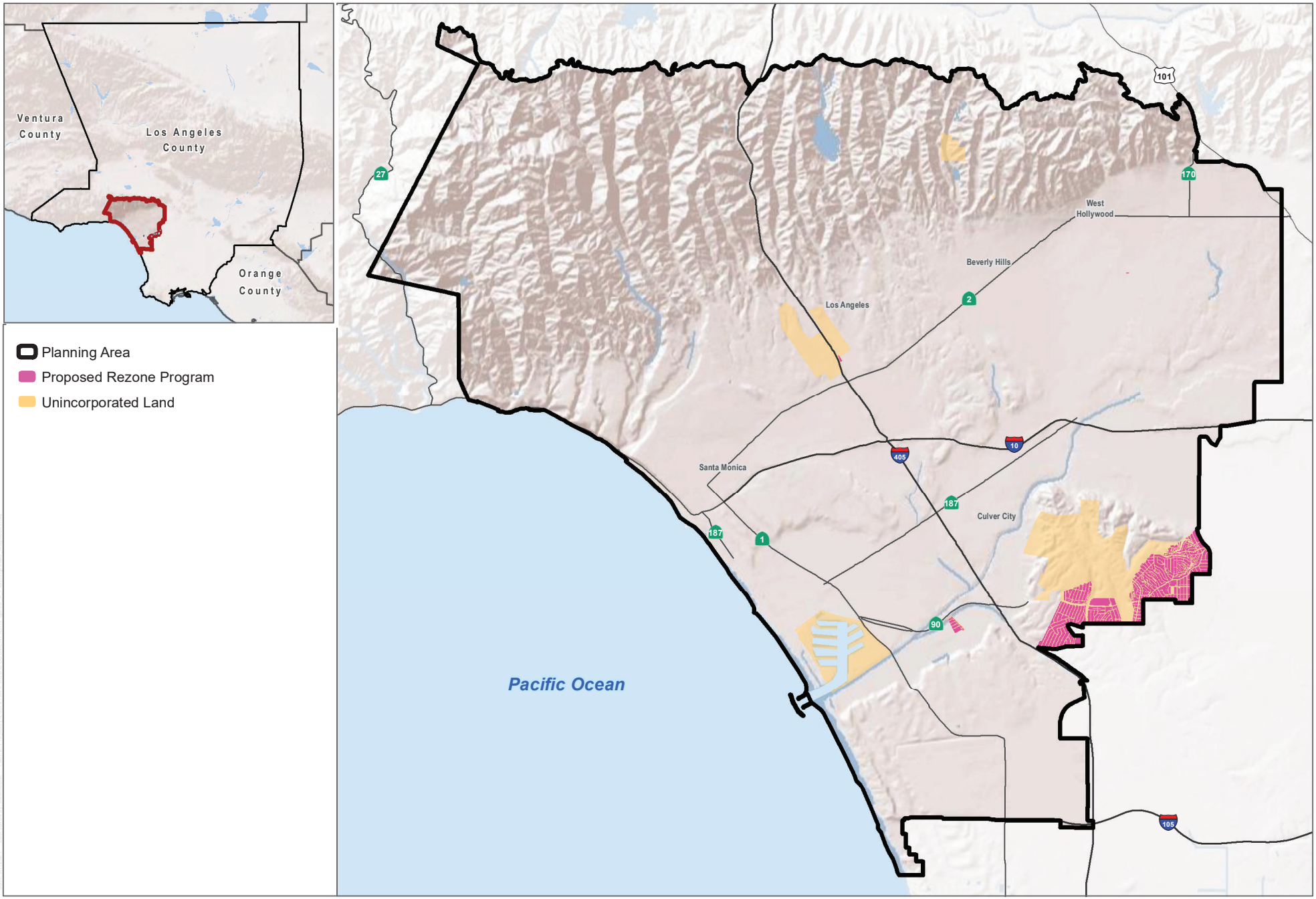
0 7,500 15,000 Feet

FIGURE 3-5E

West San Gabriel Valley Planning Area

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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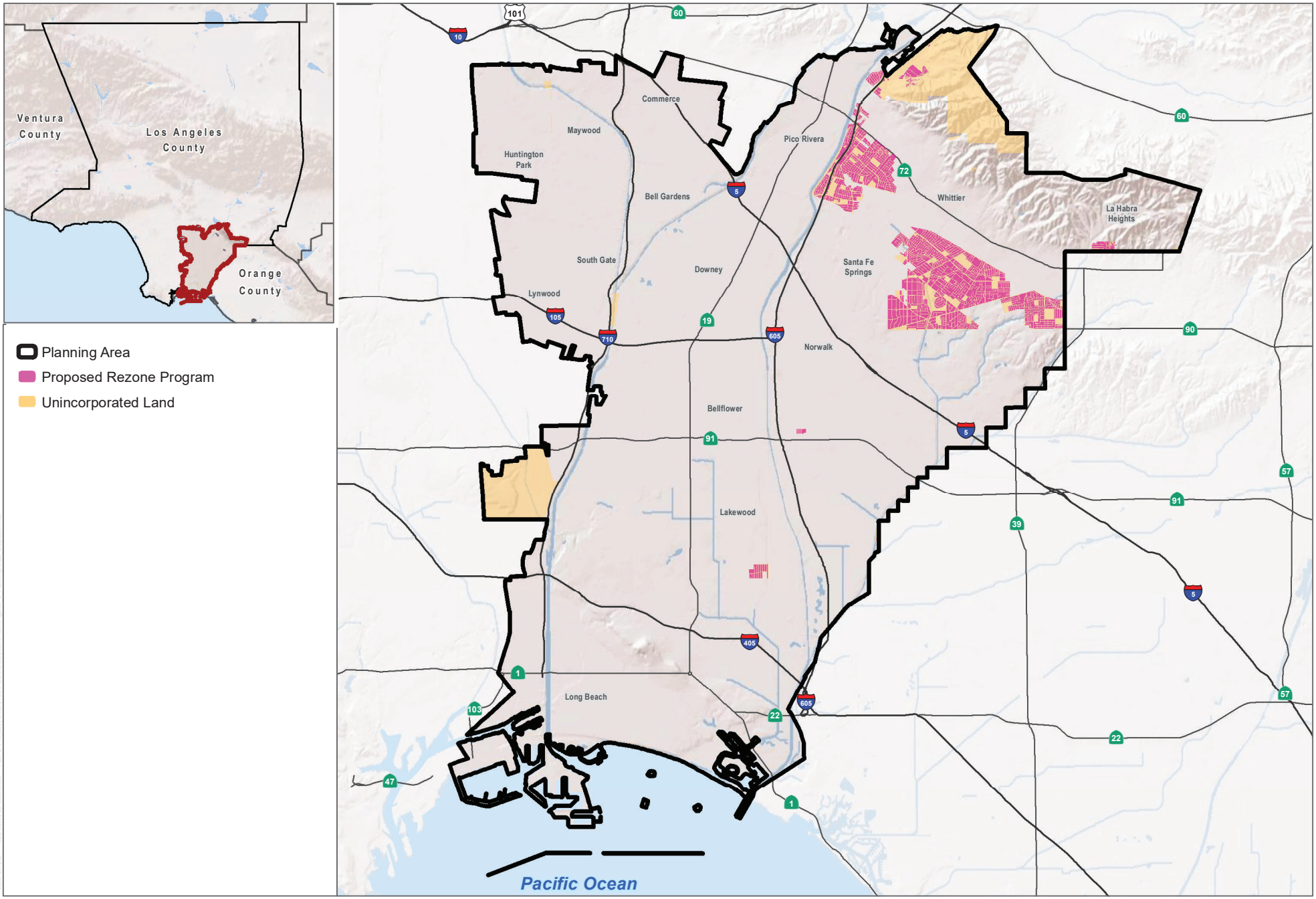
0 6,250 12,500 Feet

FIGURE 3-5F

Westside Planning Area

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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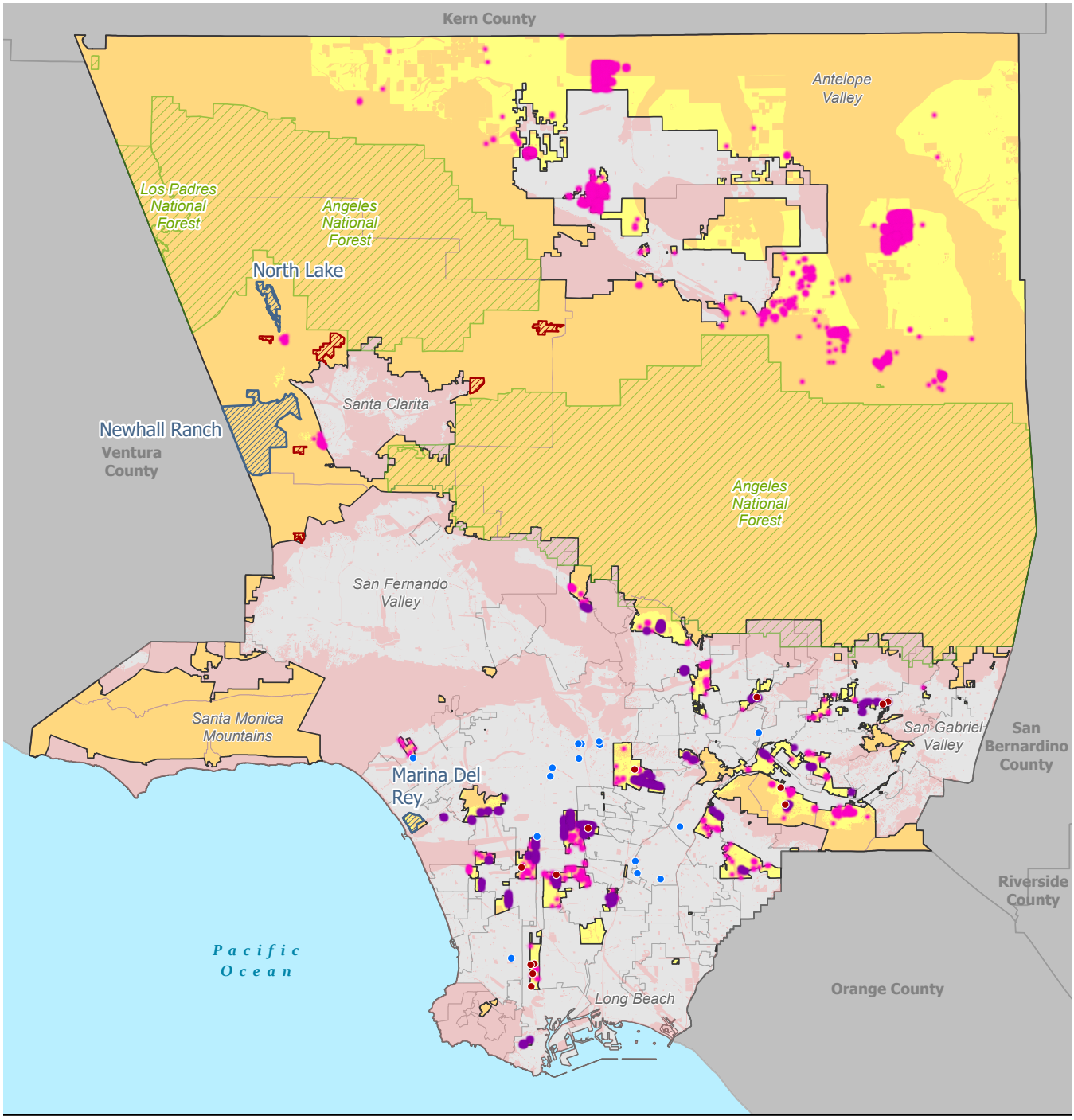
0 8,750 17,500 Feet

FIGURE 3-5G

Gateway Planning Area

Los Angeles County Housing Element Update

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SOURCE: Los Angeles County 2021

FIGURE 3-6

RHNA Capacity

Los Angeles County Housing Element Update

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4 Environmental Analysis

The purpose of this Draft Program Environmental Impact Report (PEIR) is to evaluate the potential environmental effects of the Proposed Los Angeles County Housing Element Update (Proposed Project). The County of Los Angeles (County) circulated a Notice of Preparation (NOP) beginning on January 5, 2021, with the public review period ending on February 4, 2021. The NOP was transmitted to the State Clearinghouse, responsible agencies, other affected agencies, and other public and private potential stakeholders to solicit feedback regarding the scope of the environmental analysis to be addressed in the Proposed Project's Draft PEIR. The NOP and comment letters received are contained in Appendix A of this Draft PEIR.

Sections 4.1 through 4.20 of this Draft PEIR contain the potential environmental impacts analysis associated with implementation of the Project, and focus on the following issues:

- Section 4.1 – Aesthetics
- Section 4.2 – Agriculture and Forestry Resources
- Section 4.3 – Air Quality
- Section 4.4 – Biological Resources
- Section 4.5 – Cultural Resources
- Section 4.6 – Energy
- Section 4.7 – Geology and Soils
- Section 4.8 – Greenhouse Gas Emissions
- Section 4.9 – Hazards and Hazardous Materials
- Section 4.10 – Hydrology and Water Quality
- Section 4.11 – Land Use and Planning
- Section 4.12 – Mineral Resources
- Section 4.13 – Noise
- Section 4.14 – Population and Housing
- Section 4.15 – Public Services
- Section 4.16 – Recreation
- Section 4.17 – Transportation
- Section 4.18 – Tribal Cultural Resources
- Section 4.19 – Utilities and Service Systems
- Section 4.20 – Wildfire

Supporting Documentation

Supporting documentation was prepared to analyze air quality, energy, greenhouse gas emissions, cultural resources, paleontological resources and noise. These documents are identified in the discussions for the individual environmental issues. They are included as appendices attached to this Draft PEIR.

Analysis Format

The Draft PEIR assesses how the Proposed Project would impact each of the above-listed resource areas. Each environmental issue addressed in this Draft PEIR is presented in terms of the following subsections:

- **Environmental Setting:** Provides information describing the existing setting on and/or surrounding the Project Area that may be subject to change as a result of implementation of the Proposed Project. This setting discussion describes the conditions that existed when the NOP was sent to responsible agencies and the State Clearinghouse.
- **Relevant Plans, Policies, and Ordinances:** Provides a discussion of federal, state, regional, and local regulations, plans, policies, and ordinances applicable to the Proposed Project.
- **Thresholds of Significance:** Provides criteria for determining the significance of Proposed Project impacts for each environmental issue.
- **Methodology:** Provides the methods and approach for determining the level of significance for the Proposed Project impacts.
- **Environmental Impacts:** Provides a discussion of the characteristics of the Proposed Project that may have an impact on the environment, analyzes the nature and extent to which the Proposed Project is expected to change the existing environment, and indicates whether the Proposed Project's impacts would meet or exceed the levels of significance thresholds.
- **Cumulative Impacts:** Provides a discussion of the characteristics of the Proposed Project that may have a cumulative impact on the environment.
- **Mitigation Measures:** Identifies mitigation measures to reduce significant adverse impacts to the extent feasible.
- **Level of Significance After Mitigation:** Provides a discussion of significant unavoidable environmental impacts that cannot be feasibly mitigated or avoided, potentially significant environmental impacts that can be feasibly mitigated or avoided, and impacts that are not significant.
- **References:** Lists the sources cited during preparation of the Draft PEIR.

4.1 Aesthetics

This section evaluates potential impacts to the visual appearance and character of the Project Area from implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project). This section includes a discussion of the qualitative aesthetic characteristics of the existing environment that would be potentially degraded by implementation of the Proposed Project and assesses the potential impacts related to scenic vistas, scenic highways, visual character, and light and glare.

4.1.1 Environmental Setting

This section discusses the existing environmental setting relative to aesthetics. As described in Chapter 3.0, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section describes generally the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program as those are the areas that may result in changes to the environment that weren't already considered in previous environmental analysis or studies.

Los Angeles County (the County) is a vast and visually diverse area. The visual setting of the County is composed of both the built and natural environments, as well as the interface between the two. Built environments include commercial, office, residential, industrial, institutional, and public uses. Natural environments include coastlines, beaches, foothills, mountains and ridgelines, forests, and desert environments. Because the Proposed Project uses the County General Plan's Planning Areas Framework, existing aesthetic conditions are described using this framework. Figure 3-3, Planning Areas (see Chapter 3, Project Description, of this Draft PEIR), shows the boundaries of the various Planning Areas established under the Planning Areas Framework of the General Plan.

Scenic Vistas and Corridors

Scenic hillsides include the San Gabriel Mountains, Verdugo Hills, Santa Monica Mountains, Santa Susana Mountains, Simi Hills, and Puente Hills. Hillsides play a major role in physically defining the diverse communities in the unincorporated areas. These landforms not only create dramatic backdrops against developed communities, but also provide extensive environmental and public benefits to residents. Most of the native plant and animal species reside in the hilly and mountainous terrain. Scenic viewsheds vary by location and community and can include ridgelines, unique rock outcroppings, waterfalls, ocean views, or various other unusual or scenic landforms. Finally, there are numerous ridgelines that provide dramatic views for the unincorporated areas. The varied topography of the County allows for an assortment of long-range views from the Los Angeles Basin to the foothills and mountains, as well as long-range views from the foothills and mountains to the Los Angeles Basin and the coast. The impact of the Proposed Project with respect to these scenic resources is addressed in Section 4.1.5, Environmental Impacts.

Scenic Highways

The State Scenic Highway Program was created in 1963 to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. Through the California Scenic Highway Mapping Program, the California Department of Transportation (Caltrans) designates routes that are eligible to become state or county scenic highways or historic parkways. These determinations are based on the

scenic value of the lands surrounding these roadways, as well as how readily visible these resources are to those driving on the roadway. The adopted 1974 Los Angeles County Scenic Highway Plan was created to conform to the State Scenic Highway Program. According to state guidelines, a highway may be designated scenic depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes on the traveler's enjoyment of the view.

Within Los Angeles County, there are three adopted state scenic highways: Angeles Crest Highway State Route (SR) 2, from 2.7 miles north of Interstate (I) 210 to the San Bernardino County line; Mulholland Highway (two sections), from SR-1 to Kanan Dume Road, and from west of Cornell Road to east of Las Virgenes Road; and Malibu Canyon–Las Virgenes Highway, from SR-1 to Lost Hills Road. There are also six highways in Los Angeles County with an "Eligible for State Scenic Highway" designation (Caltrans 2019):

- SR-1:
  - From the Orange County line to SR-19 (Lakewood Boulevard) in the City of Long Beach
  - From SR-187 (Venice Boulevard) in the City of Los Angeles to the Ventura County line
- SR-27 (Topanga Canyon Boulevard) from SR-1 to the City of Los Angeles city limit
- SR-67 from the Orange County line to SR-60 in the City of Diamond Bar
- SR-118 from the western City of Los Angeles boundary to the Ventura County line
- SR-210/I-5 from SR-134 in the City of Pasadena through the City of Santa Clarita to the Ventura County line
- U.S. Route 101 from Topanga Canyon Boulevard to the Ventura County line

Visual Character

Overall, the visual character of Los Angeles County is highly varied and is therefore best addressed in parts. This overview of the visual character of the Project Area is discussed using the Planning Areas Framework established as a part of the 2015 Los Angeles County General Plan Update. This framework divides the County into 11 Planning Areas, seven of which are within the Project Area. The Project Area does not include the Antelope Valley Planning Area, the Santa Monica Mountains Planning Area, the Santa Clarita Valley Planning Area, and the Coastal Islands Planning Area. The setting and visual character for each of the seven Planning Areas affected by the Proposed Project are described in greater detail below, and these Planning Areas are shown on Figure 3-3, Planning Areas (see Chapter 3).

East San Gabriel Valley Planning Area

The East San Gabriel Valley Planning Area contains the easternmost areas of Los Angeles County, and is located south of the Angeles National Forest, north of the Orange County border, and east of I-605 (Figure 3-5A, East San Gabriel Valley Planning Area). The visual character of this region is largely that of a typical suburban community with predominantly single-family residential uses, particularly in the areas closer to the foothills on the northern border of the Planning Area. There are a variety of recreational options and open space resources in the unincorporated portions of this Planning Area, including the Marshall Canyon Golf Course and the Puente Hills.

Metro Planning Area

The Metro Planning Area is located in the geographic center of Los Angeles County (Figure 3-5B, Metro Planning Area). This Planning Area is home to, and heavily defined by its proximity to, Downtown Los Angeles, which includes major corporations and professional firms, tourist and convention hotels, restaurants, retail, and the largest

concentration of government offices outside of Washington DC. The majority of this Planning Area is built out and relatively flat. There are no large areas of natural open space. All open space areas are contained within parks and recreational areas. The Los Angeles River and the Compton Creek tributary flow through this Planning Area; however, they are largely channelized.

San Fernando Valley Planning Area

The San Fernando Valley Planning Area is bordered by the Santa Clarita Valley and the Angeles National Forest to the north, and the Santa Monica Mountains Planning Area and Westside Planning Area to the south (Figure 3-5C, San Fernando Valley Planning Area). This Planning Area has many distinguishing geographic characteristics. Almost the entire Planning Area is ringed with distinctive hillsides and mountain ranges, including the Santa Susana Mountains to the northwest, the Simi Hills to the west, the Santa Monica Mountains and Chalk Hills to the south, the Verdugo Mountains to the east, and the San Gabriel Mountains to the northeast. Looking southeast, high-rises from Downtown Los Angeles can be seen from some neighborhoods, passes, and parks in the San Fernando Valley.

South Bay Planning Area

The South Bay Planning Area is located in the southwest corner of Los Angeles County (Figure 3-5D, South Bay Planning Area). The Pacific Ocean provides the western border and the Gateway Planning Area and Metro Planning Area provide the eastern and northern borders. The majority of this Planning Area is composed of low-level areas of the Los Angeles Basin. The Palos Verde Peninsula consists of hills, open spaces, and communities that abut cliffs and rocky shorelines along the Pacific Coast.

West San Gabriel Valley Planning Area

The Angeles National Forest is the northern border of the West San Gabriel Planning Area, while Downtown Los Angeles and the Gateway Planning Area make up its southern border (Figure 3-5E, West San Gabriel Valley Planning Area). Similar to the East San Gabriel Valley Planning Area, much of the West San Gabriel Valley Planning Area is composed of suburban land uses; however, the communities in the West San Gabriel Valley Planning Area are significantly older than most of the communities in the East San Gabriel Valley Planning Area and this is reflected in the visual character of the area. The San Gabriel Mountains and Angeles National Forest provide a large range of open space and recreational opportunities and visual resources for area residents.

Westside Planning Area

The Westside Planning Area covers coastal communities including Marina del Rey, the Westside area of the City of Los Angeles, and other small cities, such as the cities of Santa Monica, Beverly Hills, and West Hollywood (Figure 3-5F, Westside Planning Area). This Planning Area contains several scenic beaches as well as one of the few remaining wetlands in Ballona Creek. The eastern portion of this Planning Area includes the Baldwin Hills and Kenneth Hahn State Park, which provide natural areas and recreational opportunities for area residents. Marina del Rey is the largest human-made small boat harbor in the country and is bounded by the City of Los Angeles. This Planning Area is highly varied, gradually transitioning from an intensely urban character in the northeastern portion of the Planning Area to more natural scenic areas along the coast.

Landforms

Natural landform features that are located throughout Los Angeles County include important geologic and scenic landform features, hillsides and ridgelines, canyons, creeks, prominent trees, and watershed areas.

Mountain Ranges

Los Angeles County contains portions of several mountain ranges, including the San Gabriel Mountains, Santa Monica Mountains, Santa Susana Mountains, and Verdugo Mountains. The largest of these ranges, the San Gabriel Mountains, contains Mount San Antonio, commonly referred to as Mount Baldy. Mount San Antonio tops out at just over 10,000 feet above mean sea level and can be seen from much of the southeastern portion of Los Angeles County (LAA 2021). Los Angeles County also contains portions of the Chino Hills and Puente Hills, and all of the Palos Verdes Hills.

Los Angeles Basin

The Los Angeles Basin has been described as a bowl of sediment surrounded by the mountain ranges of Los Angeles County. The geologic forces that formed the basin have not only resulted in impacts related to hazards in the form of earthquake risk, but have also affected visual resources in that the large plain that was created contributes to the City of Los Angeles being the commercial, governmental, and visual focal point of the region.

Watersheds

Detailed discussion of the watersheds within the County is provided in Section 4.10, Hydrology and Water Quality.

Coastline

The iconic coastline of Los Angeles County is one of the most distinctive aspects of the Project Area's visual landscape. Moreover, there is a significant amount of variety with respect to the landforms and character of landscapes along the coastline, ranging from open sandy beaches to rugged, cliff-edged portions of the coast that include offshore rocks. While the majority of the County's coast is in cities, Marina del Rey, which is in the Westside Planning Area, is an important recreational and aesthetic resource in the Project Area.

4.1.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal regulations related to aesthetics relevant to the Proposed Project.

State

The following state regulations pertaining to aesthetics would apply to the Proposed Project.

California Scenic Highway Program

The California Scenic Highway Program, which is maintained by Caltrans, protects state scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to these highways.

California Building Code

The California Building Code, Part 2 of Title 24 in the California Code of Regulations, is based on the International Building Code and combines three types of building standards from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in the International Building Code
- Building standards that have been adopted and adapted from the International Building Code to meet California conditions
- Building standards authorized by the California legislature that constitute extensive additions not covered by the International Building Code and that have been adopted to address particular California concerns

Title 24, California Building Standards Code, consists of regulations to control building standards throughout the state. The following components of Title 24 include standards related to lighting:

Title 24, Part 1 – California Building Code/Title 24, Part 3 – California Electrical Code

The California Building Code (Title 24, Part 1) and the California Electrical Code (Title 24, Part 3) stipulate minimum light intensities for pedestrian pathways, circulation ways, parking lots, and paths of egress.

Title 24, Part 6 – California Energy Code

The California Energy Code (Title 24, Part 6) stipulates allowances for lighting power and provides lighting control requirements for various lighting systems, with the aim of reducing energy consumption through efficient and effective use of lighting equipment. Section 130.2 sets forth requirements for outdoor lighting controls and luminaire cutoff requirements. All outdoor luminaires rated above 150 watts shall comply with the backlight, up-light, and glare (BUG) ratings in accordance with IES TM-15-11, Addendum A, and shall be provided with a minimum of 40% dimming capability activated to full on by motion sensor or other automatic control. This requirement does not apply to streetlights for the public right-of-way, signs, or building façade lighting.

Section 140.7 establishes outdoor lighting power density allowances in terms of watts per area for lighting sources other than signage. The lighting allowances are provided by the Lighting Zone, as defined in Section 10-114 of the California Energy Code. Under Section 10-114, all urban areas within California are designated as Lighting Zone 3. Additional allowances are provided for Building Entrances or Exits, Outdoor Sales Frontage, Hardscape Ornamental Lighting, Building Facade Lighting, Canopies, Outdoor Dining, and Special Security Lighting for Retail Parking and Pedestrian Hardscape.

Section 130.3 stipulates that sign lighting controls for any outdoor sign that is on during both day and nighttime hours must include a minimum 65% dimming at night. Section 140.8 of the California Energy Code sets forth lighting power density restrictions for signs.

The following local/regional regulations pertaining to aesthetics would apply to the Project.

Local

Los Angeles County Code

Several sections of the County Code affect visual resources in the Project Area. The following paragraphs provide a brief overview of the applicable sections.

Title 21 – Subdivisions

Title 21 would apply in the event that new subdivisions are proposed in accordance with the Proposed Project. Chapter 21.24 (Design Standards) of Title 21 contains provisions pertaining to the regulation of the design of highways, local streets, and lots, as well as special requirements that regulate aspects of potential development including landscaping.

Title 22 – Planning and Zoning

Title 22 (Zoning Ordinance) describes the development standards that apply to each zone (e.g., height limits, setbacks). Chapter 22.116 (Highway Lines, Road Dedication and Access) contains provisions that pertain to the regulation of, and development standards for, highways and parkways. Chapter 22.80 (Rural Outdoor Lighting District) of Division 4 (Combining Zones and Supplemental Districts) allows for the establishment of rural outdoor lighting districts, which promote and maintain dark skies for the health and enjoyment of individuals and wildlife. The regulations in Chapter 22.80 are in addition to other provisions in the Zoning Ordinance that regulate light and glare. Division 10 (Community Standards Districts) contains development regulations for a list of communities that form districts for this purpose. The development standards outlined in Division 10, which apply to these districts, largely supersede the County-wide standards in the Zoning Ordinance. Finally, Division 6 (Development Standards) contains a number of general regulations, including Chapter 22.114 (Signs), which regulates the design and siting of all signs in the Project Area. Chapter 22.114 is discussed further below.

Hillside Management Areas Ordinance

With related provisions contained in Chapter 22.104 (Hillside Management Areas) of the Zoning Ordinance, Hillside Management Areas (HMAs) were established to ensure that development preserves the physical character and scenic value of areas of the Project Area with a natural slope of greater than 25%. To accomplish this, provisions relating to HMAs encourage protecting scenic hillside views and conserving natural hillside character.

Mills Act Program

Chapter 22.168 of the Zoning Ordinance is the County Mills Act Program. The purpose of the program is to provide an incentive for owners of qualified historical properties within the unincorporated areas of the Project Area to preserve, restore, and rehabilitate the historic character of such properties, thereby providing a historical, architectural, social, artistic, and cultural benefit to the citizens of the Project Area, as authorized by the provisions of Article 12 (commencing with Section 50280) of Chapter 1, Part 1, Division 1 of Title 5 of the California Government Code, the provisions of which are commonly known as the "Mills Act." Further information on the Mills Act is provided in Section 4.5, Cultural Resources.

Oak Tree Ordinance

Contained in Chapter 22.174 (Oak Tree Permits) of the Zoning Ordinance, the Oak Tree Ordinance was established to recognize oak trees as significant aesthetic, historical, and ecological resources. The ordinance establishes permitting requirements for removal of protected oak trees.

Signs

Chapter 22.114 (Signs) of the County Code regulates the design, siting, and maintenance of signs in the Project Area. These regulations are intended to provide standards for the protection of property values, visual aesthetics, and the public health, safety, and general welfare of citizens, while still providing ample opportunities for businesses and the visual advertising industry to operate successfully and effectively.

Conditional Use Permits

Where other portions of the County Zoning Code have established regulations that would trigger the necessity of a Conditional Use Permit, Section 22.158 (Conditional Use Permits), contains regulations that pertain to the review of such permits by the County. This section establishes that the purpose of Conditional Use Permits is to allow for special consideration where particular project characteristics exist relating to a project's size, technological process or type of equipment, or because of its location with reference to its surroundings, street or highway width, traffic generation, or other demands on public services. Provisions in Chapter 22.158 ensure that development projects subject to review associated with a Conditional Use Permit are consistent with applicable development standards, thereby ensuring consistency with other developments held to those same standards.

Significant Ecological Area Ordinance

The Significant Ecological Area Ordinance regulates Significant Ecological Areas, which have been identified representing a wide range of biotic communities. Their complex ecological relationships are the subject of both aesthetic enjoyment and scientific study.

Existing Community-Based Plans

The Planning Areas Framework of the Proposed Project is intended to aid in the update of existing community plans and creation of additional community plans, community-based plans, and implementation tools.

General Plan

The Land Use Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal LU 6 Protected rural communities characterized by living in a non-urban or agricultural environment at low densities without typical urban services.

- **Policy LU 6.2** Encourage land uses and developments that are compatible with the natural environment and landscape.

Goal LU 7 Compatible land uses that complement neighborhood character and the natural environment.

Goal LU 10 Well-designed and healthy places that support a diversity of built environments

Policy LU 10.2 Design development adjacent to natural features in a sensitive manner to complement the natural environment.

Policy LU 10.3 Consider the built environment of the surrounding area and location in the design and scale of new or remodeled buildings, architectural styles, and reflect appropriate features such as massing, materials, color, detailing or ornament.

Policy LU 10.5 Encourage the use of distinctive landscaping, signage and other features to define the unique character of districts, neighborhoods or communities, and engender community identity, pride and community interaction

Policy LU 10.10 Promote architecturally distinctive buildings and focal points at prominent locations, such as major commercial intersections and near transit stations or open spaces.

The Conservation and Natural Resources Element of the General Plan provides the following goals and policies relevant to the Proposed Project:

Goal C/NR 13 Protected visual and scenic resources.

Policy C/NR 13.1 Protect scenic resources through land use regulations that mitigate development impacts.

Policy C/NR 13.2 Protect ridgelines from incompatible development that diminishes their scenic value.

Policy C/NR 13.3 Reduce light trespass, light pollution and other threats to scenic resources.

Policy C/NR 13.4 Encourage developments to be designed to create a consistent visual relationship with the natural terrain and vegetation.

Policy C/NR 13.6 Prohibit outdoor advertising and billboards along scenic routes, corridors, waterways, and other scenic areas.

Policy C/NR 13.7 Encourage the incorporation of roadside rest stops, vista points, and interpretive displays into projects in scenic areas.

Policy C/NR 13.8 Manage development in HMAs to protect their natural and scenic character and minimize risks from natural hazards, such as fire, flood, erosion, and landslides.

Policy C/NR 13.9 Consider the following in the design of a project that is located within an HMA, to the greatest extent feasible:

- Public safety and the protection of hillside resources through the application of safety and conservation design standards;
- Maintenance of large contiguous open areas that limit exposure to landslide, liquefaction and fire hazards and protect natural features, such as significant ridgelines, watercourses and SEAs [Significant Ecological Areas].

Policy C/NR 13.10 To identify significant ridgelines, the following criteria must be considered:

- Topographic complexity;
- Uniqueness of character and location;

- Presence of cultural or historical landmarks;
- Visual dominance on the skyline or viewshed, such as the height and elevation of a ridgeline; and
- Environmental significance to natural ecosystems, parks, and trail systems.

Goal C/NR5 Protected and useable local surface water resources.

Policy C/NR 5.2 Require compliance by all County departments with adopted Municipal Separate Storm Sewer System (MS4), General Construction, and point source NPDES [National Pollutant Discharge Elimination System] permits.

Policy C/NR 5.6 Minimize point and non-point source water pollution.

4.1.3 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project would normally have a significant effect on the environment with respect to aesthetics if the project would:

AE-1: Have a substantial adverse effect on a scenic vista.

AE-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

AE-3: Substantially degrade the existing visual character or quality of the site and its surroundings.

AE-4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.4 Methodology

Aesthetic/Visual Character Analysis

The aesthetic/visual character analysis considers whether implementation of the Proposed Project would represent a potentially significant impact on the visual setting of the community and the extent to which the proposed rezoning program would be aesthetically compatible with neighboring uses in terms of bulk and scale, architectural style, and other visual considerations. This section addresses protected views or view corridors and identifies potential view blockages that could result from implementation of the Proposed Project. The assessment of aesthetic impacts is a qualitative evaluation, for which no discrete set of quantifiable parameters exists which can be applied.

It is also noted that for infill projects located in transit priority areas, impacts on aesthetics are not required to be evaluated under CEQA (California Public Resources Code, Section 21099[d][1]). In addition, under California Public Resources Code, Section 21081.3, lead agencies are not required to evaluate the aesthetic impacts of any project that includes housing and consists of the refurbishment, conversion, repurposing, or replacement of an existing building that is abandoned, dilapidated, or has been vacant for more than a year.

Light and Glare Analysis

The light and glare analysis identifies the existing light and glare environments in the Project Area and the light- and glare-sensitive land uses in the area, describes the light and glare sources under the Proposed Project, and qualitatively evaluates whether the Proposed Project would result in a substantial increase in the Project's temporary and permanent light and glare sources. If the Proposed Project has the potential to generate spill light on adjacent sensitive receptors or generate glare for receptors in the vicinity of the Project Area, mitigation measures can be provided to reduce potential impacts.

Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

4.1.5 Environmental Impacts

Threshold AE-1 Would the Project have a substantial adverse effect on a scenic vista?

As discussed in Section 4.1.1, Environmental Setting, Los Angeles County contains a variety of unique and significant visual resources. The discussion provided herein focuses on scenic vistas and corridors, excluding the Proposed Project's impacts on state and county scenic highways, which are addressed below. The Proposed Project recognizes scenic highways and corridors (or routes), hillsides, and ridgelines as valuable scenic resources.

The Proposed Project consists of a policy document update, and adoption of Proposed Project alone would not produce environmental impacts. The Proposed Project consists of updating the General Plan Housing Element, and no actual development is proposed as part of the update. Implementation of the programs contained in the updated document would accommodate development required to meet the County's 2021–2029 Regional Housing Needs Assessment (RHNA) allocation. Under the RHNA allocation, the unincorporated County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It has been determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its RHNA gap; refer to Chapter 3 for further details. While the Proposed Project consists of a policy document update, which is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

The areas within the rezoning program do not include areas with HMAs. The Proposed Project would concentrate rezoning efforts in areas surrounded by existing facilities and in non-rural communities. Due to the built-out nature of the areas proposed for increased development intensity and intervening development, the Proposed Project is not anticipated to have a substantial adverse effect on scenic vistas within the County. Further, there are a variety of existing and proposed regulatory processes that would serve to minimize these potential impacts. Several sections of the County Code regulate physical development by controlling not only the appearance of new development, but also the placement of new development with consideration for surrounding uses (refer to Section 4.1.2, Relevant Plans, Policies, and Ordinances). Additionally, the County Code limits the size and controls the siting of signs, particularly outdoor signs, including billboards, which would also limit the impact of the Proposed Project on any scenic vistas. Compliance with these provisions would be ensured through the County's development review and building permit process.

In addition to aspects of the existing regulatory framework that would lessen potential impacts to scenic vistas, a number of goals and policies of the current General Plan, listed in Section 4.1.2, would also serve to minimize potential impacts by preventing degradation of existing vistas and promoting actions that would make existing scenic vistas more accessible to people. The County's General Plan Policies C/NR 13.1 through C/NR 13.7, in particular, would ensure that scenic vistas in the Project Area are protected.

While the rezoning program would allow for greater intensities than previously permitted in the unincorporated areas of the County, the existing regulatory setting, the goals and policies contained in the General Plan, and general location of the rezoning areas within urban areas would ensure that potential impacts to scenic vistas associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations, would not provide any goals, policies, or programs that would significantly degrade the scenic vistas of the County. Furthermore, the Proposed Project includes goals and policies to enhance neighborhoods and housing environments, such as Goal 8 and Policy 8.1, which focus on supporting neighborhood preservation programs, such as graffiti abatement, abandoned or inoperative automobile removal, tree planting, and trash and debris removal. Therefore, impacts would be **less than significant**.

Threshold AE-2 Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The Proposed Project would affect the unincorporated areas of Los Angeles County. Within the County there are three adopted state scenic highways: Angeles Crest Highway (SR-2), from 2.7 miles north of I-210 to the San Bernardino County line; Mulholland Highway (two sections), from SR-1 to Kanan Dume Road, and from west of Cornell Road to east of Las Virgenes Road; and Malibu Canyon–Las Virgenes Highway, from SR-1 to Lost Hills Road.

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. Figure 3-4 in Chapter 3 shows the general areas within the Project Area that are anticipated for the rezoning program. As shown in Figure 4.1-1, Scenic Highways, some portions of the rezone parcels within the San Fernando Valley Planning Area are approximately 2.5 miles southwest of adopted state scenic highway SR-2. These rezone parcels are also located approximately 200 feet from an eligible scenic highway, the SR-210/I-5 from SR-134 in the City of Pasadena. However, there is existing development within this area that is visible to vehicles traveling along SR-210 and is not visible from SR-2. While some development or changes could occur near adopted and eligible scenic highways, the development or changes that would occur would be minimal and would only occur near small stretches of the scenic highways. The remaining three state scenic highways are located in the Santa Monica Mountains Planning Area, which is not included in the rezoning program. There are no other eligible scenic highways that are within the areas surrounding the Project Area. As such, the Proposed Project would not damage scenic resources within a state scenic highway.

In addition, a number of goals and policies of the General Plan Update listed in Section 4.1.2 would also serve to minimize potential impacts to scenic highways by preventing degradation of existing vistas, as well as by promoting actions that would make existing scenic vistas more accessible to individuals. Therefore, no significant impact would result from implementation of the Proposed Project with respect to the substantial alteration of scenic resources within a designated scenic highway, and impacts would be **less than significant**.

Threshold AE-3 Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts; the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. The proposed rezoning areas for additional housing would encourage infill development in areas with existing infrastructure and access to transit, rather than continuing historical sprawling land use patterns (see Figure 4.1-2, Transit Oriented Districts Policy Map). This type of land use development is consistent with the General Plan Goal LU 10 to create well-designed and healthy places that support a diversity of built environments. Additionally, as mentioned previously, for infill projects located in transit priority areas, impacts on aesthetics are not required to be evaluated under CEQA (California Public Resources Code, Section§21099[d][1]).

The Proposed Project would contribute to a more diversified housing development pattern and promote land uses that encourage use of alternative transportation, thereby contributing to healthy places. The Proposed Project would not be located within the mountain ranges, foothills, valleys, basins, beaches, coastal islands, and/or deserts that make up the County's scenic resources. Thus, the Proposed Project is consistent with General Plan Goal LU 7 to ensure compatible land uses that complement neighborhood character and the natural environment.

Therefore, no significant impact would result from implementation of the Proposed Project with respect to the degradation of the existing visual character and or quality of the site and impacts would be **less than significant**.

Threshold AE-4 Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The proposed rezoning program would include portions of Los Angeles County that are located in an urbanized context. This means that the existing levels of lighting and light pollution are already relatively high, especially in highly urbanized areas.

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

The Proposed Project would encourage additional development throughout the Project Area; however, the County's Zoning Ordinance (Title 22 of the County Code) contains provisions intended to limit adverse light and glare impacts. For example, Section 22.46.530 (Signs) requires that no lighted signs be placed or directed so as to permit illumination to be directed or beamed upon a public street, highway, sidewalk, or adjacent premises. Additionally, the California Building Code contains standards for outdoor lighting that are intended to reduce light pollution and glare by regulation of light power and brightness, shielding, and sensor controls. These regulations would serve to mitigate potential impacts of new land uses. Compliance with these and other applicable provisions of the County's Zoning Ordinance would be enforced through the County's development review and building permit process.

The existing high levels of light and glare in the Project Area and implementation of the existing regulatory framework and policies associated with light and glare would ensure that impacts to day- and nighttime views associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations, and would not provide any goals, policies, or programs that would adversely affect day- or nighttime views within the area. Therefore, impacts would be **less than significant**.

4.1.6 Cumulative Impacts

Cumulative projects located in the Project Area would have the potential to result in a cumulative impact to aesthetic resources if in combination they would result in the removal or substantial adverse change of one or more features that contribute to the valued visual character or image of a neighborhood, community, state scenic highway, or localized area, such as a landmark (designated), historic resource, trees, or rock outcropping. The Proposed Project areas within the rezoning program do not include areas with HMAs.

Scenic Vistas and Scenic Resources

Despite urbanization, a number of scenic resources occur in broader Los Angeles County, including mountains, foothills, ridgelines, forests, deserts, beaches, and coastlines. As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. However, areas within the rezoning program would not be located in or directly adjacent to areas containing scenic resources. The Project Area, along with cumulative projects, is within an urban environment. In general, visual resource impacts of the cumulative projects would be site specific and would not be expected to combine with other projects in separate viewsheds to create a cumulative impact. However, other projects close to the Project Area could cumulatively change the scenic character of the area in combination with the Proposed Project. Due to the built-out nature of the County, cumulative projects would be considered infill development. As these projects are implemented, a denser and more urban character would occur within the County. Land use intensification at these sites would not substantially degrade the scenic quality of the viewshed. Further, these projects would be required to comply with the development standards of the Zoning Ordinance, which include setbacks and height limits. As with the Proposed Project, related projects would be subject to goals, policies, and regulations that reduce impacts on scenic resources to a less-than-significant level. If non-compliance with a particular regulation would result in a significant impact, mitigation would be required to reduce impacts to the extent feasible. Therefore, impacts would be **less than significant** and the Proposed Project would not result in a cumulatively considerable impact related to scenic vistas or conflicts with scenic quality regulations.

Visual Character and Quality

The Proposed Project would encourage growth within urban and suburban areas, many of which will be located along commercial corridors. As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. The proposed rezoning areas for additional housing would encourage infill development, which would be consistent with the existing visual character and quality of the surrounding area. Additionally, because development allowed under the Proposed Project would be subject to goals, policies, and regulations that would reduce impacts of the Proposed Project on visual character and quality to a less-than-significant level, the Proposed Project's contribution to County-wide impacts would not be cumulatively considerable. Cumulative impacts of the Proposed Project related to visual character and quality would therefore be **less than significant**.

Light or Glare

The urbanized Project Area setting supports numerous nighttime lighting sources and contains buildings and facilities constructed of potentially reflective materials, including metal paneling and glass. As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce

environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. However, all lighting installed in the Plan Area would comply with applicable guidelines included in the Zoning Ordinance and Title 24. In addition, the areas surrounding the Plan Area are largely developed in nature and located in an urban environment. Thus, the area currently includes sources of interior and exterior lighting. Therefore, impacts would be **less than significant,** and the Proposed Project would not result in a cumulatively considerable impact related to light and glare.

4.1.7 Mitigation Measures

No mitigation is required.

4.1.8 Level of Significance After Mitigation

No significant unavoidable adverse impacts related to aesthetics have been identified. Aesthetic impacts would be less than significant.

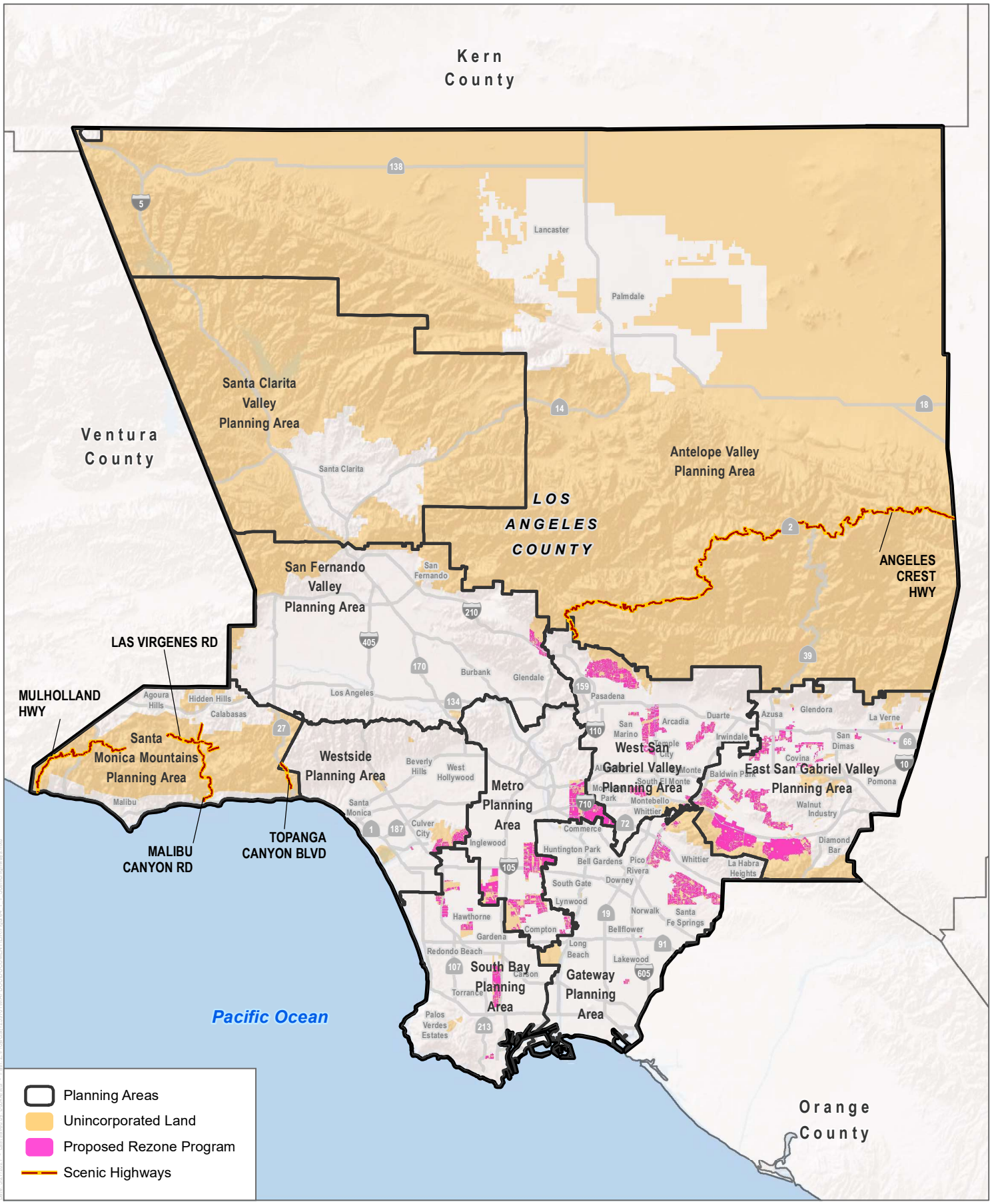
4.1.9 References

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SOURCE: ESRI 2021; LA County 2021

DUDEK

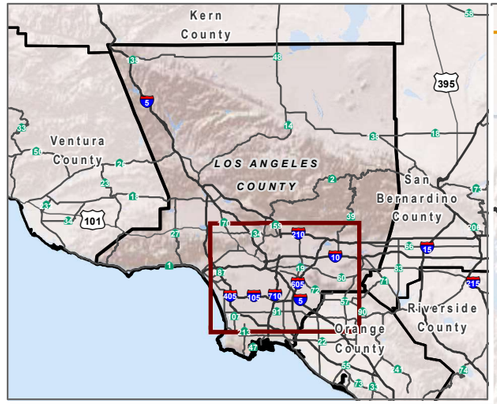
0 5 10 Miles

FIGURE 4.1-1

Scenic Highways

Los Angeles County Housing Element Update

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- Planning Areas
- Unincorporated Land
- Proposed Rezone Program
- Transit Oriented Districts
- Red Line
- Purple Line
- Blue Line
- Green Line
- Gold Line
- Expo Line
- Silver Line
- Orange Line
- Regional Commuter Rail (Metrolink and Amtrak) Improvements
- Purple Line Rail Extension
- Green Line Rail Extension
- Gold Line Rail Extension
- Crenshaw Line
- Regional Connector

San Fernando Valley Planning Area
Antelope Valley Planning Area
West San Gabriel Valley Planning Area
East San Gabriel Valley Planning Area
Metro Planning Area
Westside Planning Area
South Bay Planning Area
Gateway Planning Area
Orange County
Pacific Ocean
SIERRA MADRE
3RD STREET SPECIFIC PLAN
SLAUSON
FLORENCE
FIRESTONE
CONNECT SOUTHWEST LA TOD SPECIFIC PLAN
HAWTHORNE
AVIATION / I-105
WILLOWBROOK TOD SPECIFIC PLAN
DEL AMO
WEST CARSON TOD SPECIFIC PLAN
Burbank
Glendale
Pasadena
Duarte
Glendora
Azusa
San Marino
Arcadia
Irwindale
Temple City
Alhambra
El Monte
Baldwin Park
Covina
San Dimas
West Hollywood
Beverly Hills
Los Angeles
Monterey Park
South El Monte
Whittier
Pomona
Walnut
Industry
Santa Monica
Culver City
Montebello
Maywood
Commerce
Huntington Park
Bell Gardens
Pico Rivera
La Habra Heights
Diamond Bar
Inglewood
South Gate
Downey
Santa Fe Springs
Lynwood
Norwalk
El Segundo
Hawthorne
Gardena
Compton
Bellflower
Manhattan Beach
Redondo Beach
Hermosa Beach
Torrance
Carson
Lakewood
Long Beach
Palos Verdes Estates

SOURCE: ESRI 2021; LA County 2021

DUDEK

0 7,500 15,000 Feet

FIGURE 4.1-2

Transit Oriented Districts Policy Map

Los Angeles County Housing Element Update

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4.2 Agriculture and Forestry Resources

This section describes the impacts of the Proposed Los Angeles County Housing Element Update (Proposed Project) on existing farmland and forestry resources. The information in this section is based on the Los Angeles County 2035 General Plan (General Plan), review of aerial photographs, and review of state farmland maps.

4.2.1 Environmental Setting

This section discusses the existing environmental setting relative to agriculture and forestry resources. As described in Chapter 3.0, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section describes generally the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program as those are the areas that may result in changes to the environment that weren't already considered in previous environmental analysis or studies.

Mapped Important Farmland

Farmland Mapping and Monitoring Program (FMMP) maps for Los Angeles County (County) cover approximately half of its land area. This is because large swaths of the County do not contain any farmland. Land within areas of the County that are mapped by FMMP fall into the following agricultural land use designations: Agricultural Land, Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land. Mapped Important Farmland only exists in 3 of the County's 11 Planning Areas—Antelope Valley, Santa Clarita Valley, and Santa Monica Mountains Planning Areas—all of which are outside the Project Area and are therefore not further analyzed. For further details regarding FMMP maps for the County, refer to Section 5.2 in the Los Angeles County General Plan Update Environmental Impact Report (County of Los Angeles 2014).

Forests

Forest land is defined as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits" (California Public Resources Code Section 12220[g]). Timberland is defined as "land…which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees" (California Public Resources Code Section 4526). Forests in the County are limited to narrow formations along creeks and other watercourses and the highest elevations of the San Gabriel Mountains.

Forests in Los Angeles County

A number of forest plant communities exist within the County; however, they are outside of and not adjacent to the Project Area or rezoning program areas and are therefore not further analyzed.

4.2.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal regulations that pertain to farmland and forestry resources that would apply to the Project.

State

The following state regulations pertaining to existing farmland and forestry resources would apply to the Project.

Farmland Mapping and Monitoring Program

The goal of the state FMMP is to provide consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. FMMP produces Important Farmland Maps, which are a hybrid of resource quality (soils) and land use information. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every 2 years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. Data are also released in statistical formats—principally the biennial California Farmland Conversion Report.

California Land Conservation Act (Williamson Act)

The Williamson Act provides tax incentives to retain prime agricultural land and open space in agricultural use, which subsequently slows its conversion to urban development. The Williamson Act requires a 10-year contract between the County and landowners who enter into contracts with local government for long-term use restrictions on qualifying agricultural and open space land. In accordance with the contract, the land must be taxed based on its agricultural use rather than its full market value. The overall purpose of the Williamson Act is to protect agricultural lands and open space.

Local

The following local/regional regulations pertaining to agriculture and forestry resources would apply to the Proposed Project.

Los Angeles County Code Title 22

Chapter 22.16 - Agricultural Zones of Title 22 outlines the purpose, use restrictions, and general regulation of agricultural uses.

General Plan

The Conservation and Natural Resources Element of the General Plan provides the following goals and policies relevant to the Proposed Project (County of Los Angeles 2015):

Goal C/NR-8: Productive farmland that is protected for local food production, open space, public health, and the local economy

Policy C/NR 8.1: Protect ARAs, and other land identified as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance

by the California Department of Conservation, from encroaching development and discourage incompatible adjacent land uses.

Policy C/NR 8.2: Discourage land uses in the ARAs, and other land identified as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance by the California Department of Conservation, that are incompatible with agricultural activities.

Policy C/NR 8.3: Encourage agricultural activities within ARAs.

Goal C/NR-9: Sustainable agricultural practices.

Policy C/NR 9.1: Support agricultural practices that minimize and reduce soil loss and prevent water runoff from affecting water quality.

Policy C/NR 9.2: Support innovative agricultural practices that conserve resources and promote sustainability, such as drip irrigation, hydroponics, and organic farming.

Policy C/NR 9.3: Support farmers' markets throughout the county.

Policy C/NR 9.4: Support countywide community garden and urban farming programs.

Policy C/NR 9.5: Discourage the conversion of native vegetation to agricultural uses.

4.2.3 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act Guidelines, a project would have a significant effect on the environment with respect to agriculture and forestry resources if the project would:

AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use.

AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract.

AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).

AG-4: Result in the loss of forest land or conversion of forest land to nonforest use.

AG-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to nonforest use.

4.2.4 Methodology

The existing General Plan, review of aerial photographs, and review of state farmland maps were used to evaluate known agricultural, timberland, and/or forest resources located within the Project Area. The potential for the Proposed Project to impact agricultural, timber, and/or forest resources is dependent on where within the rezoning area a development would occur; this is further analyzed below.

Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

4.2.5 Environmental Impacts

Threshold AG-1 Would the project Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use?

The Proposed Project is a policy document and adoption of the Proposed Project alone would not produce environmental impacts. The Proposed Project consists of an updated housing program; no actual development is proposed as part of the update. Implementation of the programs contained in the document would accommodate development required to meet the County's 2021–2029 Regional Housing Needs Assessment allocation. Under the Regional Housing Needs Assessment allocation, the County is required to provide the zoned capacity in unincorporated areas to accommodate the development of at least 90,052 units using various land use planning strategies. It is determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its Regional Housing Needs Assessment gap; refer to Chapter 3, Project Description, for further details. While the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

The parcels within the rezoning program would be located within urban and suburban areas, and many are located along commercial corridors. Parcels within the rezoning program would not include areas located within the Prime Farmland and/or Farmland of Statewide Importance as mapped by FMMP. Therefore, **no impacts** would occur.

Threshold AG-2 Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

As described in Threshold AG-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

Additionally, the rezoning program would be located in unincorporated urban areas and would not include areas zoned for agricultural use or a Williamson Act Contract. The only Williamson Act contracts in effect in Los Angeles County are for land on Santa Catalina Island (CDC 2013) which is not included in the rezoning program area. Therefore, **no impact** would occur.

Threshold AG-3 **Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).?**

Forest land within the County exists along creeks and other watercourses and the highest elevations of the San Gabriel Mountains. Because there are no substantial areas of privately owned forest in the County, there is no land used for commercial logging (timberland).

As described in Threshold AG-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

The Proposed Project includes a rezoning program within unincorporated urban and suburban areas in Los Angeles County, which do not contain, nor are they adjacent to, forest land, timberland, or timberland zoned Timberland Production. As such, the rezoning program would not result in the conversion of land zoned for forest land or timberland to higher residential or mixed-use zoning. Therefore, the Proposed Project would not result in the loss or conversion of forest land and/or timber land, and **no impact** would occur.

Threshold AG-4 **Would the project result in the loss of forest land or conversion of forest land to nonforest use?**

Refer to Threshold AG-3 above. **No impact** would occur.

Threshold AG-5 **Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to nonforest use?**

As noted for Thresholds AG-1 through AG-4, the Proposed Project is a policy document and the rezoning program is not located within or adjacent to agricultural and forest lands. Therefore, the Proposed Project would not cause changes to the existing environment that would result in conversion of either Farmland or forest land to a different use. **No impact** would occur.

4.2.6 Cumulative Impacts

Cumulative projects are those that would be developed in cities in the County along with buildout of the Proposed Project. The Project Area is not within an area mapped as farmland and/or zoned for agriculture use. Further, the areas proposed for rezoning exclude the Community Plan Areas that contain Important Farmland. Thus, the Proposed Project in conjunction with cumulative projects would not impact Important Farmland. Substantial adverse cumulative impacts to forest land, or rezoning of forest use are unlikely, as almost of the forests in the County are in areas of high-elevation and not within developed cities. Therefore, the Proposed Project would not include direct or indirect impacts to agricultural and forestry resources and therefore would not contribute to cumulative impacts to these resources. No cumulative impact would occur.

4.2.7 Mitigation Measures

No mitigation is required.

4.2.8 Level of Significance After Mitigation

No impacts related to agriculture and forestry resources have been identified.

4.2.9 References

California Department of Conservation (CDC). 2013. State of California Williamson Act Contract Land Map, Submissions Current to 2012. ftp://ftp.consrv.ca.gov/pub/dlrp/wa/2012%20Statewide%20Map/.

County of Los Angeles. 2014. *Los Angeles County General Plan Update Draft Environmental Impact Report*. State Clearinghouse #2011081042. June 2014. https://planning.lacounty.gov/assets/upl/project/gp_2035_deir.pdf.

County of Los Angeles. 2015. *Los Angeles County General Plan*. Adopted October 6, 2015. https://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf.

4.3 Air Quality

This section evaluates the potential for implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project) to impact air quality. This section describes the existing regional and local air quality conditions, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures as needed. The impact evaluation is based on the methodology recommended by the South Coast Air Quality Management District (SCAQMD) and the Antelope Valley Air Quality Management District (AVAQMD). Criteria air pollutant emissions modeling, which supports the analysis provided herein, is included in Appendix B of this PEIR.

4.3.1 Environmental Setting

This section discusses the existing environmental setting relative to air quality. As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analysis or studies.

The metropolitan portions of Los Angeles County (County) are within the South Coast Air Basin (SCAB), and the desert portions of the County lie within the Mojave Desert Air Basin (MDAB). Depending on which air basin a parcel lies within, the proposed land use is subject to the rules and regulations imposed by SCAQMD (SCAB) or the AVAQMD (MDAB), as well as the California Ambient Air Quality Standards (CAAQS) adopted by the California Air Resources Board (CARB) and National Ambient Air Quality Standards (NAAQS) adopted by the U.S. Environmental Protection Agency (EPA).[1] Existing conditions of the SCAB and the MDAB are summarized below.

Overall, Los Angeles's climate is characterized by relatively low rainfall, with warm summers and mild winters. Average temperatures range from a high of 75.9°F in September to a low of 47.8°F in February (WRCC 2021).[2] Annual precipitation averages about 12.82 inches, falling mostly from October through April (WRCC 2021).

South Coast Air Basin

The SCAB is a 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east.

[1] Specifically, the SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the SCAB and the Riverside County portions of the Salton Sea Air Basin and MDAB. It includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The AVAQMD has jurisdiction over the northern, desert portion of Los Angeles County and covers a western portion of the MDAB. This region includes the incorporated cities of Lancaster and Palmdale, Air Force Plant 42, and the southern portion of Edwards Air Force Base. The Kern County-Los Angeles County boundary forms the northern boundary of the AVAQMD; the San Bernardino-Los Angeles County boundary forms the eastern boundary of the AVAQMD.

[2] Local climate data for the County is based on the most-representative station measured by the Western Regional Climate Center, which is the Los Angeles International Airport climatological station.

Climate and Topography

The SCAB's air pollution problems are a consequence of the combination of emissions from the nation's second-largest urban area, meteorological conditions that hinder dispersion of those emissions, and mountainous terrain surrounding the SCAB that traps pollutants as they are pushed inland with the sea breeze (SCAQMD 2017). Meteorological and topographical factors that affect air quality in the SCAB are described below.[3]

Climate

The SCAB is characterized as having a Mediterranean climate (typified as semiarid with mild winters, warm summers, and moderate rainfall). The general region lies in the semi-permanent high-pressure zone of the eastern Pacific; as a result, the climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

Moderate temperatures, comfortable humidity, and limited precipitation characterize the climate in the SCAB. The average annual temperature varies little throughout the SCAB, averaging 75°F. However, with a less-pronounced oceanic influence, the eastern inland portions of the SCAB show greater variability in annual minimum and maximum temperatures. All portions of the SCAB have recorded temperatures over 100° F in recent years. Although the SCAB has a semiarid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry air is brought into the SCAB by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. Annual average relative humidity is 70% at the coast and 57% in the eastern part of the SCAB. Precipitation in the SCAB is typically 9 to 14 inches annually and is rarely in the form of snow or hail because of typically warm weather. Most of the rainfall in Southern California occurs between late fall and early spring, with most rain typically occurring in the months of January and February.

Sunlight

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain primary pollutants (mainly reactive hydrocarbons and oxides of nitrogen [NO_x][4]) react to form secondary pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind of the emission sources. Southern California also has abundant sunshine, which drives the photochemical reactions that form pollutants such as ozone (O_3) and a substantial portion of fine particulate matter ($PM_{2.5}$; particulate matter 2.5 microns or less in diameter). In the SCAB, high concentrations of O_3 are normally recorded during the late spring, summer, and early autumn months, when more intense sunlight drives enhanced photochemical reactions. Because of the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California.

Temperature Inversions

Under ideal meteorological conditions and irrespective of topography, pollutants emitted into the air mix and disperse into the upper atmosphere. However, the Southern California region frequently experiences temperature inversions in which pollutants are trapped and accumulate close to the ground. The inversion, a layer of warm, dry

[3] The discussion of meteorological and topographical conditions of the SCAB is based on information provided in the Final 2016 Air Quality Management Plan (SCAQMD 2017).

[4] NO_x is a general term pertaining to compounds of nitric oxide, nitrogen dioxide, and other oxides of nitrogen.

air overlaying cool, moist marine air, is a normal condition in coastal Southern California. The cool, damp, and hazy sea air capped by coastal clouds is heavier than the warm, clear air, which acts as a lid through which the cooler marine layer cannot rise. The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above mean sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet above mean sea level, the terrain prevents the pollutants from entering the upper atmosphere, resulting in the pollutants settling in the foothill communities. Below 1,200 feet above mean sea level, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the daylight hours.

Mixing heights for inversions are lower in the summer and inversions are more persistent, being partly responsible for the high levels of O_3 observed during summer months in the SCAB. Smog in Southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods, allowing them to form secondary pollutants by reacting in the presence of sunlight. The SCAB has a limited ability to disperse these pollutants due to typically low wind speeds and the surrounding mountain ranges.

As with other regions within the SCAB, the County is susceptible to air inversions, which trap a layer of stagnant air near the ground where pollutants are further concentrated. These inversions produce haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources. Elevated concentrations of coarse particulate matter (PM_{10}; particulate matter 10 microns or less in diameter) and $PM_{2.5}$ can occur in the SCAB throughout the year, but they occur most frequently in fall and winter. Although there are some changes in emissions by day of the week and by season, the observed variations in pollutant concentrations are primarily the result of seasonal differences in weather conditions.

Mojave Desert Air Basin

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes.[5] Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the MDAB. The MDAB is separated from the Southern California coastal and Central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevada mountains in the north by the Tehachapi Pass (3,800-foot elevation). Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 feet).

During the summer the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least three months having maximum average temperatures over 100.4°F.

[5] The description of the MDAB climate and topography is based on the AVAQMD 2016 CEQA and Federal Conformity Guidelines (AVAQMD 2016).

Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The national and California standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead. In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs.[6]

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly NO_x and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric O_3) and at the Earth's surface in the troposphere (ground-level O_3).[7] The O_3 that EPA and CARB regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013).

Inhalation of O_3 causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O_3 can reduce the volume of air that the lungs breathe in, thereby causing shortness of breath. O_3 in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from O_3 exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O_3 exposure. While there are relatively few studies on the effects of O_3 on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more susceptible to O_3 and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents, and adults who exercise or work outdoors, where O_3 concentrations are the highest, are at the greatest risk of harm from this pollutant (CARB 2019b).

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6 The descriptions of the criteria air pollutants and associated health effects are based on EPA's "Criteria Air Pollutants" (EPA 2018a), as well as CARB's "Glossary" (CARB 2019a) and "Fact Sheet: Air Pollution Sources, Effects and Control" (CARB 2009).

7 The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide, which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the ambient air quality standards for NO_2, results from controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher levels of exposure compared to children with lower exposure levels. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2019c).

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the Project location, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

CO is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, light-headedness, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2019d).

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO_2 exposure, compared with the non-asthmatic population. Effects at levels near the 1-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath, and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO_2 (above 1 parts per million [ppm]) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. Older people and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects (CARB 2019e).

SO_2 is of concern both because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in particulate matter (NRC 2005). People with asthma are of particular concern, both because they have increased baseline airflow resistance and because their SO_2-induced increase in airflow resistance is greater than in healthy people, and it increases with the severity of their asthma (NRC 2005). SO_2 is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways (NRC 2005).

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) consists of particulate matter that is 10 microns or less in diameter, which is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) consists of particulate matter that is 2.5 microns or less in diameter, which is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

A number of adverse health effects have been associated with exposure to both $PM_{2.5}$ and PM_{10}. For $PM_{2.5}$, short-term exposures (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, $PM_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and worldwide based on the World Health Organization's Global Burden of Disease Project. Short-term exposures to PM_{10} have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2017).

Long-term exposure (months to years) to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer (CARB 2017).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient (IQ) performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere and can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer (CARB 2021a).

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, sewage treatment plants, and stagnant runoff from clogged water basins. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for $PM_{2.5}$.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of anthropogenic and bio-pedogenic hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate ambient air quality standards for VOCs as a group.

Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills and oil and gas facilities. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and non-carcinogenic effects. Non-carcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70 the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2019f). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2019f). The CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM) (17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines, including trucks, buses, and cars, and off-road diesel engines, including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2019f). Those most vulnerable to non-cancer health effects are children, whose lungs are still developing, and older people, who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance or a quality of life impact, rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and

recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; microclimate; relative humidity; temperature; topography; and the sensitivity of receptors.

Valley Fever. Coccidioidomycosis, more commonly known as "valley fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the soil, such as digging, grading, or other earth-moving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils.

Per the County of Los Angeles Department of Public Health, the total number of coccidioidomycosis cases in the County is 8.43 cases per 100,000 people in 2016 (Los Angeles County Department of Public Health 2017). Statewide incidences in 2018 were 18.8 per 100,000 people (CDPH 2019).

Propagation of *Coccidioides immitis* is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. *Coccidioides immitis* spores can be released when filaments are disturbed by earth-moving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing valley fever. Moreover, exposure to *Coccidioides immitis* does not guarantee that an individual will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic and show no signs of an infection (USGS 2000). AB 203 adds Section 6709 to the Labor Code and requires employers to provide effective valley fever awareness and prevention training for all construction employees at risk of prolonged exposure to dust in Fresno, Kern, Kings, Madera, Merced, Monterey, San Joaquin, San Luis Obispo, Santa Barbara, Tulare, and Ventura counties annually, and again before an employee begins work that is reasonably anticipated to cause exposure to substantial dust disturbance. Although Los Angeles County is not one of the counties required by AB 203 to provide training at this time, valley fever awareness and training should be encouraged by employers to construction employees.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air-pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air-pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005).

The SCAQMD identifies sensitive receptors as residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). The AVAMQD defines sensitive receptor land uses as residences, schools, daycare centers, playgrounds, and medical facilities (AVAQMD 2016). Of note, the proposed residential land uses are considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present.

Background Health Risk

The SCAQMD conducted its first Multiple Air Toxics Exposure Study (MATES) in 1986 and 1987. The SCAQMD provided updates and expanded information in the MATES program as follows: MATES II (2000), MATES III (2008), MATES IV (2015), and MATES V (in progress). MATES IV and the in-progress V include a monitoring program, an updated emissions inventory of TACs, and a modeling effort to characterize risk across the SCAB. MATES focuses on the carcinogenic risk from exposure to air toxics, but does not estimate mortality or other health effects from particulate exposures. The key findings of MATES IV are as follows (SCAQMD 2015a):

- During the study period, the average SCAB cancer risk from air toxics based on the annual average levels calculated from the 10 monitoring sites data was approximately 418 per 1 million. This is about 65% lower than the estimated risk from the 2004–2006 time period. Diesel exhaust was the key driver for air toxics risk, accounting for 68% of the total air toxics risk estimated from monitoring. None of the annual averages of pollutants measured were above the chronic reference exposure levels for noncancer health effects developed by the California Office of Environmental Health Hazard Assessment.
- Ambient levels of most substances measured were lower compared to that of the MATES III, which was conducted in 2004–2006, reflecting the success of various control strategies to reduce exposure to air toxics. DPM showed the most dramatic reductions, with the levels found about 70% lower compared to MATES III.
- Model estimated air toxics risk showed an overall SCAB-wide reduction, with the greatest reductions occurring near the ports. The SCAB-wide estimated population-weighted risk was 57% lower in MATES IV compared to MATES III.
- Regional modeling analysis shows the highest risks from air toxics surrounding the port areas, with the highest grid cell risk about 1,000 per 1 million, followed by Central Los Angeles, where there is a major transportation corridor, with grid cell modeled risks ranging from about 700 to 750 per 1 million.

4.3.2 Relevant Plans, Policies, and Ordinances

Federal

Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. EPA is responsible for implementing most aspects of the Clean Air Act, including setting NAAQS for major air pollutants; setting hazardous air pollutant standards; approving state attainment plans; setting motor vehicle emissions standards; issuing stationary source emissions standards and permits; and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. NAAQS are established for criteria pollutants under the Clean Air Act, which are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare State Implementation Plans that demonstrates how those areas will attain the NAAQS within mandated timeframes.

Hazardous Air Pollutants

The 1977 federal Clean Air Act amendments required EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. Hazardous air pollutants (HAPs) include certain VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

State

Criteria Air Pollutants

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established the CAAQS, which are generally more restrictive than the NAAQS. As stated previously, an ambient air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harm to the public's health. For each pollutant, concentrations must be below the relevant CAAQS before a geographical area can attain the corresponding CAAQS. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.

California air districts have based their thresholds of significance for California Environmental Quality Act (CEQA) purposes on the levels that scientific and factual data demonstrate that the air basin can accommodate without affecting the attainment date for the NAAQS or CAAQS. Since an ambient air quality standard is based on maximum pollutant levels in outdoor air that would not harm the public's health, and air district thresholds pertain to attainment of the ambient air quality standard, this means that the thresholds established by air districts are also protective of human health.

The NAAQS and CAAQS are presented in Table 4.3-1.

Table 4.3-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary[c,d]*	*Secondary[c,e]*
Ozone (O_3)	1 hour	0.09 ppm (180 μg/m³)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 μg/m³)	0.070 ppm (137 μg/m³)f	
Nitrogen dioxide (NO_2)[g]	1 hour	0.18 ppm (339 μg/m³)	0.100 ppm (188 μg/m³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 μg/m³)	0.053 ppm (100 μg/m³)	
Carbon monoxide (CO)	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	

Table 4.3-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary[c,d]*	*Secondary[c,e]*
Sulfur dioxide (SO_2)[h]	1 hour	0.25 ppm (655 µg/m³)	0.075 ppm (196 µg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m³)
	24 hours	0.04 ppm (105 µg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
Course Particulate Matter (PM_{10})[i]	24 hours	50 µg/m³	150 µg/m³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m³	—	
Fine Particulate Matter ($PM_{2.5}$)[i]	24 hours	—	35 µg/m³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m³	12.0 µg/m³	15.0 µg/m³
Lead[j,k]	30-day Average	1.5 µg/m³	—	—
	Calendar Quarter	—	1.5 µg/m³ (for certain areas)[k]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m³)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 µg/m³)	—	—
Sulfates	24 hours	25 µg/m³	—	—
Visibility-reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%	—	—

Source: CARB 2016.

Notes: ppm = parts per million by volume; µg/m³ = micrograms per cubic meter; mg/m³= milligrams per cubic meter; PST = Pacific Standard Time.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility-reducing particles—are values that are not to be exceeded. All others are not to be equaled or exceeded. California Ambient Air Quality Standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

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

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

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

[f] On October 1, 2015, the primary and secondary National Ambient Air Quality Standards for O_3 were lowered from 0.075 ppm to 0.070 ppm

[g] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

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

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

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

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

Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807. The California TAC list identifies more than 700 pollutants, of which carcinogenic and non-carcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. In 1987, the legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment Program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several airborne toxic control measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

Regional

While CARB is responsible for the regulation of mobile emissions sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SCAB, and the AVAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the Los Angeles portion of the MDAB. As noted previously, the metropolitan portions of the County are within the SCAB under the jurisdiction of the SCAQMD, and the desert portions of the County lie within the MDAB under the jurisdiction of the AVAQMD. The SCAQMD and the AVAQMD are discussed below.

South Coast Air Quality Management District

SCAQMD operates monitoring stations in the SCAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. SCAQMD's Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain the CAAQS and NAAQS in the SCAB. SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

The SCAQMD has initiated the development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 parts per billion) for the SCAB and the Coachella Valley. Preliminary rule development for the 2022 AQMP is expected to begin in July 2021, including control measures developed through Residential and Commercial Buildings and Mobile Source Working Groups.

The most-recently adopted AQMP is the 2016 AQMP (SCAQMD 2017), which was adopted by the SCAQMD governing board on March 3, 2017. The 2016 AQMP is a regional blueprint for achieving air quality standards and healthful air. The 2016 AQMP addresses criteria air pollutant emissions from ocean-going vessels, which are considered federal sources, and includes emissions associated with marine vessels and engines in the baseline year and future forecasts. The 2016 AQMP's overall control strategy is an integral approach relying on fair-share emission reductions from federal, state, and local levels. The 2016 AQMP is composed of stationary and mobile source emission reductions from traditional regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile source strategies, and reductions from federal sources (SCAQMD 2017). These control strategies are to be implemented in partnership with CARB and EPA.

The previous AQMP was the 2012 AQMP, which was adopted in February 2013 (SCAQMD 2013). The 2012 AQMP proposed policies and measures to achieve national and California standards for improved air quality in the SCAB and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under SCAQMD jurisdiction. The 2012 AQMP is designed to meet applicable federal and state requirements for O_3 and particulate matter. The 2012 AQMP documents that attainment of the federal 24-hour $PM_{2.5}$ standard is impracticable by 2015 and the SCAB should be classified as a "Serious" nonattainment area along with the appropriate federal requirements. The 2012 AQMP includes the planning requirements to meet the 1-hour O_3 standard. The 2012 AQMP demonstrates attainment of the federal 24-hour $PM_{2.5}$ standard by 2014 in the SCAB through adoption of all feasible measures. Finally, the 2012 AQMP updates the EPA-approved 8-hour O_3 control plan with new measures designed to reduce reliance on the Clean Air Act section 182(e)(5) long-term measures for NO_x and VOC reductions. The 2012 AQMP reduction and control measures, which are outlined to mitigate emissions, are based on existing and projected land use and development. The EPA, with a final ruling on April 14, 2016, approved the Clean Air Act planning requirements for the 24-hour $PM_{2.5}$ standard portion and on September 3, 2014, approved the 1-hour O_3 Clean Air Act planning requirements.

Applicable Rules and Regulations

Emissions that would result from development of the additional 63,443 dwelling units on parcels within SCAQMD jurisdiction may be subject to SCAQMD rules and regulations, which may include the following:

Rule 401 – Visible Emissions. This rule establishes the limit for visible emissions from stationary sources for a period or periods aggregating more than three minutes in any hour. This rule prohibits visible emissions dark or darker than Ringelmann No. 1 for periods greater than three minutes in any hour or such opacity which could obscure an observer's view to a degree equal or greater than does smoke.

Rule 402 – Nuisance. This rule prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property.

Rule 403 – Fugitive Dust. This rule requires fugitive dust sources to implement best available control measures for all sources and prohibits all forms of visible particulate matter from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.

Rule 431.2 – Sulfur Content of Liquid Fuels. The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose both of reducing the formation of SO_x and particulates during combustion and of enabling the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the SCAQMD. The rule also affects diesel fuel supplied for mobile source applications.

Rule 445 – Wood Burning Devices. The purpose of this rule is to reduce the emission of particulate matter from woodburning devices and establish contingency measures for applicable O_3 standards for the reduction of VOCs. Per Rule 445, no person shall permanently install a wood-burning device into any new development.

Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines: This rule applies to stationary and portable engines rated at greater than 50 horsepower. The purpose of Rule 1110.2 is to reduce NO_x, VOCs, and CO emissions from engines. Emergency engines, including those powering standby generators, are generally exempt from the emissions and monitoring requirements of this rule because they have permit conditions that limit operation to 200 hours or less per year as determined by an elapsed operating time meter.

Rule 1113 – Architectural Coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

Rule 1401 – New Source Review of Toxic Air Contaminants. This rule specifies limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units, which emit TACs listed in Table I of Rule 1401. The rule establishes allowable risks for permit units requiring new permits pursuant to Rules 201 or 203.

Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities. This rule states that an owner or operator of any demolition or renovation activity is required to have an asbestos study performed prior to demolition and to provide notification to SCAQMD prior to commencing demolition activities.

Antelope Valley Air Quality Management District

The AVAQMD, which was established by the state legislature, separated the Antelope Valley and northern Los Angeles County from the SCAQMD. The Salton Sea Air Basin and MDAB were previously included in a single large basin called the Southeast Desert Air Basin. On May 30, 1996, CARB replaced the Southeast Desert Air Basin with the Salton Sea Air Basin and MDAB. In July 1997, the Antelope Valley area of MDAB was separated from the SCAQMD and incorporated into a new air district under the jurisdiction of the newly formed AVAQMD.

The AVAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the Antelope Valley region of the MDAB. The AVAQMD operates monitoring stations in the Antelope Valley, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The AVAQMD has a variety of air quality management and attainment plans that include control measures and strategies to be implemented to attain the CAAQS and NAAQS in the Antelope Valley. The AVAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

AVAQMD air quality management and attainment plans include the following:

- 2004 State and Federal Ozone Attainment Plan
- 2006 8-hour Ozone Reasonably Available Control Technology – State Implementation Plan (RACT SIP) Analysis
- 2008 Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)
- 2014 Supplement to the 8-hour Ozone RACT SIP Analysis
- 2015 8-hour RACT SIP Analysis
- 2016 Federal 75 ppb Ozone Attainment Plan

Applicable Rules and Regulations

Emissions that would result from development of an additional 63,443 dwelling units on parcels within the AVAQMD jurisdiction may be subject to AVAQMD rules and regulations, which may include the following:

Rule 401 – Visible Emissions. This rule establishes the limit for visible emissions from stationary sources. This rule prohibits visible emissions dark or darker than Ringelmann No.1 for periods greater than 3 minutes in any hour.

Rule 402 – Nuisance. This rule prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property.

Rule 403 – Fugitive Dust. This rule requires fugitive dust sources to implement best available control measures for all sources and prohibits all forms of visible particulate matter from crossing any property line. AVAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.

Rule 431.2 – Sulfur Content of Liquid Fuels. The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose both of reducing the formation of SO_x and particulates during combustion and of enabling the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the AVAQMD. The rule also affects diesel fuel supplied for mobile source applications.

Rule 1113 – Architectural Coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

Rule 1401 – New Source Review of Toxic Air Contaminants. This rule specifies limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units, which emit TACs.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated metropolitan planning organization for the Southern California region and is the largest metropolitan planning organization in the United States.

With respect to air quality planning and other regional issues, SCAG has prepared the 2008 Regional Comprehensive Plan: Helping Communities Achieve a Sustainable Future (2008 RCP) for the region (SCAG 2008). The 2008 RCP sets the policy context in which SCAG participates in and responds to the SCAQMD air quality plans and builds off the SCAQMD AQMP processes that are designed to meet health-based criteria pollutant standards in several ways (SCAG 2008). First, it complements AQMPs by providing guidance and incentives for public agencies to consider best practices that support the technology-based control measures in AQMPs. Second, the 2008 RCP emphasizes the need for local initiatives that can reduce the region's greenhouse gas emissions that contribute to climate change, an issue that is largely outside the focus of local attainment plans. Third, the 2008 RCP emphasizes the need for better coordination of land use and transportation planning, which heavily influences the emissions inventory from the transportation sectors of the economy. This also minimizes land use conflicts, such as residential development near freeways, industrial areas, or other sources of air pollution.

On April 7, 2016, SCAG's Regional Council adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS). The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The 2016 RTP/SCS charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably. The 2016 RTP/SCS was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. In June 2016, SCAG received its conformity determination from the Federal Highway Administration and the Federal Transit Administration indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 Federal Transportation Improvement Program Consistency Amendment through Amendment 15-12 have been met (SCAG 2016). The SCAQMD 2016 AQMP applies the SCAG growth forecasts assumed in the 2016 RTP/SCS.

On September 3, 2020, SCAG adopted Connect SoCal, the 2020–2045 RTP/SCS, which is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Connect SoCal charts a path toward a more mobile, sustainable, and prosperous region by making connections between transportation networks, planning strategies, and the people whose collaboration can improve the quality of life for Southern Californians. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, non-profit

organizations, businesses, and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The updated growth projections from the adopted 2020–2045 RTP/SCS have not yet been incorporated into an adopted AQMP. SCAQMD is currently developing the 2022 AQMP, which will incorporate these updated regional growth projections (SCAG 2020).

Regional and Local Air Quality Conditions

Pursuant to the 1990 federal Clean Air Act amendments, EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment," but based on CAAQS rather than the NAAQS.

SCAB Attainment Designation (Los Angeles County)

Table 4.3-2 depicts the current attainment status of the Los Angeles County portion of the SCAB with respect to the NAAQS and CAAQS.

Table 4.3-2. Los Angeles County Portion of the South Coast Air Basin Attainment Classification

Pollutant	Designation/Classification	
	National Standards	*California Standards*
Ozone (O_3), 1-hour	No national standard	**Nonattainment**
Ozone (O_3), 8-hour	**Extreme nonattainment**	**Nonattainment**
Nitrogen Dioxide (NO_2)	Unclassifiable/attainment	Attainment
Carbon Monoxide (CO)	Attainment/maintenance	Attainment
Sulfur Dioxide (SO_2)	Unclassifiable/attainment	Attainment
Coarse Particulate Matter (PM_{10})	Attainment/maintenance	**Nonattainment**
Fine Particulate Matter ($PM_{2.5}$)	**Serious nonattainment**	**Nonattainment**
Lead	Nonattainment	Attainment
Hydrogen Sulfide	No national standard	Unclassified
Sulfates	No national standard	Attainment
Visibility-Reducing Particles	No national standard	Unclassified
Vinyl Chloride	No national standard	No designation

Sources: EPA 2021a (national); CARB 2019g (California).
Notes: Bold text = not in attainment; attainment = meets the standards; attainment/maintenance = achieves the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify; unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

In summary, the SCAB is designated as a nonattainment area for federal and state O_3 standards and federal and state $PM_{2.5}$ standards. The SCAB is designated as a nonattainment area for state PM_{10} standards; however, it is designated as an attainment area for federal PM_{10} standards. The SCAB is designated as an attainment area for federal and state CO standards, NO_2 standards, and SO_2 standards. While the SCAB has been designated as nonattainment for the federal rolling 3-month average lead standard, it is designated attainment for the state lead standard (EPA 2021a; CARB 2019g).

Despite the current nonattainment status, air quality in the SCAB has generally improved since the inception of air pollutant monitoring in 1976. This improvement is mainly a result of lower-polluting on-road motor vehicles, more stringent regulation of industrial sources, and the implementation of emission reduction strategies by SCAQMD. This trend toward cleaner air has occurred in spite of continued population growth. PM_{10} levels have declined almost 50% since 1990, and $PM_{2.5}$ levels have also declined 50% since measurements began in 1999 (SCAQMD 2013). Similar improvements are observed with O_3, although the rate of O_3 decline has slowed in recent years.

MDAB Attainment Designation (Los Angeles County)

Table 4.3-3 depicts the current attainment status of the Los Angeles County portion of the MDAB with respect to the NAAQS and CAAQS.

Table 4.3-3. Los Angeles County Portion of the Mojave Desert Air Basin Attainment Classification

Pollutant	Designation/Classification[1]	
	Federal Standards	*State Standards*
O_3 – 1 hour	No federal standard	**Nonattainment**
O_3 – 8 hours	**Severe nonattainment[2]**	**Nonattainment**
NO_2	Unclassifiable/attainment	Attainment
CO	Unclassifiable/attainment	Attainment
SO_2	Unclassifiable/attainment	Attainment
PM_{10}	Unclassifiable/attainment	**Nonattainment**
$PM_{2.5}$	**Serious nonattainment[3]**	Unclassified
Lead	Unclassifiable/attainment	Attainment
Hydrogen sulfide	No federal standard	Unclassified[5]
Sulfates	No federal standard	Attainment
Visibility-reducing particles	No federal standard	Unclassified
Vinyl chloride	No federal standard	No designation

Sources: EPA 2021a (federal); CARB 2021b (state).
Notes: O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Definitions: attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify; unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

1 Designations/classifications in **bold** type indicate nonattainment.
2 West Mojave Desert (Los Angeles County) portion of the basin, where the Project is located, is designated severe nonattainment.
3 The Project is located in an area designated serious nonattainment in the West Mojave Desert (Los Angeles County) portion of the basin.
4 The San Bernardino County portion of the MDAB is designated as attainment, and the remainder of the MDAB is designated as unclassified.
5 The entire MDAB is designated unclassified, except for the Searles Valley portion of the basin, which is designated nonattainment.

In summary, the Project is located in an area of the MDAB that is designated as a nonattainment area for federal and state O_3 standards, state PM_{10} standards, and federal $PM_{2.5}$ standards, and unclassifiable/attainment for all other criteria air pollutants (EPA 2021b; CARB 2021b).

Ambient Air Quality

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. The SCAQMD and AVAQMD monitor local ambient air quality within the County. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The most recent background ambient air quality data from 2017 to 2019 are presented in Table 4.3-4. The ambient data presented in Table 4.3-4 reflect the highest concentrations reported within the County during that time period and are considered representative of the air quality experienced in the Proposed Project vicinity. The number of days exceeding the ambient air quality standards is also shown in Table 4.3-4.

Table 4.3-4. Local Ambient Air Quality Data

Averaging Time	Unit	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2017	*2018*	*2019*	*2017*	*2018*	*2019*
Ozone (O_3)									
Maximum 1-hour concentration	ppm	California	0.12	0.157	0.140	0.130	66	36	56
Maximum 8-hour concentration	ppm	California	0.070	0.128	0.106	0.106	104	90	78
		National	0.070	0.128	0.106	0.106	104	90	78
Nitrogen Dioxide (NO_2)									
Maximum 1-hour concentration	ppm	California	0.18	115	90	97	0	0	0
		National	0.100	115.5	90.3	97.7	1	0	0
Annual concentration	ppm	California	0.030	0.025	0.022	0.0223	—	—	—
		National	0.053	0.025	0.022	0.023	—	—	—
Carbon Monoxide (CO)									
Maximum 1-hour concentration	ppm	California	20	6.1	4.7	3.8	0	0	0
		National	35	6.1	4.7	3.8	0	0	0
Maximum 8-hour concentration	ppm	California	9.0	4.6	3.5	3.2	0	0	0
		National	9	4.6	3.5	3.2	0	0	0
Sulfur Dioxide (SO_2)									
Maximum 1-hour concentration	ppm	National	0.075	0.020	0.018	0.010	ND	ND	ND
Maximum 24-hour concentration	ppm	National	0.14	0.003	0.002	0.002	ND	ND	ND
Annual concentration	ppm	National	0.030	0.0009	0.0007	0.0005	—	—	—

Table 4.3-4. Local Ambient Air Quality Data

Averaging Time	Unit	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2017	*2018*	*2019*	*2017*	*2018*	*2019*
Coarse Particulate Matter (PM_{10})									
Maximum 24-hour concentration	µg/m³	California	50	140	101	165	0.0 (0)	0.0 (0)	0.0 (0)
		National	150	140	101	165	0.0 (0)	0.0 (0)	0.0 (0)
Annual concentration	µg/m³	California	20	ND	32.5	29.5	—	—	—
Fine Particulate Matter ($PM_{2.5}$)[a]									
Maximum 24-hour concentration	µg/m³	National	35	85.4	103.8	70.3	15.4 (13)	9.1 (13)	3.1 (2)
Annual concentration	µg/m³	California	12	14.9	15.7	13.4	—	—	—
		National	12.0	14.9	15.7	13.4	—	—	—

Sources: CARB 2021c; EPA 2021c.

Notes: ppm = parts per million by volume; — = not available; µg/m³ = micrograms per cubic meter; ND = insufficient data available to determine the value.

Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.

Exceedances of national and California standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed national or California standards during the years shown. There is no national standard for 1-hour O_3, annual PM_{10}, or 24-hour SO_2, nor is there a California 24-hour standard for $PM_{2.5}$.

[a] Mean does not satisfy minimum data completeness criteria.

[b] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

Local

Los Angeles County General Plan

The following local regulations from the General Plan pertaining to air quality would apply to the Proposed Project (County of Los Angeles 2015).

Air Quality Element

Goal AQ 1 Protection from exposure to harmful air pollutants.

Policy AQ 1.1 Minimize health risks to people from industrial toxic or hazardous air pollutant emissions, with an emphasis on local hot spots, such as existing point sources affecting immediate sensitive receptors.

Policy AQ 1.2 Encourage the use of low or no volatile organic compound (VOC) emitting materials.

Policy AQ 1.3 Reduce particulate inorganic and biological emissions from construction, grading, excavation, and demolition to the maximum extent feasible.

Policy AQ 1.4 Work with local air quality management districts to publicize air quality warnings, and to track potential sources of airborne toxics from identified mobile and stationary sources.

Goal AQ 2 The reduction of air pollution and mobile source emissions through coordinated land use, transportation and air quality planning.

Policy AQ 2.1 Encourage the application of design and other appropriate measures when siting sensitive uses, such as residences, schools, senior centers, daycare centers, medical facilities, or parks with active recreational facilities within proximity to major sources of air pollution, such as freeways.

Policy AQ 2.2 Participate in, and effectively coordinate the development and implementation of community and regional air quality programs.

Policy AQ 2.3 Support the conservation of natural resources and vegetation to reduce and mitigate air pollution impacts.

Policy AQ 3.1 Facilitate the implementation and maintenance of the Community Climate Action Plan to ensure that the County reaches its climate change and greenhouse gas emission reduction goals.

Policy AQ 3.2 Reduce energy consumption in County operations by 20 percent by 2015.

Policy AQ 3.3 Reduce water consumption in County operations.

Policy AQ 3.4 Participate in local, regional and state programs to reduce greenhouse gas emissions.

Policy AQ 3.5 Encourage maximum amounts of energy conservation in new development and municipal operations.

Land Use Element

Policy LU 1.5 In the review of a project-specific amendment(s) to convert OS-C designated lands to other land use designations, ensure that the project-specific amendment(s) does not contribute to the overall loss of open space that protects water quality, provides natural habitats, and contributes to improved air quality.

Policy LU 1.6 In the review of a project-specific amendment(s) to convert lands within the EPD Overlay to non-industrial land use designations, ensure that the project-specific amendment(s):

- Is located on a parcel that adjoins a parcel with a comparable use, at a comparable scale and intensity;
- Will not negatively impact the productivity of neighboring industrial activities;

- Is necessary to promote the economic value and the long-term viability of the site; and
- Will not subject future residents to potential noxious impacts, such as noise, odors or dust or pose significant health and safety risks.

Policy LU 2.4 Coordinate with other local jurisdictions to develop compatible land uses.

Policy LU 2.5 Support and actively participate in inter-jurisdictional and regional planning efforts to help inform community-based planning efforts.

Policy LU 2.9 Utilize the General Plan Land Use Legend and the Hazard, Environmental and Resource Constraints Model to inform the development of land use policy maps.

Policy LU 3.1 Encourage the protection and conservation of areas with natural resources, and SEAs.

Policy LU 3.2 Discourage development in areas with high environmental resources and/or severe safety hazards.

Policy LU 3.3 Discourage development in undeveloped areas where infrastructure and public services do not exist, or where no or where no major infrastructure projects are planned, such as state and/or federal highways.

Policy LU 4.1 Encourage infill development in urban and suburban areas on vacant, underutilized, and/or brownfield sites.

Policy LU 4.2 Encourage the adaptive reuse of underutilized structures and the revitalization of older, economically distressed neighborhoods.

Policy LU 4.3 Encourage transit-oriented development in urban and suburban areas with the appropriate residential density along transit corridors and within station areas.

Policy LU 4.4 Encourage mixed use development along major commercial corridors in urban and suburban areas.

Policy LU 5.1 Encourage a mix of residential land use designations and development regulations that accommodate various densities, building types and styles.

Policy LU 5.2 Encourage a diversity of commercial and retail services, and public facilities at various scales to meet regional and local needs.

Policy LU 5.3 Support a mix of land uses that promote bicycling and walking, and reduce VMTs.

Policy LU 5.4 Encourage community-serving uses, such as early care and education facilities, grocery stores, farmers markets, restaurants, and banks to locate near employment centers.

Policy LU 5.7 Direct resources to areas that lack amenities, such as transit, clean air, grocery stores, bikeways, parks, and other components of a healthy community.

Policy LU 5.10 Encourage employment opportunities and housing to be developed in proximity to one another.

Policy LU 7.1 Reduce and mitigate the impacts of incompatible land uses, where feasible, using buffers and other design techniques.

Policy LU 7.2 Protect industrial parks and districts from incompatible uses.

Policy LU 7.3 Protect public and semi-public facilities, including but not limited to major landfills, natural gas storage facilities, and solid waste disposal sites from incompatible uses.

Policy LU 7.9 Encourage development in rural areas that is compatible with rural community character, preserves open space, conserves agricultural land, and promotes efficiencies in services and infrastructure.

Policy LU 8.2 Evaluate the potential impact of new structures within MOAs to ensure the safety of the residents on the ground and continued viability of military operations within the MOAs. In the review of development within MOAs, consider the following:

- Uses that produce electromagnetic and frequency spectrum interference, which could impact military operations;
- Uses that release into the air any substance such as steam, dust and smoke, which impair pilot visibility;
- Uses that produce light emissions, glare or distracting lights, which could interfere with pilot vision or be mistaken for airfield lighting; and
- Uses that physically obstruct any portion of the MOA due to relative height above ground level.

Policy LU 9.1 Promote community health for all neighborhoods.

Policy LU 10.4 Promote environmentally-sensitive and sustainable design.

Policy LU 10.6 Encourage pedestrian activity through the following:

- Designing the main entrance of buildings to front the street;
- Incorporating landscaping features;
- Limiting masonry walls and parking lots along commercial corridors and other public spaces;
- Incorporating street furniture, signage, and public events and activities; and
- Using wayfinding strategies to highlight community points of interest.

Policy LU 10.7 Promote public spaces, such as plazas that enhance the pedestrian environment, and, where appropriate, continuity along commercial corridors with active transportation activities.

Policy LU 11.1 Encourage new development to employ sustainable energy practices, such as utilizing passive solar techniques and/or active solar technologies.

Policy LU 11.2 Support the design of developments that provide substantial tree canopy cover, and utilize light colored paving materials and energy-efficient roofing materials to reduce the urban heat island effect.

Policy LU 11.3 Encourage development to optimize the solar orientation of buildings to maximize passive and active solar design techniques.

Policy LU 11.4 Encourage subdivisions to utilize sustainable design practices, such as maximizing energy efficiency through lot configuration; preventing habitat fragmentation; promoting storm water retention; promoting the localized production of energy; promoting water conservation and reuse; maximizing interconnectivity; and utilizing public transit.

Policy LU 11.5 Prohibit the use of private yards as required open space within subdivisions, unless such area includes active recreation or outdoor activity areas dedicated for common and/or public use.

Policy LU 11.7 Encourage the use of density-controlled design techniques to conserve natural resource areas.

Policy LU 11.8 Encourage sustainable subdivisions that meet green neighborhood standards, such as Leadership in Energy and Environmental Design–Neighborhood Development (LEED-ND).

Mobility Element

Goal M 1 Street designs that incorporate the needs of all users. (Complete Streets)

Policy M 1.1 Provide for the accommodation of all users, including pedestrians, motorists, bicyclists, equestrians, users of public transit, seniors, children, and persons with disabilities when requiring or planning for new, or retrofitting existing, roads and streets.

Policy M 1.2 Ensure that streets are safe for sensitive users, such as seniors and children.

Policy M 1.3 Utilize industry standard rating systems, such as the Institute for Sustainable Infrastructure (ISI) Rating System, to assess sustainability and effectiveness of street systems for all users.

Goal M 2 Interconnected and safe bicycle- and pedestrian-friendly streets, sidewalks, paths and trails that promote active transportation and transit use. (Active Transportation Design)

Policy M 2.1 Design streets that accommodate pedestrians and bicyclists, and reduce motor vehicle accidents through a context-sensitive process that addresses the unique characteristics of urban, suburban, and rural communities.

Policy M 2.2 Accommodate pedestrians and bicyclists, and reduce motor vehicle accidents by implementing the following street designs, whenever appropriate and feasible:

- Lane width reductions to 10 or 11 feet in low speed environments with a low volume of heavy vehicles.
- Wider lanes may still be required for lanes adjacent to the curb, and where buses and trucks are expected.
- Low-speed designs.

- Access management practices developed through a community-driven process.
- Back in angle parking at locations that have available roadway width and bike lanes, where appropriate.

Policy M 2.3 Accommodate pedestrians and bicyclists, and reduce motor vehicle accidents by implementing the following intersection designs, whenever appropriate and feasible:

- Right angle intersections that reduce intersection skew.
- Smaller corner radii to reduce crossing distances and slow turning vehicles.
- Traffic calming measures, such as bulb-outs, sharrows, medians, roundabouts, and narrowing or reducing the number of lanes (road diets) on streets.
- Crossings at all legs of an intersection.
- Shorter crossing distances for pedestrians.
- Right-turn channelization islands. Sharper angles of slip lanes may also be utilized.
- Signal progression at speeds that support the target speed of the corridor.
- Pedestrian push buttons when pedestrian signals are not automatically recalled.
- Walk interval on recall for short crossings.
- Left-turn phasing.
- Prohibit right turn on red.
- Signs to remind drivers to yield to pedestrians.

Policy M 2.4 Ensure a comfortable walking environment for pedestrians by implementing the following, whenever appropriate and feasible:

- Designs that limit dead-end streets and dead-end sidewalks.
- Adequate lighting on pedestrian paths, particularly around building entrances and exits, and transit stops.
- Designs for curb ramps, which are pedestrian friendly and compliant with the American Disability Act (ADA).
- Perpendicular curb ramps at locations where it is feasible.
- Pedestrian walking speed based on the latest standard for signal timing. Slower speeds should be used when appropriate (i.e., near senior housing, rehabilitation centers, etc.)
- Approved devices to extend the pedestrian clearance times at signalized intersections.
- Accessible Pedestrian Signals (APS) at signalized intersections.
- Pedestrian crossings at signalized intersections without double or triple left or right turn lanes.

- Pedestrian signal heads, countdown pedestrian heads, pedestrian phasing and leading pedestrian intervals at signalized intersections.
- Exclusive pedestrian phases (pedestrian scrambles) where turning volume conflicts with very high pedestrian volumes.
- Advance stop lines at signalized intersections.
- Medians or crossing islands to divide long crossings.
- High visibility crosswalks.
- Pedestrian signage.
- Advanced yield lines for uncontrolled crosswalks.
- Rectangular Rapid Flashing Beacon or other similar approved technology at locations of high pedestrian traffic.
- Safe and convenient crossing locations at transit stations and transit stops located at safe intersections.

Policy M 2.5 Ensure a comfortable bicycling environment by implementing the following, whenever appropriate and feasible:

- Bicycle signal heads at intersections.
- Bicycle signal detection at all signalized intersections.
- Wayfinding signage.
- Road diet techniques, such as lane narrowing, lane removal, and parking removal/restriction.
- Appropriate lighting on all bikeways, including those in rural areas.
- Designs, or other similar features, such as: shoulder bikeways, cycle tracks, contra flow bike lanes, shared use paths, buffered bike lanes, raised bike lanes, and bicycle boulevards.

Policy M 2.6 Encourage the implementation of future designs concepts that promote active transportation, whenever available and feasible.

Policy M 2.7 Require sidewalks and bikeways to accommodate the existing and projected volume of pedestrian and bicycle activity, considering both the paved width and the unobstructed width available for walking.

Policy M 2.8 Connect pedestrian and bicycle paths to schools, public transportation, major employment centers, shopping centers, government buildings, residential neighborhoods, and other destinations.

Policy M 2.9 Encourage the planting of trees along streets and other forms of landscaping to enliven streetscapes by blending natural features with built features.

Policy M 2.10 Encourage the provision of amenities, such as benches, shelters, secure bicycle storage, and street furniture, and comfortable, safe waiting areas near transit stops.

Policy M 2.11 Promote the continuity of streets and sidewalks through design features, such as limiting mid-block curb cuts, encouraging access through side streets or alleys, and promoting shorter block lengths

Goal M-3 Streets that incorporate innovative designs. (Innovative Street Design)

Policy M 3.1 Facilitate safe roadway designs that protect users, preserve state and federal funding, and provide reasonable protection from liability.

Policy M 3.2 Consider innovative designs when part of an accepted standard, or when properly vetted through an appropriate engineering/design review, in compliance with all state and federal laws.

Policy M 3.3 Complete the following studies prior to the implementation of innovative design concepts:

- An analysis of the current and future context of the community and neighborhood in which they are proposed;
- A balanced assessment of the needs of all users and travel modes (i.e., pedestrian, bicycle, transit, vehicular, and equestrian, where appropriate);
- A technical assessment of the operational and safety characteristics for each mode; and
- A consistency check with transportation network plans, including the Highway Plan, Bicycle Master Plan, and Community Pedestrian Plans.

Goal M 4 An efficient multimodal transportation system that serves the needs of all residents

Policy M 4.1 Expand transportation options that reduce automobile dependence.

Policy M 4.2 Expand shuttle services to connect major transit centers to community points of interest.

Policy M 4.3 Maintain transit services within the unincorporated areas that are affordable, timely, cost-effective, and responsive to growth patterns and community input.

Policy M 4.4 Ensure expanded mobility and increase transit access for underserved transit users, such as seniors, students, low income households, and persons with disabilities.

Policy M 4.5 Encourage continuous, direct routes through a connected system of streets, with small blocks and minimal dead ends (cul-de-sacs).

Policy M 4.8 Provide and maintain appropriate signage for streets, roads and transit.

Policy M 4.9 Ensure the participation of all potentially affected communities in the transportation planning and decision-making process.

Policy M 4.10 Support the linkage of regional and community-level transportation systems, including multimodal networks.

Policy M 4.11 Improve the efficiency of the public transportation system with bus lanes, signal prioritization, and connections to the larger regional transportation network.

Policy M 4.12 Work with adjacent jurisdictions to ensure connectivity and the creation of an integrated regional network.

Policy M 4.13 Coordinate with adjacent jurisdictions in the review of land development projects near jurisdictional borders to ensure appropriate roadway transitions and multimodal connectivity.

Policy M 4.14 Coordinate with Caltrans on mobility and land use decisions that may affect state transportation facilities.

Policy M 4.15 Reduce vehicle trips through the use of mobility management practices, such as the reduction of parking requirements, employer/institution-based transit passes, regional carpooling programs, and telecommuting.

Policy M 4.16 Promote mobility management practices, including incentives to change transit behavior and using technologies, to reduce VMTs

Goal M 5 Land use planning and transportation management that facilitates the use of transit.

Policy M 5.1 Facilitate transit-oriented land uses and pedestrian-oriented design to encourage transit ridership.

Policy M 5.2 Implement parking strategies that facilitate transit use and reduce automobile dependence.

Policy M 5.3 Maintain transportation right-of-way corridors for future transportation uses, including bikeways, or new passenger rail or bus services.

Goal M 7 Transportation networks that minimizes negative impacts to the environment and communities.

Policy M 7.5 In rural areas, require rural highway and street standards that minimize the width of paving and the placement of curbs, gutters, sidewalks, street lighting, and traffic signals, except where necessary for public safety.

Conservation and Natural Resources Element

Policy C/NR 9.2 Support innovative agricultural practices that conserve resources and promote sustainability, such as drip irrigation, hydroponics, organic farming, and the use of compost.

Policy C/NR 12.1 Encourage the production and use of renewable energy resources.

Policy C/NR 12.2 Encourage the effective management of energy resources, such as ensuring adequate reserves to meet peak demands.

Parks and Recreation Element

Policy P/R 4.1 Create multi-use trails to accommodate all users.

Policy P/R 4.2 Develop staging areas and trail heads at strategic locations to accommodate multi-use trail users.

Policy P/R 4.3 Develop a network of feeder trails into regional trails.

Policy P/R 4.6 Create new multi-use trails that link community destinations including parks, schools and libraries.

Policy P/R 6.2 Support the use of alternative sources of energy, such as wind and solar sources to reduce the use of energy at existing parks.

Public Services and Facilities Element

Policy PS/F 6.5 Encourage the use of renewable energy sources in utility and telecommunications networks.

Policy PS/F 6.8 Encourage projects that incorporate onsite renewable energy systems.

Economic Development Element

Policy ED 1.2 Encourage and foster the development of the renewable energy economic sectors.

Policy ED 2.2 Utilize adequate buffering and other land use practices to facilitate the compatibility between industrial and non-industrial uses.

Policy ED 2.3 Ensure environmental justice in economic development activities.

Policy ED 2.4 Ensure high standards of development and encourage environmentally sustainable practices in economic development activities

Policy ED 2.5 Encourage employment opportunities to be located in proximity to housing.

Policy ED 2.6 Encourage community-serving uses, such as child care centers and personal services, to be located in proximity to employment centers.

Policy ED 4.7 Support expedited permitting for green building retrofits.

Proposed Housing Element

Goal 2 Communities with equitable access to employment opportunities, community facilities and services, and amenities.

Policy 2.2 Encourage multi-family residential and mixed-use developments along major commercial and transportation corridors.

Goal 3 A housing supply that ranges broadly in housing costs to enable all households, regardless of income, to secure adequate housing.

Policy 3.2 Incorporate advances in energy and cost-saving technologies into housing design, construction, operation, and maintenance.

4.3.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment with respect to air quality if the project would:

AQ-1: Conflict with or obstruct implementation of the applicable air quality plan.

AQ-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

AQ-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

AQ-4: Expose sensitive receptors to substantial pollutant concentrations.

AQ-5: Create objectionable odors affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether the development of the additional 63,443 dwelling units would have a significant impact on air quality. The County uses SCAQMD's and AVAQMD's thresholds to evaluate proposed development projects and to assess the significance of quantifiable impacts. The potential air quality impacts of a project are, therefore, evaluated according to the thresholds adopted by the SCAQMD in connection with its CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and SCAQMD guidance, and the AVAQMD CEQA and Federal Conformity Guidelines.

SCAQMD has established Air Quality Significance Thresholds, as revised in April 2019, that set forth quantitative emission significance thresholds below which a project would not have a significant impact on ambient air quality (Table 4.3-5) (SCAQMD 2019).

Table 4.3-5. SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	***Construction (pounds per day)***	***Operation (pounds per day)***
VOCs	75	55
NO_x	100	55
CO	550	550
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Lead[a]	3	3
TACs and Odor Thresholds		
TACs[b]	Maximum incremental cancer risk ≥10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥1 in 1 million) Chronic and acute hazard index ≥1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards for Criteria Pollutants[c]		
NO_2 1-hour average NO_2 annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.030 ppm (state) and 0.0534 ppm (federal)	
CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	

Table 4.3-5. SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds	
PM_{10} 24-hour average	10.4 μg/m³ (construction)[d] 2.5 μg/m³ (operation)
PM_{10} annual average	1.0 μg/m³
$PM_{2.5}$ 24-hour average	10.4 μg/m³ (construction)[d] 2.5 μg/m³ (operation)

Source: SCAQMD 2019.
Notes: SCAQMD = South Coast Air Quality Management District; VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; NO_2 = nitrogen dioxide; ppm = parts per million by volume; μg/m³ = micrograms per cubic meter.
greenhouse gas emissions thresholds for industrial projects, as added in the March 2015 revision to the SCAQMD Air Quality Significance Thresholds, were not include included in this table as they are addressed within the greenhouse gas emissions analysis and not the air quality analysis.

[a] The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the Project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.
[b] TACs include carcinogens and noncarcinogens.
[c] Ambient air quality standards for criteria pollutants are based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.
[d] Ambient air quality threshold are based on SCAQMD Rule 403.

The phasing out of leaded gasoline started in 1976. As gasoline no longer contains lead, the development of the additional 63,443 dwelling units is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

The AVAQMD has prepared criteria and thresholds for determining significance under CEQA. Per the AVAQMD CEQA and Federal Conformity Guidelines (AVAQMD 2016), any project is significant if it triggers or exceeds the most appropriate evaluation criteria. The AVAQMD thresholds are as follows:

1. Generates total emissions (direct and indirect) in excess of the thresholds presented in Table 4.3-6.

Table 4.3-6. Antelope Valley Air Quality Management District Thresholds of Significance

Criteria Pollutant	Daily Threshold (pounds per day)	Annual Threshold (tons per year)
Volatile Organic Compounds (VOC)	137	25
Oxides of Nitrogen (NO_x)	137	25
Carbon Monoxide (CO)	548	100
Oxides of Sulfur (SO_x)	137	25
Particulate Matter (PM_{10})	82	15
Particulate Matter ($PM_{2.5}$)	82	15

Source: AVAQMD 2016

Note that AVAQMD daily thresholds are generally applicable to multi-phased projects with phases shorter than 1 year and therefore are primarily used for emissions from construction-related activities. The annual thresholds are generally for projects with emissions that would occur for longer than 1 year and thus are generally applied to project-generated operational activities.

2. Generates a violation of any ambient air quality standard when added to the local background.

3. Does not conform with the applicable attainment or maintenance plan(s).

Note that per the AVAQMD guidance, a project is deemed to not exceed threshold 3, and hence not be significant, if it is consistent with the existing land use plan. Zoning changes, specific plans, general plan amendments and similar land use plan changes, which do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled (VMT) are also deemed to not exceed this threshold.

4. Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a hazard index (non-cancerous) greater than or equal to 1.

   The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated using significance threshold criterion 4:

   - Any industrial project within 1,000 feet
   - A distribution center (40 or more trucks per day) within 1,000 feet
   - A major transportation project (50,000 or more vehicles per day) within 1,000 feet
   - A dry cleaner using perchloroethylene within 500 feet
   - A gasoline dispensing facility within 300 feet

The approach and significance criteria used for each of the CEQA thresholds listed above is described below.

Threshold AQ-1

The evaluation of whether the Proposed Project would conflict with or obstruct implementation of the applicable SCAQMD AQMP (CEQA Guidelines, Appendix G, Threshold 1) is based on the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993), Chapter 12, Sections 12.2 and 12.3. The first criterion assesses whether the development of the additional 63,443 dwelling units (as conservatively assumed to result from the Proposed Project's rezoning program; see Chapter 3 for details) would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP, which is addressed in detail under Threshold AQ-2. The second criterion is whether the development of the additional 63,443 dwelling units would exceed the assumptions in the AQMP or increments based on the year of buildout and phase.

The evaluation of whether the development of the additional 63,443 dwelling units would conflict with or obstruct implementation of the applicable AVAQMD air quality plan is based on consistency with the underlying land use designation and additional guidance provided in the AVAQMD guidelines.

Threshold AQ-2

To evaluate the potential for the Proposed Project to violate any air quality standard or contribute substantially to an existing or projected air quality violation, this analysis applies the SCAQMD's construction and operational criteria pollutants mass daily thresholds shown in Table 4.3-5, and the AVAQMD's mass daily and/or annual thresholds shown in Table 4.3-6. The development of the additional 63,443 dwelling units (as conservatively assumed to result from the Proposed Project's rezoning program; see Chapter 3 for details) would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for O_3, which is a nonattainment pollutant, if the project's construction or operational emissions would exceed the SCAQMD or the AVAQMD VOC or NO_x thresholds shown in Tables 4.3-5 and 4.3-6, respectively. These emissions-based

thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur). This approach is used because O_3 is not emitted directly (see the discussion of O_3 and its sources in Section 4.3.1, Environmental Setting), and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through project-level air quality models.

Threshold AQ-3

By its nature, air pollution is largely a cumulative impact. However, project-level thresholds of significance for criteria pollutants are used in the determination of whether a project's individual emissions would have a cumulatively considerable contribution on air quality. If the Proposed Project's emissions would exceed the applied significance thresholds, it would have a cumulatively considerable contribution. Conversely, if the emissions from development of the additional 63,443 dwelling units do not exceed the project-specific thresholds, it is generally not considered to result in a cumulatively significant impact (SCAQMD 2003a). Accordingly, to evaluate the potential for the Proposed Project to 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, this analysis applies SCAQMD's and AVAQMD's criteria pollutants thresholds, as shown in Tables 4.3-5 and 4.3-6.

Threshold AQ-4

For project-level projects, the SCAQMD recommends a localized significance threshold (LST) analysis to evaluate the potential of localized air quality impacts to sensitive receptors in the immediate vicinity of a proposed project from construction and operation; however, an operational LST analysis is only applicable to land uses with on-site emission sources and is generally not applicable to residential land uses as they do not include substantial on-site sources of localized emissions. The LST methodology was developed to be used as a tool to assist lead agencies to analyze localized impacts associated with project-level impacts. However, the LSTs are applicable to projects at the project-specific level and are not applicable to regional projects, such as General Plans or the Proposed Project, as specific projects have not been identified at this time. Accordingly, the application of the LSTs, which is voluntary, is not provided herein due to the nature of the Proposed Project.

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed "CO hotspots." The transport of CO is extremely limited, as it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors. The assessment of the potential for the Proposed Project to result in a CO hotspot is based on comparison to the SCAQMD 2003 AQMP CO hotspot analysis.

The assessment of the Proposed Project's potential to expose sensitive receptors to substantial pollutant concentrations also includes a qualitative evaluation regarding exposure to TACs from construction and operation of the Proposed Project and associated health risk.

Threshold AQ-5

The potential for the Proposed Project to result in other emissions, specifically an odor impact (CEQA Guidelines, Appendix G, Threshold 4), is based on the Proposed Project's land-use types and anticipated construction activity, and the potential for the Proposed Project to create an odor nuisance pursuant to SCAQMD Rule 402 and AVAQMD Rule 402.

4.3.4 Methodology

The County's Proposed Project identifies anticipated development by land use type and square footage. However, since individual project specifics for construction and operation of future development under the Proposed Project are not yet available, the California Emissions Estimator Model (CalEEMod) default values were assumed based on development land use type and size.

As described in Chapter 3, the general areas included as part of the Proposed Project's rezoning program were evaluated in this PEIR at a programmatic level based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. Additionally, for purposes of this analysis, hypothetical potential residential development scenarios were developed in order to frame the analysis. Further analysis was not conducted because the County had no further information and it would be too speculative to analyze potential impacts resulting from future housing development per the Proposed Project. As such, potential changes beyond that are considered speculative or unlikely to occur and therefore, not reasonably foreseeable.

Construction Emissions

To determine if the Proposed Project, particularly the rezoning program that would result in approximately 63,443 additional dwelling units, would not exceed the SCAQMD and the AVAQMD mass daily thresholds, a 235-unit multifamily residential development scenario was modeled using CalEEMod Version 2016.3.2. Not all future residential development would require all of the construction phases assumed; however, the following six default CalEEMod construction phases were included to present the potential range of emissions and capture a potential maximum daily and annual scenario: demolition, site preparation, grading, building construction, paving, and architectural coating. For example, due to the developed nature of some County parcels, many projects may only require a demolition (existing buildings and asphalt pavement) phase and minor site preparation phase prior to building construction, while some projects may require renovation, which would be less intensive than reconstruction. In addition, some projects may not require any demolition, but would require site preparation and/or grading to prepare the site for development. Due to the speculative nature of the amount of asphalt paving associated with potential future residential development, VOC off-gassing from asphalt pavement application is not included in the emissions estimates; however, paving phase emissions associated with paving equipment and vehicle trips are captured.

Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on CalEEMod default values. Due to the speculative nature of construction activities from the potential development of the additional 63,443 dwelling units, CalEEMod default values were relied upon with minor exceptions (i.e., demolition, cubic yards of export during grading, and compliance with air district fugitive dust control rules). Some CalEEMod inputs require project-specific information to estimate non-zero values, including demolition and grading assumptions. As noted above, some parcel development may not require demolition or grading activities; however, in a good faith effort to include potential emissions associated with demolition and grading (rather than zero values), some basic assumptions were applied to the construction scenario. For example, a one-story building the size of the parcel was assumed to estimate demolition emissions, and cubic yards reflecting the parcel site acreage at 2 feet deep was assumed to be exported from the site to estimate grading (earthwork) emissions. All construction scenario assumptions are provided in Appendix B.

Any future construction resulting from implementation of the Proposed Project would be required to comply with SCAQMD Rule 403 and AVAQMD Rule 403 to control dust emissions during any dust-generating activities. SCAQMD Rule 403 and AVAQMD Rule 403 require implementation of various best available fugitive dust control measures for all construction activity sources within its jurisdictional boundaries. Dust control measures include, but are not limited

to, maintaining stability of soil through pre-watering of site prior to clearing, grubbing, cut and fill, and earth-moving activities; stabilizing soil during and immediately after clearing, grubbing, cut and fill, and other earth-moving activities; stabilizing backfill during handling and at completion of activity; and pre-watering material prior to truck loading and ensuring that freeboard exceeds 6 inches. While SCAQMD Rule 403 and AVAQMD Rule 403 require fugitive dust control beyond watering control measures, compliance with Rule 403 is represented in CalEEMod by assuming twice daily watering of active sites (55% reduction in PM_{10} and $PM_{2.5}$ [CAPCOA 2017]).

Operational Emissions

To determine if the Proposed Project would exceed the SCAQMD and the AVAQMD mass daily thresholds, 1,950- and 1,100-unit multifamily residential development scenarios were modeled using CalEEMod Version 2016.3.2. Operational year 2030 was assumed consistent with the anticipated first full year of development. While the type of housing will vary, for emission estimation purposes the residential development would be mid-rise apartments consistent with the traffic analysis.

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from hearths, consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating, water heating, and stoves are calculated in the building energy use module of CalEEMod, as described in the following text.

It is assumed that any future residential development resulting from implementation of the Proposed Project would not include woodstoves or wood-burning fireplaces. All residential fireplaces were assumed to be natural gas-fueled consistent with County policies. In addition, SCAQMD Rule 445, Wood Burning Devices, states that "no person shall permanently install a wood-burning device into any new development" (SCAQMD 2020). Exemptions to SCAQMD Rule 445 include where there is no existing infrastructure for natural gas service within 150 feet of the property line or those 3,000 or more feet above mean sea level; however, these exemptions are not anticipated to be common per the anticipated parcels under the development of the additional 63,443 dwelling units.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2017). Consumer product VOC emissions are estimated in CalEEMod based on the floor area of residential buildings and on the default factor of pounds of VOC per building square foot per day.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers using during building maintenance. CalEEMod calculates the VOC evaporative emissions from application of residential surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. The VOC emission factor is based on the VOC content of the surface coatings and CalEEMod default values, which include 50 grams per liter VOC for residential interior and exterior surfaces. Ultimately, per the location of the parcel, either SCAQMD's Rule 1113 (Architectural Coatings) or

AVAQMD's Rule 1113 (Architectural Coatings) would govern the VOC content for interior and exterior coatings.[8] The model default reapplication rate of 10% of area per year is assumed.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per residential dwelling unit per day) and number of summer days (when landscape maintenance would generally be performed) and winter days.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for greenhouse gases in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site. The natural gas use from residential land uses is calculated in CalEEMod based on the Residential Appliance Saturation Study.

The current version of CalEEMod assumes compliance with the 2016 Title 24 Building Energy Efficiency Standards (CAPCOA 2017); however, all development would be required to comply with the 2019 Title 24 Standards at a minimum. Because the actual development is unknown at this time, conservatively, the 2019 Title 24 first-year percent savings for newly constructed non-residential buildings (including high-rise residential buildings) representing reductions from the 2016 Title 24 standard are 10.7% of electricity, 9% of demand, and 1% of natural gas (CEC 2018). Therefore, the Title 24 natural gas values were reduced by 1% for the residential land use.

Mobile Sources

Mobile sources for the 1,950- and 1,100-unit multifamily residential development scenarios would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the parcels developed. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. The default vehicle mix provided in CalEEMod 2016.3.2, which is based on CARB's Mobile Source Emissions Inventory model (EMFAC) version 2014, was applied for the residential land use. Emission factors representing year 2030 were used to estimate emissions associated with of the first full year of implementation of the Proposed Project.

Applied trip generation rates for the 1,950- and 1,100-unit multifamily residential development scenarios are based on the traffic data provided in Section 4.17, Transportation, of this Draft PEIR. As noted previously, mid-rise apartments were assumed for all residential land uses. Multifamily units proposed in both general urban/sub-urban and dense multi-use urban areas were used since some of the sites would be developed with a higher density with higher accessibility to transit and/or proximity to employment centers.

Potential Other Sources of Emissions

Due to the plan nature of the Proposed Project, development could result in additional emission sources that are not captured in CalEEMod or for which specifics are not available to accurately estimate emissions using CalEEMod. However, based on the type of land uses that would be developed under the Proposed Project, specifically residential land use, other sources of emissions are not anticipated to be common or substantial. Nonetheless, it is acknowledged

[8] SCAQMD Rule 1113 includes a 50 grams per liter VOC content limit for both flat and non-flat coatings, which are the most common coatings for interior and exterior paint applications. AVAQMD Rule 1113 includes a 50 grams per liter VOC content limit for flat coating and a 100 grams per liter VOC content limit non-flat coatings. Accordingly, the CalEEMod default values applied are generally consistent with the air district architectural coating rules.

that additional emission sources may occur that are not captured in this analysis. Note that all stationary sources of TACs resulting from implementation of the Proposed Project would be required to comply with applicable SCAQMD or AVAQMD rules and regulations and would be required to obtain a permit to operate from the SCAQMD or AVAQMD.

4.3.5 Environmental Impacts

Threshold AQ-1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?

As previously discussed, the Proposed Project is located within the SCAB under the jurisdiction of the SCAQMD and within the MDAB under the jurisdiction of the AVAQMD; the SCAQMD and the AVAQMD are the local agencies responsible for administration and enforcement of air quality regulations for the Los Angeles area.

The Proposed Project consists of a policy document update, and adoption of Proposed Project alone would not produce environmental impacts. The Proposed Project consists of updating the General Plan Housing Element, and no actual development is proposed as part of the update. Implementation of the programs contained in the updated document would accommodate development required to meet the County's 2021–2029 Regional Housing Needs Assessment (RHNA) allocation. Under the RHNA allocation, unincorporated Los Angeles County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It has been determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its RHNA gap; refer to Chapter 3 for further details. While the Proposed Project consists of a policy document update, which is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

The evaluations of the Proposed Project's potential to conflict with the applicable SCAQMD and AVAQMD plans are provided separately below.

South Coast Air Quality Management District Air Quality Management Plan

The SCAQMD has established criteria for determining consistency with the AQMP, currently the 2016 AQMP, in Chapter 12, Sections 12.2 and 12.3, in the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993). The criteria are as follows (SCAQMD 1993):

- **Consistency Criterion No. 1:** The Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP.
- **Consistency Criterion No. 2:** The Project will not exceed the assumptions in the AQMP or increments based on the year of Project buildout and phase.

Consistency Criterion No. 1

Threshold AQ-2 below evaluates the potential for the Proposed Project to violate any air quality standard or contribute substantially to an existing or projected air quality violation, which applies the SCAQMD mass daily construction and operational thresholds. The Threshold AQ-2 evaluation also addresses the potential for the Proposed Project to result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations (Consistency Criterion No. 1). As discussed below, it was determined that construction

of any future residential development projects greater than the 235-unit screening scenario would potentially exceed the SCAQMD and AVAQMD mass daily thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. In addition, operation of any future development projects greater than the 1,950- and 1,100-unit screening scenarios would potentially exceed the SCAQMD and AVAQMD mass daily thresholds and the AVAQMD annual thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Therefore, the Proposed Project could potentially result in an increase in the frequency or severity of existing air quality violations. As such, the Proposed Project would potentially conflict with Consistency Criterion No. 1 of the SCAQMD CEQA Air Quality Handbook.

Consistency Criterion No. 2

While striving to achieve the NAAQS for O_3 and $PM_{2.5}$ and the CAAQS for O_3, PM_{10}, and $PM_{2.5}$ through a variety of air quality control measures, the 2016 AQMP also accommodates planned growth in the SCAB. Projects are considered consistent with, and would not conflict with or obstruct implementation of, the 2016 AQMP if the growth in socioeconomic factors (e.g., population, employment) is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook).

The SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the SCAG for its RTP/SCS (SCAG 2016), which is based on general plans for cities and counties in the SCAB, for the development of the AQMP emissions inventory (SCAQMD 2017).[9] The SCAG 2016 RTP/SCS, and associated Regional Growth Forecast, are generally consistent with the local plans; therefore, the 2016 AQMP is generally consistent with local government plans.

While no specific development projects are proposed at this time, the Proposed Project would facilitate additional population growth and additional housing units through the proposed rezoning program. The rezoning program has the potential to develop an additional 63,443 dwelling units. However, this growth is consistent with SCAG's planned growth for the unincorporated Los Angeles County region, and therefore the residential population growth was accounted for the in SCAG 2016 RTP/SCS and thus, the 2016 AQMP. A comparison of the overall growth associated with the Proposed Project compared to the unincorporated Los Angeles County growth projections is provided below.

As discussed in Section 4.14, Population and Housing, unincorporated Los Angeles County has a person per housing unit ratio of approximately 3.5. Based on these ratios, implementation of the Proposed Project would have the potential to increase the population in unincorporated Los Angeles County by an estimated 94,500 persons. The total 2018 reported population and the estimated population would be approximately 1,151,622 persons. However, the SCAG's 2016–2040 RTP/SCS forecasted the unincorporated Los Angeles County 2040 population to be 1,273,700 persons. Per the Estimated SCAG RHNA Allocations, unincorporated Los Angeles County has a total housing production need of 90,052 housing units over the RHNA 6th Cycle period (2021 -2029). A summary of the population and housing estimates and forecasts are below in Table 4.3-7.

[9] Information necessary to produce the emission inventory for the SCAB is obtained from the SCAQMD and other governmental agencies, including CARB, the California Department of Transportation, and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socioeconomic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into their Travel Demand Model for estimating/projecting vehicle miles traveled and driving speeds. SCAG's socioeconomic and transportation activities projections in their 2016 RTP/SCS are integrated in the 2016 AQMP (SCAQMD 2017).

Table 4.3-7. Estimated Population and Housing Increase with the Proposed Project

Jurisdiction	Average Persons per Housing Unit	Proposed Estimated Increase in Housing Units	Estimated Population Increase	2018 Population + Estimated Population Increase	Forecasted Population by 2040	2018 Housing Units + Estimated Increase in Housing Units	Forecasted Housing Units by 2040
Unincorporated Los Angeles County	3.5	27,000	94,500	1,151,662	1,273,700	294,730	392,400

Source: SCAG 2019a

As shown in Table 4.3-7, the population growth associated with the Proposed Project is consistent with SCAG's planned growth for the unincorporated Los Angeles County region and consistent with the planned growth for the County as a whole. Additionally, the anticipated housing unit increase as a result of the rezoning program would be aligned with housing unit increase expectations from SCAG's 6th Cycle RHNA.

Summary

As previously described, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. Additionally, approval of the Proposed Project itself, as a policy document update, would not provide any goals, policies, or programs that would significantly conflict with or obstruct implementation of the applicable air quality plan. However, future residential development projects resulting from implementation of the Proposed Project have the potential to exceed the SCAQMD's criteria pollutant mass daily thresholds. Therefore, the Proposed Project would potentially conflict with Consistency Criterion No. 1. However, the Proposed Project would not conflict with Consistency Criterion No. 2 as implementation of the Proposed Project would not exceed the demographic growth forecasts in the SCAG 2016 RTP/SCS. In summary, impacts related to the Proposed Project's potential to conflict with or obstruct implementation of the applicable air quality plan would be **potentially significant** due to the potential conflict with Criterion No. 1.

Antelope Valley Air Quality Management District Air Quality Plans

The following discussion of potential Proposed Project impacts related to consistency with the applicable plan addresses potential impacts under the following significance thresholds:

- AVAQMD threshold: Does not conform to the applicable attainment or maintenance plan(s).
- CEQA Guidelines Appendix G threshold: Conflict with or obstruct the implementation of the applicable air quality plan.

As discussed in Section 4.3.3, Thresholds of Significance, per the AVAQMD guidance, a project is deemed to not exceed this threshold, and hence not be significant, if it is consistent with the existing land use plan. Zoning changes, specific plans, general plan amendments, and similar land use plan changes, which do not increase dwelling unit density, do not increase vehicle trips, and do not increase VMT are also deemed to not exceed this threshold.

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. As discussed under the SCAQMD AQMP evaluation, while no specific development projects are proposed at this time, the Proposed Project would facilitate additional population growth and additional housing units through the rezoning program; therefore, by nature of the rezoning program, parcel development may not be consistent with the existing land use plan. In addition, the change in development associated with development of the additional 63,443 dwelling units from non-residential to residential would result in a net reduction in VMT and associated mobile emissions, as presented in Section 4.17. However, implementation of the Proposed Project would allow for increased dwelling unit density and dwelling units overall by 63,443 units. Based on these considerations, the Proposed Project would potentially conflict with the AVAQMD air quality plans, including the 2016 Federal 75 parts per billion Ozone Attainment Plan. Impacts would be **potentially significant**.

Threshold AQ-2 Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction Emissions

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. Construction activities resulting from potential future projects developed under the Proposed Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing from architectural coatings and asphalt pavement application) and off-site sources (i.e., on-road haul trucks, delivery trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. Therefore, such emissions levels can only be estimated, with a corresponding uncertainty in precise ambient air quality impacts.

While the exact areas of rezone may vary, construction activities associated with future residential development facilitated by the Proposed Project are anticipated to generate criteria air pollutant emissions from off-road equipment, vehicle emissions, entrained dust, architectural coatings, and asphalt pavement application. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. Construction of future development would be required to comply with SCAQMD Rule 403 and AVAQMD Rule 403 to control dust emissions generated during the grading activities. Standard construction practices that were assumed to be employed to reduce fugitive dust emissions, and were quantified in CalEEMod, include watering of the active sites two times per day depending on weather conditions. Internal combustion engines used by construction equipment, haul trucks, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior application/interior paint and other finishes, and application of asphalt pavement would also produce VOC emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SCAQMD Rule 1113 and AVAQMD Rule 1113. Due to the speculative nature of the amount of asphalt paving associated any future development resulting from the Proposed Project, VOC off-gassing from asphalt pavement application is not included in the emissions estimates.

As discussed in the Construction Emissions subsection in Section 4.3.4, Methodology, in order to provide a screening scenario of development size that would not exceed the SCAQMD and the AVAQMD mass daily thresholds, criteria air pollutant emissions associated with temporary construction activity from construction of a 235

multifamily dwelling unit scenario were quantified using CalEEMod. Construction emissions were calculated for the estimated worst-case day over the construction period associated with each phase and reported as the maximum daily emissions estimated during each year of construction (2021 and 2022) for the 235-unit development project. Due to the speculative nature of construction, CalEEMod default values were relied on for the assumed land use type and size, with minor exceptions, as explained in Section 4.3.4.

Table 4.3-8 presents the estimated maximum daily construction emissions generated during construction of the 235-unit scenario. Details of the emission calculations are provided in Appendix B.

Table 4.3-8. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions for the 235-Unit Scenario

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per day					
235-unit scenario: 2021	3.97	58.63	26.20	0.13	10.38	6.40
235-unit scenario: 2022	73.88	18.42	22.76	0.05	2.88	1.33
Maximum daily emissions	***73.88***	***58.63***	***26.20***	***0.13***	***10.38***	***6.40***
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
AVAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter with an aerodynamic diameter equal to or less than 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; SCAQMD = South Coast Air Quality Management District; AVAQMD = Antelope Valley Air Quality Management District.
See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod and provided in Appendix B.
The estimates reflect control of fugitive dust (watering two times daily) required by South Coast Air Quality Management District Rule 403 and Antelope Valley Air Quality Management District Rule 403.

As shown in Table 4.3-8, the construction of the 235-unit multifamily residential scenario would not exceed the SCAQMD and the AVAQMD mass daily thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. However, due to the speculative nature of construction from development of additional 63,443 dwelling units allowed for by the Proposed Project and the land use size developed on each County parcel, construction of developments greater than the 235-unit screening scenario would potentially exceed the SCAQMD and AVAQMD mass daily thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$.

Operational Emissions

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. However, operation of the Proposed Project due to future residential development could potentially generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicular traffic; energy sources from natural gas usage; area sources, including the use of landscaping equipment and consumer products; and from architectural coatings. As discussed in the Operational Emissions subsection of Section 4.3.4, pollutant emissions associated with long-term operations were quantified using CalEEMod using a combination of Project-specific information (i.e., land use inputs and trip rates) and CalEEMod default values for the 1,950- and 1,100-unit multifamily residential development scenarios.

Table 4.3-9 presents the maximum daily area, energy, and mobile source emissions associated with operation (year 2030) of the 1,950- and 1,100-unit multifamily residential development scenarios as compared to the air district thresholds. The SCAQMD operational thresholds are expressed as mass daily thresholds. While the appropriate AVAQMD operational thresholds are the annual thresholds, the AVAQMD operational mass daily thresholds are presented in Table 4.3-9 as well. The annual emissions and the appropriate annual AVAQMD thresholds are discussed following Table 4.3-9. Details of the emission calculations are provided in Appendix B.

Table 4.3-9. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions for the 1,950- and 1,100-unit unit Scenarios

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per day					
1,950-unit Scenario						
Area	46.77	15.95	166.43	0.10	2.03	2.03
Energy	0.77	6.56	2.79	0.04	0.53	0.53
Mobile	5.87	29.87	76.04	0.35	36.92	10.03
Total	**53.41**	**52.38**	**245.26**	**0.49**	**39.48**	**12.59**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
AVAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
1,100-unit Scenario						
Area	27.58	14.02	96.03	0.09	1.55	1.55
Energy	0.43	3.70	1.57	0.02	0.30	0.30
Mobile	6.96	35.39	90.10	0.42	43.74	11.88
Total	**34.97**	**53.11**	**187.7**	**0.53**	**45.59**	**13.73**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
AVAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter with an aerodynamic diameter equal to or less than 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; SCAQMD = South Coast Air Quality Management District; AVAQMD = Antelope Valley Air Quality Management District.
See Appendix B for complete results.

As shown in Table 4.3-9, maximum daily operational emissions from the 1,950- and 1,100-unit multifamily residential development scenarios, would not exceed the SCAQMD and AVAQMD daily significance thresholds for VOC, CO, NO_x, SO_x, PM_{10}, and $PM_{2.5}$. However, due to the speculative nature of development of additional 63,443 dwelling units and the land use size developed on each County parcel, operation of any development projects greater than the 1,950- and 1,100-unit screening scenarios would potentially exceed the SCAQMD and AVAQMD mass daily thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$.

As noted previously, the appropriate AVAQMD thresholds to apply to operational emissions are the annual thresholds. As such, Table 4.3-10 presents the estimated annual area, energy, and mobile source emissions associated with operation of the 1,950- and 1,100-unit multifamily residential development scenarios (year 2030), as compared to the AVAQMD thresholds.

Table 4.3-10. Estimated Annual Operational Criteria Air Pollutant Emissions for the 1,950- and 1,100-unit unit Scenarios

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Tons per year					
1,950-unit Scenario						
Area	7.98	0.41	20.13	<0.01	0.13	0.13
Energy	0.14	1.20	0.51	<0.01	0.10	0.10
Mobile	1.05	5.52	14.04	0.07	6.59	1.79
Total	**9.17**	**7.13**	**34.68**	**0.08**	**6.82**	**2.02**
SCAQMD Threshold	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Threshold Exceeded?	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
AVAQMD Threshold	*25*	*25*	*100*	*25*	*15*	*12*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
1,100-unit Scenario						
Area	4.62	0.30	11.38	<0.01	0.08	0.08
Energy	0.08	0.68	0.29	<0.01	0.05	0.05
Mobile	1.18	6.22	15.81	0.07	7.42	2.02
Total	**5.88**	**7.2**	**27.48**	**0.08**	**7.55**	**2.15**
SCAQMD Threshold	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Threshold Exceeded?	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
AVAQMD Threshold	*25*	*25*	*100*	*25*	*15*	*12*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter with an aerodynamic diameter equal to or less than 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; SCAQMD = South Coast Air Quality Management District; AVAQMD = Antelope Valley Air Quality Management District.
See Appendix B for complete results.

As shown in Table 4.3-10, annual operational emissions from the 1,950- and 1,100-unit multifamily residential development scenarios allowed for by the Proposed Project, would not exceed the AVAQMD annual significance thresholds for VOC, CO, NO_x, SO_x, PM_{10}, and $PM_{2.5}$. The exact locations and size of potential future development projects are unknown at this time; however, the analysis of development scenarios indicates that operation of future projects greater than the 1,950- and 1,100-unit screening scenarios would potentially exceed the AVAQMD annual thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Notably, there are no annual operational criteria air pollutant thresholds established by the SCAQMD.

Summary

In summary, as shown in Table 4.3-8, the construction of the 235-unit multifamily residential scenario would not exceed the SCAQMD and the AVAQMD mass daily thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. However, construction of future residential development projects greater than the screening 235-unit scenario would potentially exceed the SCAQMD and AVAQMD mass daily thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. As such, construction criteria air pollutant emission impacts are **potentially significant**.

As shown in Table 4.3-9, maximum daily operational emissions from the 1,950- and 1,100-unit multifamily residential development scenarios are note expected to exceed the SCAQMD and AVAQMD mass daily significance thresholds for VOC, CO, NO_x, SO_x, PM_{10}, and $PM_{2.5}$. As shown in Table 4.3-10, annual operational emissions from the 1,950- and 1,100-unit screening scenarios are not expected to exceed the AVAQMD annual significance thresholds for VOC, CO, NO_x, SO_x, PM_{10}, and $PM_{2.5}$. However, future development projects greater than the modeled scenarios would have the potential to create, operational criteria air pollutant emission impacts that are **potentially significant**.

Future residential development facilitated by the Proposed Project as part of the rezoning program would be subject to future discretionary permits and CEQA evaluation.

Health Effects

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. Additionally, approval of the Proposed Project itself, as a policy document update, would not provide any goals, policies, or programs that would violate any air quality standard or contribute substantially to an existing or projected air quality violation However, construction criteria air pollutant emissions from potential future residential development projects allowed for by the Proposed Project that are greater than the screening 235-unit screening scenario would potentially exceed the SCAQMD and AVAQMD mass daily thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Proposed operations from developments greater than the 1,950- and 1,100-unit multifamily residential development scenarios , are anticipated to exceed the applicable SCAQMD and AVAQMD thresholds for VOC, CO, NO_x, SO_x, PM_{10}, and $PM_{2.5}$ emissions.

VOCs and NO_x are precursors to O_3, for which the Project Area within the SCAB and MDAB are designated as nonattainment with respect to the NAAQS and CAAQS. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of reactive organic gases and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SCAB and MDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 CAAQS/NAAQS tend to occur between April and October when solar radiation is highest. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, because VOC and NO_x emissions associated with Proposed Project construction and/or operation would exceed the SCAQMD and AVAQMD thresholds, it could contribute to regional O_3 concentrations and the associated health effects.

Health effects that result from NO_2 and NO_x include respiratory irritation. Although construction of future residential development allowed for under the Proposed Project may generate NO_x emissions that could exceed the SCAQMD and AVAQMD mass daily thresholds, itis not anticipated to contribute to exceedances of the NAAQS and CAAQS for NO_2 because the SCAB and MDAB are designated as in attainment of the NAAQS and CAAQS for NO_2 and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. As noted above, the screening 1,950- and 1,100-unit multifamily residential development scenarios , would exceed the applicable SCAQMD or AVAQMD NO_x thresholds. In addition, because there is the potential for nearby receptors to be affected by off-road construction equipment, the construction of individual parcels could result in potential health effects associated with NO_2 and NO_x during construction.

CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots is discussed in Threshold AQ-4 and is determined to be a less-than-significant impact. Furthermore, the existing CO concentrations in the area are well below the NAAQS and CAAQS standards. However, operation of the developments allowed for by the Proposed Project would generate CO emissions that would exceed the SCAQMD and AVAQMD CO thresholds during operation. Therefore, CO emissions from implementation of the Proposed Project could potentially contribute to significant health effects associated with this pollutant.

Operation of any future residential development under the Proposed Project would not exceed the SCAQMD or the AVAQMD threshold for PM_{10} or $PM_{2.5}$. While construction is temporary, on the whole of the action, construction of the development allowed for by the Proposed Project would exceed the SCAQMD and AVAQMD thresholds for PM_{10} or $PM_{2.5}$ and could contribute to exceedances of the NAAQS and CAAQS for particulate matter or could obstruct the SCAB and/or MDAB from coming into attainment for these pollutants. Nonetheless, SCAQMD Rule 403 and AVAQMD Rule 403, Fugitive Dust, would limit the amount of fugitive dust generated during development allowed for by the Proposed Project. Due to the speculative nature of development of the additional 63,443 dwelling units allowed for by the Proposed Project, it is unknown if individual parcel development would result in substantial DPM emissions during construction and associated health effects related to DPM exposure. As development allowed for by the Proposed Project is greater than the screening 235-unit scenario, implementation of the Proposed Project has the potential to contribute a substantial amount of particulate matter, which could result in health effects associated with PM_{10} or $PM_{2.5}$.

In summary, because future potential residential projects greater than the screening 235-unit scenario and operation of developments greater than the screening 1,950- and 1,100-unit multifamily residential development scenarios, would potentially exceed the SCAQMD and AVAQMD thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$, the potential health effects associated with criteria air pollutants are considered potentially significant. However, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days, and there are currently no modeling tools that could provide reliable and meaningful additional information regarding health effects from criteria air pollutants generated by individual projects within the SCAQMD and AVAQMD jurisdiction. Furthermore, for purposes of this conservative CEQA analysis, it is assumed that the additional 63,443 dwelling units would be developed by 2029, within an 8-year period; however, full buildout may not occur within this time period and the intensity and spatial development within this period in speculative. For these reasons, conducting a health impact assessment (HIA) may not yield accurate results and would likely overestimate health effects associated with the Proposed Project. Additionally, future residential development facilitated by the Proposed Project as part of the rezoning program would be subject to future discretionary permits and CEQA evaluation. Therefore, the Proposed Project has the potential to violate air quality standard or contribute substantially to an existing or projected air quality violation and the health effects associated with criteria air pollutants are considered **potentially significant**.

For Informational Purposes

Currently, the SCAQMD, AVAQMD, CARB, and EPA have not approved a quantitative method to reliably, meaningfully, and consistently translate the mass emission estimates for the criteria air pollutants resulting from the development of the additional 63,443 dwelling units allowed for by the Proposed Project to specific health effects. In addition, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days.

In connection with the judicial proceedings culminating in issuance of the Friant Ranch decision, the SCAQMD and the San Joaquin Valley Air Pollution Control District (SJVAPCD) filed amicus briefs attesting to the extreme difficulty of correlating an individual project's criteria air pollutant emissions to specific health impacts. Both SJVAPCD and SCAQMD have among the most sophisticated air quality modeling and health impact evaluation capabilities of the air districts in California. The key, relevant points from the SCAQMD and SJVAPCD briefs are summarized herein for informational purposes.

In requiring a health impact type of analysis for criteria air pollutants, it is important to understand how O_3 and particulate matter (PM) are formed, dispersed and regulated. The formation of O_3 and PM in the atmosphere, as secondary pollutants,[10] involves complex chemical and physical interactions of multiple pollutants from natural and anthropogenic sources. The O_3 reaction is self-perpetuating (or catalytic) in the presence of sunlight because NO_2 is photochemically reformed from nitric oxide. In this way, O_3 is controlled by both NO_x and VOC emissions (NRC 2005). The complexity of these interacting cycles of pollutants means that incremental decreases in one emission may not result in proportional decreases in O_3 (NRC 2005). Although these reactions and interactions are well understood, variability in emission source operations and meteorology creates uncertainty in the modeled O_3 concentrations to which downwind populations may be exposed (NRC 2005). Once formed, O_3 can be transported long distances by wind, and due to atmospheric transport, contributions of precursors from the surrounding region can also be important (EPA 2008). Because of the complexity of O_3 formation, a specific tonnage amount of VOCs or NO_X emitted in a particular area does not equate to a particular concentration of O_3 in that area (SJVAPCD 2015). PM can be divided into two categories: directly emitted PM and secondary PM. Secondary PM, like O_3, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as SO_x and NO_x (SJVAPCD 2015). Because of the complexity of secondary PM formation, including the potential to be transported long distances by wind, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area (SJVAPCD 2015). This is especially true for individual projects, where project-generated criteria air pollutant emissions are not derived from a single "point source," but from construction equipment and mobile sources (passenger cars and trucks) driving to, from, and around the project site.

Another important technical nuance is that health effects from air pollutants are related to the concentration of the air pollutant that an individual is exposed to, not necessarily the individual mass quantity of emissions associated with an individual project. For example, health effects from O_3 are correlated with increases in the ambient level of O_3 in the air a person breathes (SCAQMD 2015b). However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient O_3 levels over an entire region (SCAQMD 2015b). The lack of link between the tonnage of precursor pollutants and the concentration of O_3 and $PM_{2.5}$ formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects; rather, it is the concentration of resulting O_3 that causes these effects (SJVAPCD 2015). Indeed, the ambient air quality standards, which are statutorily required to be set by EPA at levels that are requisite to protect the public health, are established as concentrations of O_3 and $PM_{2.5}$ based on duration of exposure and not as tonnages of their precursor pollutants (EPA 2018a). Because the ambient air quality standards are focused on achieving a particular concentration region-wide, the tools and plans for attaining the ambient air quality standards are regional in nature. For CEQA analyses, project-generated emissions are typically estimated in pounds per day or tons per year and compared to mass daily or annual emission thresholds. While CEQA thresholds are established at levels that the air basin can accommodate without affecting the attainment date for the ambient air quality standards, even if a project exceeds established CEQA significance thresholds, this does not mean that one can easily determine the concentration of O_3 or PM that will be created at or near the project site on a particular day or month of the year, or what specific health impacts will occur (SJVAPCD 2015).

[10] Air pollutants formed through chemical reactions in the atmosphere are referred to as secondary pollutants.

In regard to regional concentrations and air basin attainment, the SJVAPCD emphasized that attempting to identify a change in background pollutant concentrations that can be attributed to a single project, even one as large as the entire Friant Ranch Specific Plan, is a theoretical exercise. The SJVAPCD brief noted that it "would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have" (SJVAPCD 2015). The situation is further complicated by the fact that background concentrations of regional pollutants are not uniform either temporally or geographically throughout an air basin, but are constantly fluctuating based upon meteorology and other environmental factors. SJVAPCD noted that the currently available modeling tools are equipped to model the impact of all emission sources in the San Joaquin Valley Air Basin on attainment (SJVAPCD 2015). The SJVAPCD brief then indicated that, "Running the photochemical grid model used for predicting O_3 attainment with the emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NO_x and VOC in the Valley) is not likely to yield valid information given the relative scale involved" (SJVAPCD 2015).

SCAQMD and SJVAPCD have indicated that it is not feasible to quantify project-level health impacts based on existing modeling (SCAQMD 2015b; SJVAPCD 2015). Even if a metric could be calculated, it would not be reliable because the models are equipped to model the impact of all emission sources in an air basin on attainment and would likely not yield valid information or a measurable increase in O_3 concentrations sufficient to accurately quantify O_3-related health impacts for an individual project.

Nonetheless, following the Supreme Court's Friant Ranch decision, some EIRs where estimated criteria air pollutant emissions exceeded applicable air district thresholds have included a quantitative analysis of potential project-generated health effects using a combination of a regional photochemical grid model[11] and the EPA Benefits Mapping and Analysis Program (BenMAP or BenMAP–Community Edition).[12] The publicly available HIAs typically present results in terms of an increase in health incidences and/or the increase in background health incidence for various health outcomes resulting from the project's estimated increase in concentrations of O_3 and $PM_{2.5}$.[13] The five publicly available HIAs reviewed herein have concluded that the evaluated project's health effects associated with the estimated project-generated increase in concentrations of O_3 and $PM_{2.5}$ represent a small increase in incidences and a very small percentage of the number of background incidences, indicating that these health impacts are negligible and potentially within the models' margin of error. It is also important to note that while the results of the five available HIAs conclude that the project emissions do not result in a substantial increase in health incidences, the estimated emissions and assumed toxicity are also conservatively inputted into the HIA and thus, overestimate health incidences, particularly for $PM_{2.5}$.

[11] The first step in the publicly available HIAs includes running a regional photochemical grid model, such as the Community Multiscale Air Quality model or the Comprehensive Air Quality Model with extensions to estimate the increase in concentrations of O_3 and $PM_{2.5}$ as a result of project-generated emissions of criteria and precursor pollutants. Air districts, such as the SCAQMD, use photochemical air quality models for regional air quality planning. These photochemical models are large-scale air quality models that simulate the changes of pollutant concentrations in the atmosphere using a set of mathematical equations characterizing the chemical and physical processes in the atmosphere (EPA 2017a).

[12] After estimating the increase in concentrations of O_3 and $PM_{2.5}$, the second step in the five examples includes use of BenMAP or BenMAP-Community Edition to estimate the resulting associated health effects. BenMAP estimates the number of health incidences resulting from changes in air pollution concentrations (EPA 2018b). The health impact function in BenMAP-Community Edition incorporates four key sources of data: (i) modeled or monitored air quality changes, (ii) population, (iii) baseline incidence rates, and (iv) an effect estimate. All of the five example HIAs focused on O_3 and $PM_{2.5}$.

[13] The following CEQA documents included a quantitative HIA to address Friant Ranch: (1) California State University Dominguez Hills 2018 Campus Master Plan EIR (CSU Dominguez Hills 2019), (2) March Joint Powers Association K4 Warehouse and Cactus Channel Improvements EIR (March JPA 2019), (3) Mineta San Jose Airport Amendment to the Airport Master Plan EIR (City of San Jose 2019), (4) City of Inglewood Basketball and Entertainment Center Project EIR (City of Inglewood 2019), and (5) San Diego State University Mission Valley Campus Master Plan EIR (SDSU 2019).

As explained in the SJVAPCD brief and noted previously, running the photochemical grid model used for predicting O_3 attainment with the emissions solely from an individual project like the Friant Ranch project or the Proposed Project is not likely to yield valid information given the relative scale involved. The five examples reviewed support the SJVAPCD's brief contention that consistent, reliable, and meaningful results may not be provided by methods applied at this time. Accordingly, additional work in the industry and, more importantly, air district participation, is needed to develop a more meaningful analysis to correlate project-level mass criteria air pollutant emissions and health effects for decision makers and the public. Furthermore, at the time of writing, no HIA has concluded that health effects estimated using the photochemical grid model and BenMAP approach are substantial, provided that the estimated project-generated incidences represent a very small percentage of the number of background incidences, potentially within the models' margin of error.

Threshold AQ-3 Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

By its nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development (such as the cumulative emissions from various sources of air pollutants and their precursors within the SCAB, including motor vehicles, off-road equipment, and commercial and industrial facilities), and the SCAQMD and AVAQMD develop and implement plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used in the determination of whether a project's individual emissions would have a cumulative contribution on air quality. If a project's emissions would exceed the applied significance thresholds, it would have a cumulative contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant (SCAQMD 2003a).

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. In considering cumulative impacts from the development of the additional 63,443 dwelling units allowed for by the Proposed Project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SCAB is designated as nonattainment for the CAAQS and NAAQS. As discussed in Section 4.3.2, the SCAB has been designated as a national nonattainment area for O_3 and $PM_{2.5}$, and a California nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The portion of the MDAB where the County is located is designated as a national nonattainment area for O_3 and $PM_{2.5}$, and a California nonattainment area for O_3 and PM_{10}. Construction of development projects less than the screening 235-unit multifamily residential scenario and operation of development projects less than the screening 1,950- and 1,100-unit multifamily residential development scenarios, would be less than the project-level thresholds of significance. But developments allowed for by the Proposed Project greater than the screening scenarios would be subject to the mitigation framework. Due to the speculative nature of construction of the development of the additional 63,443 dwelling units, and since the size of development of each individual project is unknown, development of the additional 63,443 dwelling units may result in a cumulatively considerable increase in emissions of criteria air pollutants for which the SCAB and MDAB are designated as nonattainment under the NAAQS or CAAQS.

Cumulative localized impacts would potentially occur if construction associated with the development future residential development facilitated by the Proposed Project were to occur concurrently with another construction project or with another off-site, unrelated project. In addition to the speculative nature of the Proposed Project implementation,

construction schedules for potential future projects unrelated to the Proposed Project are currently unknown; therefore, potential construction impacts associated with two or more simultaneous projects would be considered speculative. Criteria air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD and AVAQMD, as applicable. For example, cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 and AVAQMD Rule 403, which set forth general and specific requirements to control fugitive dust at all construction sites in the SCAB and AVAQMD portion of the MDAB, respectively. In addition, cumulative VOC emissions would be subject to SCAQMD Rule 1113 and AVAQMD Rule 1113, which regulate VOC limits in architectural coatings.

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. Future residential development facilitated by the Proposed Project as part of the rezoning program would be subject to future discretionary permits and CEQA evaluation. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would significantly increase emissions. However, based on the construction and operational emissions generated by future residential development greater than the screening scenarios analyzed herein, the Proposed Project would potentially result in a cumulatively considerable increase in emissions of nonattainment pollutants. Therefore, the cumulative air quality impact of the Proposed Project would be **potentially significant**.

Threshold AQ-4 Would the Project expose sensitive receptors to substantial pollutant concentrations?

Localized/Ambient Air Quality

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. Construction activities associated with future residential development facilitated by the Proposed Project would result in temporary sources of construction equipment emissions and on-site fugitive dust. As explained in Section 4.3.3, for project-level projects, the SCAQMD recommends an LST analysis to evaluate the potential of localized air quality impacts to sensitive receptors in the immediate vicinity of construction; however, the LSTs are applicable to projects at the project-specific level and are not applicable to regional projects such the Proposed Project, because specific projects are not identified. Accordingly, a construction LST guidance is not recommended or provided herein. Regarding operation, an operational LST analysis is only applicable to land uses with on-site emission sources and is generally not applicable to residential land uses, as they do not include substantial on-site sources of localized emissions.

SCAQMD and AVAQMD consider projects that cause or contribute to an exceedance of the CAAQS or NAAQS to result in significant impacts. Information regarding specific development projects would be needed in order to quantify the concentration of emissions and the associated level of impact associated with future development projects. For this broad-based Housing Element update, it is not possible to quantitatively determine whether the scale and phasing of individual projects would result in the exceedance of localized or ambient emissions thresholds; as such, a qualitative analysis is presented. While the Proposed Project involves development of 63,443 residential units, the size and scale of individual parcel development is not substantial. The parcels are estimated to have a median size of approximately 0.15 acres, an average size of approximately 0.25 acres, and a maximum size of approximately 11.99 acres. Based on these statistical acreage estimates, the maximum development potential for mid-rise apartments on each parcel size was estimated to be 6 units for the median parcel size, 10 units for the average parcel size, and 455 units for the maximum parcel size. In addition, residential land uses do not generate substantial on-site

emissions sources; instead, the majority of residential land use emissions are generated by mobile sources, which occur off site and generally affect regional air quality conditions rather than localized. Lastly, the change in development type associated with potential future residential development facilitated by the Proposed Project, would result in a net reduction in VMT and associated mobile emissions, as presented in Section 4.17.

While operational CO emissions would increase as a result of future residential development facilitated by the Proposed Project, both the SCAB and the MDAB are designated as attainment (maintenance) areas for the CAAQS and the NAAQS, and it would take a substantial amount of regional CO emissions to cause the air basins to be designated as nonattainment. Operational VOC emissions would also increase as a result of future residential development facilitated by the Proposed Project, and while the SCAB and the MDAB are designated as nonattainment O_3 areas for the CAAQS and the NAAQS (and VOC is a precursor to O_3), O_3 concentrations are typically modeled on a regional basis, rather than a localized basis. In addition, development on an individual parcel would result in minimal on-site operational VOC emissions from architectural coating, consumer products, hearths, and landscaping equipment. Also, future residential development facilitated by the Proposed Project as part of the rezoning program would be subject to future discretionary permits and CEQA evaluation. Accordingly, potential impacts related to localized or ambient air quality are considered **less than significant** without mitigation**.**

Health Effects of Carbon Monoxide

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. Mobile source impacts occur on two scales. Regionally, Project-related travel would add to regional trip generation and increase the VMT within the local airshed and the SCAB and MDAB. Locally, traffic generated by the future residential development facilitated by the Proposed Project would be added to the local roadway system near those areas. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles cold-started and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-Proposed Project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB and MDAB is steadily decreasing.

At the time that the SCAQMD Handbook (1993) was published, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO. In 2007, the SCAQMD was designated in attainment for CO under both the CAAQS and NAAQS as a result of the steady decline in CO concentrations in the SCAB due to turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities. The SCAQMD conducted CO modeling for the 2003 AQMP[14] (SCAQMD 2003b) for the four worst-case intersections in the SCAB: (1) Wilshire Boulevard and Veteran Avenue, (2) Sunset Boulevard and Highland Avenue, (3) La Cienega Boulevard and Century Boulevard, and (4) Long Beach Boulevard and Imperial Highway. At the time the 2003 AQMP was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day. Using CO emission factors for 2002, the peak modeled CO 1-hour concentration was estimated to be 4.6 ppm at the intersection of Wilshire Boulevard and Veteran Avenue. When added to the maximum 1-hour CO concentration from 2017 through 2019 within the County (see Table 4.3-4), which was 6.1 ppm in 2017, the 1-hour CO would be 10.7 ppm, while the CAAQS is 20 ppm.

[14] SCAQMD's CO hotspot modeling guidance has not changed since 2003.

The 2003 AQMP also projected 8-hour CO concentrations at these four intersections for 1997 and from 2002 through 2005. From years 2002 through 2005, the maximum 8-hour CO concentration was 3.8 ppm at the Sunset Boulevard and Highland Avenue intersection in 2002; the maximum 8-hour CO concentration was 3.4 ppm at the Wilshire Boulevard and Veteran Avenue in 2002. Adding the 3.8 ppm to the maximum 8-hour CO concentration from 2017 through 2019 within the County (see Table 4.3-4), which was 4.6 ppm in 2017, the 8-hour CO would be 8.4 ppm, while the CAAQS is 9.0 ppm.

Accordingly, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least over 100,000 vehicles per day. While intersection volumes are not available for every intersection within the unincorporated County area, as discussed in Section 4.17, implementation the Proposed Project would result in a regional decrease in vehicle trips and VMT. Accordingly, it is not anticipated that the Proposed Project would result in a new congested intersection or substantially exacerbate conditions at congested intersections, nor it is anticipated that the Proposed Project would increase intersection volume to more than 100,000 vehicles per day. Therefore, a CO hotspot is not anticipated to occur based on potential future residential development facilitated by the Proposed Project. Impacts associated with CO hotspots would be **less than significant**.

Health Effects of Toxic Air Contaminants

As previously described, the Proposed Project includes a rezoning program that would allow for greater intensities than previously permitted in the unincorporated areas of the County. In addition to impacts from criteria pollutants, impacts from implementation of the Proposed Project may include emissions of pollutants identified by the state and federal government as TACs or HAPs. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California. The following measures are required by state law to reduce DPM emissions:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-use Off-road Diesel Vehicles (13 CCR 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.
- All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to 5 minutes; electric auxiliary power units should be used whenever possible.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SCAQMD recommends an incremental cancer risk threshold of 10 in 1 million (SCAQMD 2019). "Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology.

The greatest potential for TAC emissions during construction would be DPM emissions from heavy equipment operations and heavy-duty trucks during construction activities during Proposed Project implementation and the associated potential health impacts to sensitive receptors. DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts; however, no short-term, acute relative exposure level has been established for DPM.

The potential for development on an individual parcel to result in a significant health risk at nearby sensitive receptors is dependent on many variables including, but not limited to, the total amount of DPM emissions generated during construction, the duration of construction and thereby exposure period, the proximity to nearby sensitive receptors, the predominant wind direction and other meteorological factors, and topography. Due to the speculative nature of development under the Proposed Project, including the levels of potential TAC emissions in relation to the location of sensitive receptors, the potential associated health risk (including cancer risk and chronic hazard index) cannot be estimated with a level of accuracy. As such, the potential health risk of exposing sensitive receptors to construction-generated TAC emissions, primarily DPM, is considered **potentially significant**. Future residential development facilitated by the Proposed Project as part of the rezoning program would be subject to future discretionary permits and CEQA evaluation

Based on the nature of the Proposed Project, specifically the facilitation of potential future residential development, it is not anticipated that stationary sources of TAC emissions would be common. However, if a stationary source of TAC emissions is proposed, the appropriate permits from the SCAQMD or the AVAQMD would be required, which would include preparation of a health risk assessment to ensure potential health risk impacts would not occur.

Nonetheless, it is acknowledged that per Chapter 27 Section 27002.2.9 of the California Building Code, an emergency standby diesel generator would be required to satisfy the requirements for emergency and standby power for residential structures greater than 75 feet in height. Routine testing and maintenance of a diesel emergency generator would result in emissions of DPM. However, permits required to operate by SCAQMD or the AVAMQD would lessen these emissions. As part of the permit process, the SCAQMD would evaluate compliance with Rule 1401, New Source Review of Toxic Air Contaminants, and the AVAQMD would evaluate compliance with Rule 1401, New Source Review of Toxic Air Contaminants. Both SCAQMD and AVAQMD Rules 1401 identifies acceptable risk levels and emissions control requirements for new and modified facilities that may emit additional TACs. Compliance with SCAQMD and AVAQMD Rules 1401 would ensure that potential health risk impacts as proximate sensitive receptors would be less than significant prior to issuance of a permit to operate.

As discussed in Section 4.3.3, the AVAQMD has identified the following project types (and associated buffer distance) that would require further evaluation to ensure that sensitive receptors would not be exposed to substantial pollutant concentrations:

- Any industrial project within 1,000 feet
- A distribution center (40 or more trucks per day) within 1,000 feet
- A major transportation project (50,000 or more vehicles per day) within 1,000 feet
- A dry cleaner using perchloroethylene within 500 feet
- A gasoline dispensing facility within 300 feet

The Proposed Project does not propose any of the above-referenced project types. Therefore, additional analysis is not required.

Residential development typically does not result in use of sources of TACs, and if a stationary source of TAC emissions is proposed under the Proposed Project it would be addressed and mitigated (as needed) through the appropriate SCAQMD and AVAQMD permit process. In addition, the existing regulatory setting would ensure that potential impacts associated generation of operational TAC emissions would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would significantly increase TAC emissions. Therefore, the potential for the Proposed Project to generate operational TAC emissions and associated health risk is considered **less than significant**.

Health Effects of the Existing Environment on the Project

The Proposed Project residential land uses are considered air quality sensitive land uses where sensitive receptors would inhabit. CARB has published the Air Quality and Land Use Handbook: A Community Health Perspective (CARB 2005), which identifies certain types of facilities or sources that may emit substantial quantities of TACs and therefore could conflict with sensitive land uses, such as "schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities." The Air Quality and Land Use Handbook is a guide for siting of new sensitive land uses, but it does not mandate specific separation distances to avoid potential health impacts. Table 4.3-11 shows a summary of CARB recommendations for siting new sensitive land uses within the vicinity of air-pollutant-generating sources. Recommendations in Table 4.3-11 are based on data that show that localized air pollution exposures can be reduced by as much as 80% by following CARB minimum distance separations.

Table 4.3-11. CARB Recommendations for Siting New Sensitive Land Uses

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

Source: CARB 2005.

CARB's siting recommendations were based on a compilation of studies that evaluated data on the adverse health effects ensuing from proximity to air pollution sources. The key observation in these studies is that proximity to air pollution sources substantially increases both exposure and the potential for adverse health effects. There are three carcinogenic TACs that constitute the majority of the known health risks from motor vehicle traffic: DPM from trucks and benzene and 1,3 butadiene from passenger vehicles. Potential sources of TACs in the unincorporated areas include stationary sources permitted by SCAQMD and AVAQMD and roadways with more than 100,000 average daily traffic volumes.

The Land Use Element of the County's General Plan identifies land use compatibility as a major consideration in the siting of new sensitive land uses (County of Los Angeles 2015). The General Plan addresses land use compatibility by mapping and regulating uses and intensities and by including policies and programs that mitigate land use conflicts through design, such as the use of landscaping, walls, building orientation, and performance standards. Implementation of the following General Plan policies, which would apply to future residential development facilitated by the Proposed Project, would ensure that review of air quality compatibility would be conducted when siting sensitive receptors, including the proposed residences, near major sources of pollutants and TACs (County of Los Angeles 2015).

Policy LU 1.6 In the review of a project-specific amendment(s) to convert lands within the EPD Overlay to non-industrial land use designations, ensure that the project-specific amendment(s):

- Is located on a parcel that adjoins a parcel with a comparable use, at a comparable scale and intensity;
- Will not negatively impact the productivity of neighboring industrial activities;
- Is necessary to promote the economic value and the long-term viability of the site; and
- Will not subject future residents to potential noxious impacts, such as noise, odors or dust or pose significant health and safety risks.

Policy LU 7.1 Reduce and mitigate the impacts of incompatible land uses, where feasible, using buffers and other design techniques.

Policy M 6.4 Minimize noise and other impacts of goods movement, truck traffic, deliveries, and staging in residential and mixed-use neighborhoods.

Policy AQ 1.1 Minimize health risks to people from industrial toxic or hazardous air pollutant emissions, with an emphasis on local hot spots, such as existing point sources affecting immediate sensitive receptors.

Policy AQ 2.1 Encourage the application of design and other appropriate measures when siting sensitive uses, such as residences, schools, senior centers, daycare centers, medical facilities, or parks with active recreational facilities within proximity to major sources of air pollution, such as freeways.

Policy ED 2.2 Utilize adequate buffering and other land use practices to facilitate the compatibility between industrial and non-industrial uses.

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. However, implementation of the Proposed Project, may result in the potential placement of new sensitive receptors (i.e., residences) proximate to existing sources of TACs. Therefore, impacts are considered **potentially significant**.

Valley Fever

As discussed in the Non-Criteria Air Pollutants subsection in Section 4.3.1, valley fever is not highly endemic to the County, and within the County, the incidence rate in the County is below the statewide average.

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. Construction activities resulting from future residential development facilitated by the Proposed Project would comply with SCAQMD Rule 403 and AVAQMD Rule 403 (Fugitive Dust), which requires fugitive dust sources to implement best available control measures for all sources and prohibits all forms of visible particulate matter from crossing any property line. SCAQMD Rule 403 and AVAQMD Rule 403 are intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. Based on the low incidence rate of coccidioidomycosis in the County, and compliance with air district dust control strategies, it is not anticipated that earth-moving activities during Proposed Project construction activities would result in exposure of nearby sensitive receptors to valley fever. Therefore, the Proposed Project would have a **less-than-significant impact** with respect to valley fever exposure for sensitive receptors.

Threshold AQ-5 Would the Project create objectionable odors affecting a substantial number of people?

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. However, development allowed for by the Proposed Project would generate odors from vehicles and/or equipment exhaust emissions. Odors produced would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly and would generally occur at magnitudes that would not affect substantial numbers of people. Additionally, approval of the Proposed Project itself, as a policy document update, would not provide any goals, policies, or programs that would significantly increase odors. Therefore, impacts associated with odors would be considered **less than significant**.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. However, the rezoning program involves a net increase in residential land uses and a net decrease in non-residential land uses and would not generate operational odors. Additionally, approval of the Proposed Project itself, as a policy document update, would not provide any goals, policies, or programs that would significantly increase odors. Therefore, the odor impacts would be **less than significant**.

4.3.6 Cumulative Impacts

As discussed previously, air pollution by nature is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD and AVAQMD develop and implement plans for future attainment of ambient air quality standards. The potential for the Proposed Project to result in a cumulatively considerable impact, specifically a cumulatively considerable new increase of any criteria pollutant for which the project region is nonattainment under an applicable NAAQS and/or CAAQS, is addressed in Threshold AQ-3.

4.3.7 Mitigation Measures

State CEQA Guidelines Section 15126.4 requires EIRs to describe feasible measures that can minimize significant adverse impacts. The following mitigation measures have been evaluated for feasibility and are incorporated in order to reduce potentially significant impacts related to air quality emissions during construction and operation of potential future residential development facilitated by the Proposed Project.

MM AQ-1 and **MM AQ-2** shall be implemented to reduce criteria air pollutant emissions (VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$) generated during construction of future residential development projects greater than the 235-unit screening scenario. **MM AQ-1** also reduces potential construction-generated DPM emissions and associated potential health risk during construction. As such, **MM AQ-1** addresses impacts related to Threshold AQ-1 through Threshold AQ-4. **MM AQ-1** and **MM AQ-2** address impacts related to Threshold AQ-1 through Threshold AQ-3. In addition to reducing construction-generated VOC emissions from developments greater than the 235-unit screening scenario, **MM AQ-2** is also intended to reduce operational VOC emissions.

MM-AQ-3 shall be implemented to reduce energy-related emissions, including natural gas sources and criteria air pollutant emissions generated during operation from developments greater than the 1,950- and 1,100-unit screening scenarios. To address potential operational impact related to VOC emissions from developments greater than the 1,950- and 1,100-unit screening scenarios, **MM AQ-4** shall be implemented. **MM AQ-3** and **MM AQ-4** address impacts related to Threshold AQ-1 through Threshold AQ-3. **MM-AQ-5** shall be implemented to reduce the potential for the development of the additional 63,443 dwelling units to expose sensitive receptors to TACs and the associated health risk. **MM AQ-5** addresses impacts related to Threshold AQ-4.

MM AQ-1 **Construction Equipment Emissions Reductions and Fugitive Dust Control.** If, during subsequent project-level environmental review, construction-related criteria air pollutants are determined to have the potential to exceed the applicable air quality management district (AQMD) adopted thresholds of significance, the County Department of Regional Planning shall require that applicants for new development projects incorporate mitigation measures as identified in the CEQA document prepared for the project to reduce air pollutant emissions during construction activities. Mitigation measures that may be identified during the environmental review include but are not limited to:

a. Using construction equipment rated by the United States Environmental Protection Agency as having Tier 3 (model year 2006 or newer) or Tier 4 (model year 2008 or newer) emission limits, applicable for engines between 50 and 750 horsepower.
b. Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.
c. Limiting nonessential idling of construction equipment to no more than five consecutive minutes.
d. Water all active construction areas at least three times daily, or as often as needed to control dust emissions. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.
e. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).

f. Pave, apply water three times daily or as often as necessary to control dust, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.

g. Sweep daily (with water sweepers using reclaimed water if possible), or as often as needed, all paved access roads, parking areas, and staging areas at the construction site to control dust.

h. Sweep public streets daily (with water sweepers using reclaimed water if possible) in the vicinity of the project site, or as often as needed, to keep streets free of visible soil material.

i. Hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

j. Enclose, cover, water three times daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).

MM AQ-2 **Architectural Coating VOC Emissions.** If, during subsequent project-level environmental review, it is determined that VOC emissions impacts may be potentially significant, the following mitigation measure may be identified: Super-Compliant VOC-content architectural coatings (0 grams per liter to less than 10 grams per liter VOC) shall be used during construction and operation application of paints and other architectural coatings to reduce ozone precursors. If paints and coatings with VOC content of 0 grams/liter to less than 10 grams/liter cannot be utilized, the developer shall avoid application of architectural coatings during the peak smog season: July, August, and September.

MM AQ-3 **Energy Conservation.** The following energy conservation measures shall be considered during future project-level environmental review:

a. Install Energy Star rated heating, cooling, lighting, and appliances.

b. Use of Heating, Ventilation and Air Conditioning (HVAC) equipment with a Seasonal Energy Efficiency Ratio (SEER) of 12 or higher.

c. Installation of water heaters with an energy factor of 0.92 or higher.

d. Install solar water heaters or tank-less water heaters.

e. Use passive solar cooling/heating.

MM AQ-4 **Low-VOC/Green Cleaning Product Educational Program.** The County shall develop and implement a Low-VOC/Green Cleaning Product and Paint education program, including materials educating how to identify low-VOC cleaners and products, that can be provided to applicants, developers, tenants, and residents of development projects greater than the 1,950- and 1,100-unit screening scenarios.

MM AQ-5 Applicants for sensitive land uses, including residences, within the following distances as measured from the property line of the project to the property line of the source/edge of the nearest travel lane, from these facilities:

- Industrial facilities within 1,000 feet
- Distribution centers (40 or more trucks per day) within 1,000 feet
- Major transportation projects (50,000 or more vehicles per day) within 1,000 feet

- Dry cleaners using perchloroethylene within 300 feet
- Large gasoline dispensing facilities (defined as a facility with a throughput of 3.6 million gallons per year or greater) within 50 feet; or any typical gas dispensing facility (with a throughput of less than 3.6 million gallons per year) within 50 feet.

Applicants with developments meeting the above criteria shall submit a health risk assessment (HRA) to the County prior to future discretionary project approval. The HRA shall be prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment (OEHHA) and the applicable Air Quality Management District. The latest OEHHA guidelines shall be used for the analysis, including age sensitivity factors, breathing rates, and body weights. If the HRA shows that the incremental cancer risk exceeds ten in one million (10E-06) or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and non-cancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0), including appropriate enforcement mechanisms. Measures to reduce risk may include but are not limited to:

- Air intakes located away from high volume roadways and/or truck loading zones, unless it can be demonstrated to the County Department of Regional Planning that there are operational limitations.
- Heating, ventilation, and air conditioning systems of the buildings provided with appropriately sized maximum efficiency rating value (MERV) filters.

Mitigation measures identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site development plan as a component of the Proposed Project. The air intake design and MERV filter requirements shall be noted and/or reflected on all building plans submitted to the County and shall be verified by the County Department of Regional Planning.

MM TRA-1 through **MM TRA-7** shall be implemented to reduce mobile-source criteria air pollutant emissions, including VOC and CO, generated during operation of development projects greater than the 1,950- and 1,100-unit screening scenarios, respectively by reducing VMT. See Section 4.17 (Table 4.17-8) for a complete description of the VMT mitigation measures for individual projects. **MM TRA-1** through **MM TRA-7** address impacts related to Threshold AQ-1 through Threshold AQ-3.

4.3.8 Level of Significance After Mitigation

AQ-1: Conflict with or obstruct implementation of the applicable air quality plan.

MM AQ-1 through **MM AQ-5** and **MM TRA-1** through **MM TRA-7**, which would be applied to reduce potential construction and operational emissions, are not accurately quantifiable given the nature of the Proposed Project. Regarding the potential to conflict with the SCAQMD 2016 AQMP and the AVAQMD applicable air quality plans, with implementation of **MM AQ-1** through **MM AQ-5** and **MM TRA-1** through **MM TRA-7**, potential impacts would remain **significant and unavoidable**.

AQ-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

MM AQ-1 and **MM AQ-2** would reduce potential construction emissions from development of future residential development facilitated by the Proposed Project; however, the effectiveness of the mitigation measures is not accurately quantifiable given the nature of the development. Similarly, **MM AQ-3** through **MM AQ-5** and **MM TRA-1** through **MM TRA-7** would reduce potential operational emissions, including VOC and CO emissions; however, the effectiveness of the mitigation measures is not accurately quantifiable given the nature of the Proposed Project. Accordingly, the potential of the future residential development to violate any air quality standard or contribute substantially to an existing or projected air quality violation remains **significant and unavoidable**.

AQ-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

The same mitigation measures applied to reduce potential construction and operational emissions and associated impacts for Threshold AQ-2 apply to AQ-3. As noted above, with implementation of **MM AQ-1** through **MM AQ-5** and **MM TRA-1** through **MM TRA-7**, potential impacts would remain **significant and unavoidable** as the effectiveness of the mitigation measures is not accurately quantifiable given the nature of the Proposed Project.

AQ-4: Expose sensitive receptors to substantial pollutant concentrations.

Localized/Ambient Air Quality. Potential localized or ambient air quality impacts would be **less than significant without mitigation**.

Health Effects of Carbon Monoxide. Potential impacts related to CO hotspots would be **less than significant without mitigation**.

Health Effects of Toxic Air Contaminants - Construction. **MM AQ-1** would reduce DPM associated with construction from future residential development facilitated by the Proposed Project. However, the effectiveness of the mitigation measure is not accurately quantifiable given the nature of the Proposed Project. In addition, potential health risk is dependent on numerous variables including proximity to the closest sensitive receptors in addition to the amount of DPM (exhaust PM_{10}) generated by the individual project. Therefore, due to the speculative nature of development under the Proposed Project and the associated uncertainty of potential impacts, potential health risk associated with construction activities that would occur as a result of Proposed Project implementation would be **significant and unavoidable**.

Health Effects of Toxic Air Contaminants - Operation. Potential impacts related to generation of TACs during operational activities from potential future residential development facilitated by the Proposed Project that would affect off-site sensitive receptors and the associated health risk would be **less than significant without mitigation**.

Health Effects of the Existing Environment on the Project. Goals and policies included in the County's General Plan, which would apply to future residential development facilitated by the Proposed Project, would reduce the potential for development of new sensitive land uses (i.e., residences) to be located in close proximity to existing sources of TACs (County of Los Angeles 2015). **MM AQ-5** would ensure that placement of sensitive receptors near major sources of TACs would achieve the incremental health risk thresholds established by SCAQMD and AVAQMD. Therefore, impacts relating to placing new sensitive receptors near existing TAC sources and the associated potential health risk are **less than significant with mitigation**.

Valley Fever. Potential impacts related to valley fever would be **less than significant without mitigation**.

AQ-5: Create objectionable odors affecting a substantial number of people.

Potential impacts related to creating objectionable odors during construction or operation would be **less than significant without mitigation**.

4.3.9 References

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4.4 Biological Resources

This section describes the existing biological resources of the Project Area, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project). As part of the analysis, this section describes the potentially adverse impacts to special-status species as identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS), resulting from implementation of the Proposed Project.

4.4.1 Environmental Setting

As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to Los Angeles County (County) where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analyses or studies.

The Project Area includes the unincorporated areas of Los Angeles County (unincorporated areas), which is approximately 65% of the total land area in the County. While the Project Area includes all unincorporated areas, the areas affected by the rezoning program are limited and shown in Figure 3-4, Rezoning Program (see Chapter 3). As discussed further in Section 3.3, Project Description, the rezoning program is limited to infill communities with existing infrastructure. Specifically, the rezoning program focuses on urbanized parcels that do not contain sensitive biological resources.

Plant Communities/Habitat

The County comprises a diverse variety of ecosystems that include coastal areas, islands, plains, mountains, and deserts. The County possesses an extremely varied topography, and elevations range from sea level to over 10,000 feet above mean sea level. Climates range from mild near the coast to severe in the high mountains and desert regions. In addition, the soils and underlying geology vary according to prehistoric volcanic activity, marine sedimentation, and river deposition. This wide variation in physical environments has produced the unique and diverse collection of biological resources found in the County today.

Vegetation

The County has a diversity of geography and habitats, including coastlines, islands, dunes, sea cliffs, hills, mountain ranges, valleys, plains, deserts, marshes, tidal flats, freshwater ponds, rivers, streams, wetlands, woodlands, shrublands, and grasslands. According to the Los Angeles County General Plan Update Draft Environmental Impact Report (EIR), the County supports a wide variety of plant communities within its boundaries (County of Los Angeles 2014). Some of the more common plant communities identified include mixed conifer-oak woodland, foothill woodland, coast live oak woodland, pinyon-juniper woodland, Joshua tree woodland, juniper woodland, southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, chaparral, coastal sage scrub-chaparral mixed scrub, coastal sage scrub, desert scrub, and non-native annual grassland. Unique or less common plant communities include bigcone spruce-canyon oak woodland, valley oak woodland, coast live oak riparian forest, walnut woodland, southern sycamore-alder woodland, white alder riparian forest, mesquite bosque, mainland cherry forest, California buckeye woodland, alluvial fan sage scrub,

redshank chaparral, native grassland, wildflower field, freshwater marsh, alkali marsh, salt marsh, and vernal pool. Santa Catalina Island exhibits a specialized subset of the above communities, identified as maritime succulent scrub, southern coastal bluff scrub, island chaparral, island oak woodland, island ironwood forest, and island cherry woodland (County of Los Angeles 2014).

Wildlife

The County is a mosaic of open space areas, suburban and rural areas, and densely developed urban areas. According to the Los Angeles County 2013 General Plan Update Draft EIR, wildlife within Los Angeles County is extremely diverse, with greater abundance in open space areas that have undeveloped, high-quality habitats (e.g., Angeles National Forest, Santa Monica Mountains) (County of Los Angeles 2014). While a few wildlife species are entirely dependent upon a single vegetative community, many species utilize a number of habitat types during their life histories. Thus, the entire mosaic of natural areas within the County and adjoining areas constitutes a functional regional ecosystem that supports the multifaceted needs of these species. The parcels that are part of the Proposed Project's rezoning program consist of urban and developed areas. Wildlife species that could be present in areas within the rezoning program include urban-adapted species.

Sensitive Resources

Figure 4.4-1, Sensitive Biological Resources, shows the locations of special-status plant and wildlife species occurrences relative to the Project Area. As shown in Figure 4.4-1, there are several California Natural Diversity Database (CNDDB) plant and wildlife biological resource occurrences within 1 mile of the proposed rezone parcels. These include plant and wildlife biological resource occurrences within the South Bay Planning Area, Westside Planning Area, Metro Planning Area, Gateway Planning Area, East San Gabriel Valley Planning Area, West San Gabriel Valley Planning Area, and San Fernando Valley Planning Area.

Figure 4.4-2, Designated Critical Habitats, shows the locations of critical habitat for federally listed plant and wildlife species occurrences relative to the Project Area. As shown in Figure 4.4-2, there are coastal california gnatcatcher (*Polioptila californica californica*) critical habitats located within 1 mile of the parcels that are part of the rezoning program, specifically the parcels located in the South Bay Planning Area and the West San Gabriel Valley Planning Area. However, the parcels do not overlap with coastal california gnatcatcher critical habitat.

Significant Ecological Areas

A Significant Ecological Area (SEA) designation is given to land in the County that contains irreplaceable biological resources. Individual SEAs include undisturbed or lightly disturbed habitat supporting valuable and threatened species and linkages and corridors to promote species movement. They are sized to support sustainable populations of their component species.

Figure 4.4-3, Significant Ecological Areas (SEAs), shows SEAs relative to the proposed rezone parcels. According to Figure 4.4-3, there are SEAs located within 1 mile of the parcels that are part of the rezoning program. The SEAs listed in Figure 4.4-3 are located within the West San Gabriel Valley Planning Area, East San Gabriel Valley Planning Area, and San Fernando Valley Planning Area. However, none of the areas overlap with these SEAs and the Proposed Project's rezoning program avoids all SEAs within the County.

Wildlife Movement Corridors

Wildlife corridors are areas of habitat, usually linear in nature, that connect two or more habitat patches that would otherwise be fragmented or isolated from one another (e.g., by rugged terrain, changes in vegetation, or

human disturbance). Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. A wildlife corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species. Wildlife corridors and landscape linkages are vital in promoting habitat connectivity, facilitating wildlife movement on a regional scale, and sustaining species and wildlife communities through the impacts of climate change.

The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Various studies have concluded that in the absence of habitat linkages that allow movement to adjoining open space areas, some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because barriers of many kinds prohibit the infusion of new individuals and genetic material.

Corridors mitigate the effects of habitat fragmentation by (1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs. Wildlife movement activities usually fall into one of three movement categories (though often the motivating needs are a combination of these): (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions), (2) seasonal migration, and (3) movements related to home range activities (foraging for food or water, defending territories, or searching for mates, breeding areas, or cover). Although the nature of each of these types of movement is species specific, large open spaces will generally support a diverse wildlife community and will provide for all types of movement. Each type of movement may also be represented at a variety of scales in space and time, from generational time scales for immobile plants and small animals with limited home ranges to home ranges of many square miles for large mammals and raptorial birds.

As shown in Figure 4.4-4, Regional Wildlife Linkages, the Project Area would not overlap with any of the County's regional wildlife linkages.

Jurisdictional Waters and Wetlands

The County supports a number of major water bodies (e.g., Castaic Lake, Los Angeles River, San Gabriel River, and Santa Clara River), as well as smaller streams and tributaries throughout the region. These water bodies support riverine and riparian habitat that provide important resources to the County.

Three key agencies regulate activities within inland streams, wetlands, and riparian areas in California. The U.S. Army Corps of Engineers (USACE) Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899, the CDFW regulates activities under the Fish and Game Code Sections 1600–1616, and the Regional Water Quality Control Board (RWQCB) regulates activities under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

USACE jurisdictional waters are referred to as waters of the United States, the limits of which are generally defined by the ordinary high water mark. Although RWQCB jurisdictional resources are considered waters of the state, the extent of RWQCB jurisdiction generally defaults to USACE jurisdictional guidelines, as no formal guidelines for RWQCB jurisdictional determinations currently exist. Isolated drainage features that have been evaluated by the USACE and determined not to support federal waters of the United States may still be subject to RWQCB and CDFW jurisdiction pursuant to the Porter-Cologne Water Quality Act and the California Fish and Game Code, respectively. The limits of CDFW jurisdictional streambed and associated riparian habitat are generally defined to the top-of-bank of a streambed and extend to include any associated native riparian habitat.

As shown in Figure 4.4-5, Rivers and Streams Overlapping the Proposed Project, the Project Area does not overlap with any known federally or state protected wetlands.

4.4.2 Relevant Plans, Policies, and Ordinances

A number of local plans and ordinances regulate biological resources within the Plan Area and are summarized below.

Federal

The following federal regulations pertaining to biological resources would apply to the Proposed Project:

Federal Endangered Species Act

The federal Endangered Species Act of 1973 (FESA) defines an "endangered" species as "any species which is in danger of extinction throughout all or a significant portion of its range." A "threatened" species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Furthermore, USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of take. These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant or animal species, the property owner and agency are required to consult with USFWS pursuant to Section 7 of the FESA if there is a federal nexus, or pursuant to Section 10 of the FESA. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants. "Critical habitat" is defined in Section 3(5A) of the FESA as "the specific areas within the geographic area, occupied by the species at the time it was listed, which contain the physical or biological features that are essential to the conservation of endangered and threatened species and that may need special management or protection. Critical habitat may also include areas that were not occupied by the species at the time of listing but are essential to its conservation." Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Critical habitat designations do not affect activities by private landowners if there is no federal "nexus"—that is, no federal funding or authorization.

The status of federally listed species is assigned by USFWS as one of the following:

- Federally Endangered (FE)
- Federally Threatened (FT)
- Federally Proposed as Endangered (FPE)
- Federally Proposed as Threatened (FPT)
- Federally Proposed for Delisting (FPD)
- Federal Candidate for a Proposed Species (FC)

Migratory Bird Treaty Act

The Migratory Bird Treaty Act prohibits the intentional take of any migratory bird or any part, nest, or eggs of any migratory bird. Under the Migratory Bird Treaty Act, "take" is defined as pursuing, hunting, shooting, capturing,

collecting, or killing, or attempting to do so (16 USC 703 et seq.). In December 2017, Department of the Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the Migratory Bird Treaty Act's take prohibition to apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. Unintentional or accidental take is not prohibited (M-37050). Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds, with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The executive order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

Federal Clean Water Act, Section 404

Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the United States and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Implementing regulations for the CWA define waters of the United States as "rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands." The term "wetlands" (a subset of waters of the United States) is defined in Title 33 of the Code of Federal Regulations Section 328.3(c)(16) as "areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark, which is defined in Title 33 of the Code of Federal Regulations Section 328.3(c)(7) as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

On April 21, 2020, the Navigable Waters Protection Rule was adopted; it became effective on June 22, 2020. The notable changes from the previous definition of waters of the United States are that there is a clearer definition of which waters are and are not jurisdictional, there is a new definition of "adjacency," and ephemeral waters are no longer considered waters of the United States.

The review process to determine whether a feature is a waters of the United States under the new Navigable Waters Protection Rule focuses on the navigability of a water and whether a water has direct surface flow connection to another jurisdictional water (rather than the significant nexus analyses previously done). The permit review process entails an assessment of potentially adverse impacts to USACE jurisdictional waters of the United States.

Federal Clean Water Act, Section 401

The mission of the RWQCB is to develop and enforce water quality objectives and implement plans that will best protect the beneficial uses of the state's waters, recognizing local differences in climate, topography, geology, and hydrology. The RWQCB is also responsible for implementing compliance not only with state codes such as the California Water Code, but also some federal acts such as Section 401 of the CWA. Section 401 of the CWA requires that any applicant for a federal permit for activities that involve a discharge to waters of the state shall provide the federal permitting agency with a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal CWA. As such, before the USACE will issue a CWA Section 404 permit, applicants must apply for and receive a Section 401 water quality certification (WQC) from the RWQCB.

The RWQCB regulates "discharging waste, or proposing to discharge waste, within any region that could affect waters of the state" (California Water Code Section 13260[a]), pursuant to provisions of the Porter-Cologne Act, which defines RWQCB jurisdictional "waters of the state" as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e]). In 2019, the State Water Resources Control Board issued the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2019). These procedures define wetlands that encompass "the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands." The SWRCB defines wetlands as "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2019). These wetlands are further defined in the document.

With the exception of isolated waters and wetlands, most discharges of fill to waters of the state are also subject to a CWA Section 404 permit. If a CWA Section 404 permit is not required for the project, the RWQCB may still require issuance of Waste Discharge Requirements under the Porter-Cologne Act. The RWQCB may regulate isolated waters that are not under jurisdiction of the USACE through issuance of Waste Discharge Requirements. However, projects that obtain a Section 401 WQC are simultaneously enrolled in statewide general Waste Discharge Requirements. Processing of a Section 401 WQC generally requires submittal of (1) a construction stormwater pollution prevention plan, (2) a final water quality technical report that demonstrates that post-construction stormwater best management practices comply with the local design standards for municipal storm drain permits implemented by the State Water Resources Control Board effective January 1, 2011, and (3) a conceptual Habitat Mitigation and Monitoring Plan to compensate for permanent impacts to RWQCB waters, if any. In addition to submittal of a draft California Environmental Quality Act (CEQA) document, a WQC application typically requires a discussion of avoidance and minimization of impacts to RWQCB jurisdictional resources, and efforts to protect beneficial uses as defined by the local RWQCB basin plan for the project. The RWQCB cannot issue a Section 401 WQC until the project CEQA document is certified by the lead agency.

State

The following state regulations pertaining to biological resources would apply to the Proposed Project.

California Endangered Species Act

The California Endangered Species Act (CESA) defines an endangered species as:

> a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

The state defines a threatened species as:

> a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species.

Candidate species are defined as:

> a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.

Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the California Fish and Game Commission. Unlike the FESA, the CESA does not include listing provisions for invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened or endangered species by stating:

> no person shall import into this State, export out of this State, or take, possess, purchase, or sell within this State, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided.

Under the CESA, "take" is defined as, "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Additionally, some sensitive mammals and birds are protected by the state as Fully Protected Mammals or Fully Protected Birds, as described in California Fish and Game Code Sections 4700 and 3511, respectively.

California Species of Special Concern are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. Informally listed species are not protected per se, but warrant consideration in the preparation of biological assessments. For some species, the CNDDB, a resource maintained by CDFW of recorded locations where sensitive species have been documented, is only concerned with specific portions of the life history, such as roosts, rookeries, or nest areas.

For the purposes of this Program EIR, the following abbreviations are used for state status species, as applicable:

- State Endangered (SE)
- State Threatened (ST)
- State Rare (SR)
- State Candidate for Endangered (SCE)
- State Candidate for Threatened (SCT)
- State Fully Protected (SFP)
- California Species of Special Concern (SSC)

State of California Fish and Game Code, Sections 3503, 3503.5, and 3513

Section 3503 of the California Fish and Game Code states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Activities that result in the abandonment of an active bird of prey nest may also be considered in violation of this code. In addition, California Fish and Game Code Section 3511 prohibits the taking of any bird listed as fully protected, and California Fish and Game Code Section 3513 states that is it unlawful to take any nongame migratory bird protected under the Migratory Bird Treaty Act.

State of California Fish and Game Code, Section 4150

Section 4150 of the California Fish and Game Code states that "All mammals occurring naturally in California which are not game mammals, fully protected mammals, or fur-bearing mammals, are nongame mammals. Nongame mammals or parts thereof may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission."

State of California Code of Regulations, Sections 250 and 251

Section 250 of the California Fish and Game Code states that "Except as otherwise authorized in these regulations or in the Fish and Game Code, resident game birds, game mammals and furbearing mammals may not be taken at any time." Section 251.1 of the California Fish and Game Code states that "Except as otherwise authorized in these regulations or in the Fish and Game Code, no person shall harass, herd or drive any game or nongame bird or mammal or furbearing mammal. For the purposes of this section, harass is defined as an intentional act which disrupts an animal's normal behavior patterns, which includes, but is not limited to, breeding, feeding or sheltering. This section does not apply to a landowner or tenant who drives or herds birds or mammals for the purpose of preventing damage to private or public property, including aquaculture and agriculture crops." Activities that result in the take or harassment of a nongame mammal may also be considered in violation of this code.

California Native Plant Society Inventory

The California Native Plant Society (CNPS) is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The California Native Plant Society has compiled an inventory comprised of information focusing on geographic distribution and qualitative characterization of rare, threatened, and endangered vascular plant species of California. The list has served as a potential candidate list for listing as Threatened and Endangered by CDFW. The California Native Plant Society has developed five categories of rarity, referred to as California Rare Plant Ranks (CRPRs), of which CRPRs 1A, 1B, 2A, and 2B are considered particularly sensitive:

- CRPR 1A: Presumed extirpated in California and either rare or extinct elsewhere.
- CRPR 1B: Rare, threatened, or endangered in California and elsewhere.
- CRPR 2A: Presumed extirpated in California, but more common elsewhere.
- CRPR 2B: Rare, threatened, or endangered in California, but more common elsewhere.

- CRPR 3 : Plants about which we need more information – a review list.
- CRPR 4 : Plants of limited distribution – a watch list.

The California Native Plant Society appends CRPR categorizations with "threat ranks" that parallel the ranks used by the CNDDB, and are added as a decimal code after the CRPR (e.g., CRPR 1B.1). The threat codes are as follows:

- 1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- 2 – Fairly endangered in California (20%–80% occurrences threatened)
- 3 – Not very endangered in California (less than 20% of occurrences threatened or no current threats known)

State of California Fish and Game Code, Section 1602

Streambeds and other drainages that occur within the unincorporated areas are subject to regulation by CDFW. Section 1602 of the California Fish and Game Code requires any entity (e.g., person, state or local government agency, or public utility) who proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake to notify CDFW of the project. In the course of this notification process, CDFW will review the project as it affects streambed habitats within the project area. CDFW may then place conditions in the Section 1602 Streambed Alteration Agreement to avoid, minimize, and mitigate any potentially significant adverse impacts within CDFW jurisdictional limits.

State of California Porter-Cologne Water Quality Control Act

The Porter-Cologne Act protects water quality and the beneficial uses of water. It applies to surface water and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans and the RWQCBs develop regional basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of statewide plans and basin plans. Waters regulated under the Porter–Cologne Act include isolated waters that are not regulated by USACE. Developments with impacts on jurisdictional waters must demonstrate compliance with the goals of the Porter-Cologne Act by developing stormwater pollution prevention plans, standard urban stormwater mitigation plans, and other measures to obtain a CWA Section 401 certification.

Local

The following local/regional regulations pertaining to biological resources would apply to the Proposed Project.

Los Angeles County 2035 General Plan

The Land Use Element of the Los Angeles County 2035 General Plan (General Plan) provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal LU 3 A development pattern that discourages sprawl, and protects and conserves areas with natural resources and SEAs.

Policy LU 3.1 Encourage the protection and conservation of areas with natural resources, and SEAs.

Policy LU 3.2 Discourage development in areas with high environmental resources and/or severe safety hazards.

Goal LU 6 Protect rural communities characterized by living in a non-urban or agriculture environment at low densities without typical urban services.

Policy LU 6.2 Encourage land uses and developments that are compatible with the natural environment and landscape.

The Conservation and Natural Resources Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal C/NR 1 Open space areas that meet the diverse needs of Los Angeles County.

Policy C/NR 1.1 Implement programs and policies that enforce the responsible stewardship and preservation of dedicated open space areas.

Policy C/NR 1.2 Protect and conserve natural resources, natural areas, and available open spaces.

Goal C/NR 3 Permanent, sustainable preservation of genetically and physically diverse biological resources and ecological systems including: habitat linkages, forests, coastal zone, riparian habitats, streambeds, wetlands, woodlands, alpine habitat, chaparral, shrublands, and SEAs.

Policy C/NR 3.1 Conserve and enhance the ecological function of diverse natural habitats and biological resources.

Policy C/NR 3.2 Create and administer innovative County programs incentivizing the permanent dedication of SEAs and other important biological resources as open space areas.

Policy C/NR 3.3 Restore upland communities and significant riparian resources, such as degraded streams, rivers, and wetlands to maintain ecological function—acknowledging the importance of incrementally restoring ecosystem values when complete restoration is not feasible.

Policy C/NR 3.4 Conserve and sustainably manage forests and woodlands.

Policy C/NR 3.5 Ensure compatibility of development in the National Forests in conjunction with the U.S. Forest Service Land and Resource Management Plan.

Policy C/NR 3.6 Assist state and federal agencies and other agencies, as appropriate, with the preservation of special status species and their associated habitat and wildlife movement corridors through the administration of the SEAs and other programs.

Policy C/NR 3.7 Participate in inter-jurisdictional collaborative strategies that protect biological resources.

Policy C/NR 3.8 Discourage development in areas with identified significant biological resources, such as SEAs.

Policy C/NR 3.9 Consider the following in the design of a project that is located within an SEA, to the greatest extent feasible:

- Preservation of biologically valuable habitats, species, wildlife corridors and linkages;
- Protection of sensitive resources on the site within open space;
- Protection of water sources from hydromodification in order to maintain the ecological function of riparian habitats;
- Placement of the development in the least biologically sensitive areas on the site (prioritize the preservation or avoidance of the most sensitive biological resources onsite);
- Design required open spaces to retain contiguous undisturbed open space that preserves the most sensitive biological resources onsite and/or serves to maintain regional connectivity;
- Maintenance of watershed connectivity by capturing, treating, retaining, and/or infiltrating storm water flows on site; and
- Consideration of the continuity of onsite open space with adjacent open space in project design.

Policy C/NR 3.10 Require environmentally superior mitigation for unavoidable impacts on biologically sensitive areas, and permanently preserve mitigation sites.

Policy C/NR 3.11 Discourage development in riparian habitats, streambeds, wetlands, and other native woodlands in order to maintain and support their preservation in a natural state, unaltered by grading, fill, or diversion activities.

Goal C/NR 4 Conserved and sustainably managed woodlands.

Policy C/NR 4.1 Preserve and restore oak woodlands and other native woodlands that are conserved in perpetuity with a goal of no net loss of existing woodlands.

The Safety Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal S 3 An effective regulatory system that prevents or minimizes personal injury, loss of life, and property damage due to fire hazards.

Policy S3.10 Map oak woodlands in Los Angeles County as part of implementation of the Oak Woodlands Conservation Management Plan.

Policy S3.11 Support efforts to address unique pest, disease, exotic species and other forest health issues in open space areas to reduce fire hazards and support ecological integrity.

Significant Ecological Areas

The County's SEA Program began in 1980 with the adoption of SEAs as Special Management Areas in the General Plan. The objective of the SEA Program is to preserve the genetic and physical ecological diversity of the County by designing biological resource areas capable of sustaining themselves into the future. The SEA designation is given

to land that contains irreplaceable biological resources and includes undisturbed or lightly disturbed habitats that support valuable and threatened species and linkages and corridors to promote species movement.

SEAs are not wilderness preserves, and much of the land within SEAs is privately held, is used for public recreation, or abuts developed areas. The SEA Program is intended to ensure that privately held lands within the SEAs retain the right of reasonable use, while avoiding activities and developments that are incompatible with long-term survival of the SEAs. The County has regulated development within SEAs with the SEA Conditional Use Permit.

Oak Tree Ordinance

The County Oak Tree Ordinance applies to all unincorporated areas. The Oak Tree Ordinance requires that a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any tree of the oak tree genus that is 25 inches or more in circumference (8 inches in diameter) as measured 4.5 feet above mean natural grade, or in the case of an oak with more than one trunk, whose combined circumference of any two trunks is at least 38 inches (12 inches in diameter) as measured 4.5 feet above mean natural grade (i.e., diameter at breast height), or any tree that has been provided as a replacement tree, without first obtaining an oak tree permit.

Oak Woodlands Conservation Management Plan

To further the County's compliance with California Public Resources Code, Section 21083.4, which provides for the conservation of oak woodlands, the County adopted the Los Angeles County Oak Woodlands Conservation Management Plan (OWCMP) in 2012. The OWCMP develops a consistent policy for the management of oak woodlands by providing a voluntary conservation strategy to meet the requirements of the California Oak Woodlands Conservation Act (Assembly Bill 242). The OWCMP extends CEQA consideration of impacts to oak woodlands composed of oaks greater than 5 inches diameter at breast height and recognizes that conservation of oak woodland habitat extends beyond the protection of individual trees (County of Los Angeles 2011).

Hillside Management Areas

The County of Los Angeles Hillside Management Area (HMA) Ordinance applies to all unincorporated areas that contain terrain with a natural slope of 25% or greater. The goal of the ordinance is to ensure that development preserves the physical integrity and scenic value of HMAs, provides open space, and enhances community character. Locating development outside of HMAs to the greatest extent feasible is the first emphasis of sensitive hillside design. Where avoidance is not feasible, development of HMAs will be located in the lowest and flattest areas of the hillside in order to minimize impacts on steeper hillside areas. Lastly, development will utilize a variety of sensitive hillside design techniques to ensure compatibility with the hillside and enhance community character.

4.4.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment with respect to biological resources if development of the project would:

B-1: Impact, either directly or through habitat modifications, species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

B-2: Result in the loss of riparian habitat or sensitive natural communities identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service

B-3: Impact federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

B-4: Affect wildlife movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

B-5: Require compliance with adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state policies or ordinances protecting biological resources.

4.4.4 Methodology

As described in Chapter 3, the general areas included as part of the Proposed Project's rezoning program were evaluated in this Program EIR at a programmatic level based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. Further analysis was not conducted because the County had no further information and it would be too speculative to analyze potential impacts resulting from future housing development per the Proposed Project. As such, potential changes beyond that are considered speculative or unlikely to occur and therefore, not reasonably foreseeable.

Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

Dudek reviewed the following geographic information system data in conjunction with the proposed rezoning program sites to determine if any of the proposed parcels overlap with known occurrences of special-status plant and wildlife species, critical habitat for any federally listed species, areas of potential habitat for species, or SEAs:

- California Natural Diversity Database (CNDDB 2021)
- USFWS occurrence data (USFWS 2021a)
- USFWS critical habitat (USFWS 2021a)
- Significant Ecological Areas
- National Hydrography Dataset (USGS 2021)
- National Wetlands Inventory data (USFWS 2021b)

4.4.5 Environmental Impacts

Threshold B-1 **Would the development of the Project impact, either directly or through habitat modifications, species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

The Proposed Project would include an update to the Los Angeles County Housing Element and associated components, including a rezoning program. More details on the Proposed Project can be found in Chapter 3. While the Project would not directly construct new residential units, it would promote and facilitate new residential development with greater intensities than previously permitted in certain unincorporated areas through the rezoning program, in order to meet the County's Regional Housing Needs Assessment allocation. The areas that are a part of the rezoning program are considered urban or suburban and are heavily disturbed. Thus, it is unlikely that development within the proposed rezone parcels would result in the loss of sensitive plant and/or sensitive wildlife.

However, as shown in Figure 4.4-1, some areas of the rezoning program are generally located within 1 mile of sensitive plant and wildlife biological resources as defined and mapped by CNDDB. Therefore, while unlikely, implementation of the Proposed Project could potentially indirectly impact sensitive plant and/or sensitive wildlife species. This could result in a **potentially significant impact**.

Threshold B-2 **Would the development of the Project result in the loss of riparian habitat or sensitive natural communities identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

As shown in Figure 4.4-2, the general areas in the rezoning program are not within 1 mile of coastal california gnatcatcher critical habitat. Additionally, due to the existing urban and developed nature of the proposed rezone parcels, the rezoning program areas are not likely to support any riparian or sensitive habitats, such as those that support Coastal California gnatcatcher. Nonetheless, implementation of the Proposed Project could indirectly impact sensitive plant and/or sensitive wildlife species due to future pollution or disturbance resulting from construction of new housing in areas proposed for rezoning. This could result in a **potentially significant impact**.

Threshold B-3 **Would the Project impact on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Areas of potential future housing development that may result from the Proposed Project would likely be located in urbanized sites that do not contain sensitive biological resources. The parcels that are a part of the rezoning program are all urban or suburban and are heavily disturbed. Additionally, according to Figure 4.4-5, the Project Area does not overlap with any known federally protected wetlands. However, not all wetland features are captured within the available reference data. Therefore, this could result in a **potentially significant impact**.

Threshold B-4 **Would the Project affect wildlife movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

As discussed above, the County supports the following regional wildlife linkages: San Gabriel–Castaic Connection, San Gabriel–San Bernardino Connection, Santa Monica–Sierra Madre Connection, Sierra Madre–Castaic Connection, Tehachapi Connection, Antelope Valley Connection, and Puente Hills–Chino Hills Connection. There are 11 linkages along principal water courses, 9 linkages along ranges of mountains and hills, and an important linkage along the San Andreas Fault. Areas of potential future housing development that may result from the Proposed Project would likely be located within urbanized areas and as such would not be located within any of the regional wildlife linkages (see Figure 4.4-4). Therefore, the Proposed Project would not affect wildlife movement and **no impacts** would occur.

Threshold B-5 **Would the Project require compliance with adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state policies or ordinances protecting biological resources?**

As shown in Figure 4.4-3, the Project Area does not overlap with any SEAs. Therefore, the Proposed Project would not affect any SEAs within the County.

Future housing development facilitated by the Proposed Project will be subject to discretionary permits and evaluated on a project-by project basis to ensure consistency with the County's Oak Tree Ordinance. The Oak Tree Ordinance regulates oak trees of 25 inches or more in circumference (8 inches in diameter), or in the case of an oak with more than one trunk, whose combined circumference of any two trunks is at least 38 inches (12 inches in diameter). An oak tree permit must be obtained in order to cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any regulated oak tree. Additionally, the County adopted the OWCMP in 2012, which develops a consistent policy for the management of oak woodlands. The OWCMP extends CEQA consideration of impacts to oak woodlands comprised of oaks 5 inches or larger diameter at breast height (County of Los Angeles 2011).

In 2012, the County adopted the OWCMP to encourage the preservation of oak woodlands throughout the County. It is the intent of the County to maintain and expand oak woodland habitat by requiring development designs to avoid impacts to oak woodlands and requiring appropriate compensatory mitigation where oak woodland impacts disturb or remove such habitat. In addition, the County has an OWCMP Guide, which details the process by which the County will determine the extent of oak woodland habitat, the requirement for the preparation of an oak woodland report, an analysis of impacts to the extant oak woodland, and the need for mitigation for impacts to the oak woodland habitat. This discretionary review by the County will be in compliance with CEQA. Future housing development facilitated by the Proposed Project will be subject to discretionary permits and evaluated on a project-by-project basis to ensure consistency with oak preservation related plans.

The County HMA Ordinance applies to all unincorporated areas that contain HMAs, which includes terrain with a natural slope of 25% or greater. The goal of the ordinance is to ensure that development preserves the physical integrity and scenic value of HMAs, provides open space, and enhances community character. Future housing development facilitated by the Proposed Project will be subject to discretionary permits and evaluated on a project-by-project basis to ensure consistency with the HMA Ordinance.

For these reasons, impacts regarding conflict with any local policies or ordinances protecting biological resources would be **less than significant**.

4.4.6 Cumulative Impacts

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered significant. "Related projects" refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project. CEQA deems a cumulative impact analysis to be adequate if a list of "related projects" is included in the EIR or the proposed project is consistent with an adopted general, specific, master, or comparable programmatic plan (Section 15130[b][1][B]). CEQA also states that no further cumulative impact analysis is necessary for impacts of a proposed project consistent with an adopted general, specific, master, or comparable programmatic plan (Section 15130[d]).

Potential impacts to special-status species and the loss of sensitive habitats would be unlikely to occur within the Project Area; however **Mitigation Measure (MM) BIO-1** and **MM BIO-2** would be implemented to ensure impacts would be mitigated if there are any special-status species present on the project sites. It is presumed that direct impacts to special-status species and the loss of sensitive habitats would be similarly mitigated in other regions of the cumulative impacts study area. The Proposed Project would not impact riparian habitat and sensitive plant communities due to the urban and developed nature of the parcels that are a part of the rezoning program. Additionally, wetlands and riparian habitat under the jurisdiction of the USACE, CDFW, and/or RWQCB are subject to permits and mitigation that may be required by the regulatory agencies. **MM BIO-3** would require the project applicants of future projects within the rezoning program parcels to obtain the requisite permits from the regulatory agencies, thereby reducing impacts to wetlands and/or federally protected waters. Furthermore, plant communities considered sensitive by the CDFW must be analyzed under CEQA. Presuming that impacts to riparian habitat and sensitive plant communities would be similarly mitigated in other regions of the cumulative impacts study area, **cumulative impacts would be less than significant.**

Since all of the proposed rezone areas are within previously developed areas, none would be located within any of the regional wildlife linkages. Thus, the Proposed Project would not impact wildlife movement corridors. The Proposed Project would not contribute to any cumulative potential impacts to wildlife movement corridors and impacts would be **less than significant.**

The policies of the Proposed Project do not conflict with local ordinances, Local Conservation Plans, Habitat Conservation Plans, or Natural Communities Conservation Plans, nor would they conflict on a cumulative level. Rather, the Proposed Project's policies are compatible with many of the goals and policies of other conservation plans within the cumulative study area; thus, impacts would be **less than significant.**

4.4.7 Mitigation Measures

The following mitigation measures would reduce impacts to a level below significance.

MM BIO-1 Biological resources shall be analyzed on a project-specific level by a qualified biological consultant. A general survey shall be conducted to characterize the project site, focused surveys should be conducted as necessary to determine the presence/absence of special-status species (e.g., focused sensitive plant or wildlife surveys), and a jurisdictional delineation may be required

if there are signs of potentially regulated wetlands and non-wetland waters. A biological resources assessment report shall be prepared to characterize the biological resources on site, analyze project-specific impacts to biological resources, and propose appropriate mitigation measures to offset those impacts. The report shall include site location, literature sources, methodology, timing of surveys, vegetation map, site photographs, and descriptions of biological resources on site (e.g., observed and detected species as well as an analysis of those species with potential to occur on site).

MM BIO-2 If there is potential for direct impacts to special-status species with implementation of construction activities, the project-specific biological resources assessment report mentioned in **Mitigation Measure BIO–1** shall include mitigation measures requiring pre-construction surveys for special-status species and/or construction monitoring to ensure avoidance, relocation, or safe escape of special-status species from the construction activities, as appropriate. If special-status species are found to be nesting, brooding, denning, etc. on site during the pre-construction survey or monitoring, construction activity shall be halted until offspring are weaned, fledged, etc. and are able to escape the site or be safely relocated to appropriate off-site habitat areas. Relocations into areas of appropriate restored habitat would have the best chance of replacing/incrementing populations that are lost due to habitat converted to development. Relocation to restored habitat areas should be the preferred goal of this measure. A qualified biologist shall be on site to conduct surveys, to perform or oversee implementation of protective measures, and to determine when construction activity may resume.

MM BIO-3 Prior to impacts occurring to U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) jurisdictional aquatic resources, the Proposed Project applicant or its designee shall obtain the following permits: ACOE 404 permit, RWQCB 401 Water Quality Certification, and CDFW Fish and Game Code 1600 Streambed Alteration Agreement.

4.4.8 Level of Significance After Mitigation

Future housing development facilitated by the Proposed Project will be subject to discretionary permits and compliance with all federal, state and local requirements for protecting biological resources. Additionally, **MM BIO-1** would require surveys on a project-by-project basis, as applicable, to ensure that no sensitive species are present. **MM BIO–2** would ensure that no direct mortality to special-status species would occur during implementation of construction activities by requiring pre-construction surveys (and construction monitoring where warranted) for special-status species, as applicable. With implementation of **MM BIO-1** and **MM BIO-2**, impacts to special-status species would be considered **less than significant with mitigation**.

MM BIO-1 and **MM BIO-2** would ensure impacts associated with riparian or sensitive vegetation communities would be less than significant. Therefore, the Proposed Project would have **less-than-significant impacts with mitigation** related to riparian habitat or sensitive natural communities.

Additionally, **MM BIO-1** includes a general survey, which would evaluate whether wetlands are located within the specific parcel(s) to be developed. Should that site visit determine that there is a wetland feature, then a formal jurisdictional delineation would be required. **MM BIO-3** would require the project applicant of future projects to

obtain the requisite permits from the regulatory agencies. Thus, with implementation of **MM BIO-1** and **MM BIO-3**, impacts to federally protected wetlands would be **less than significant with mitigation**.

There would be **no impacts** to wildlife movement, and **less-than-significant impacts** regarding conflict with any local policies or ordinances protecting biological resources.

4.4.9 References

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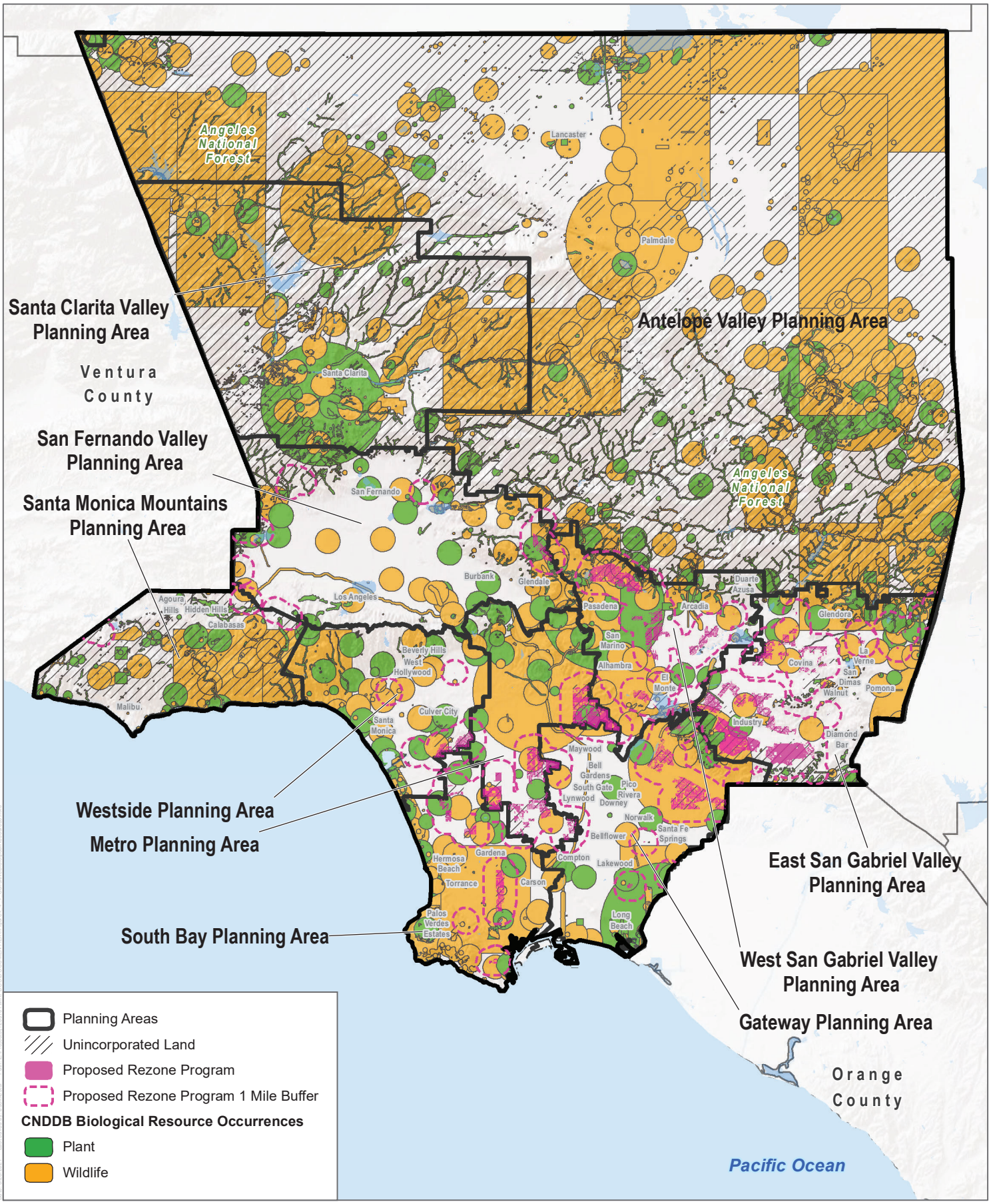
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SOURCE: ESRI 2021; LA County 2021,CDFW 2021

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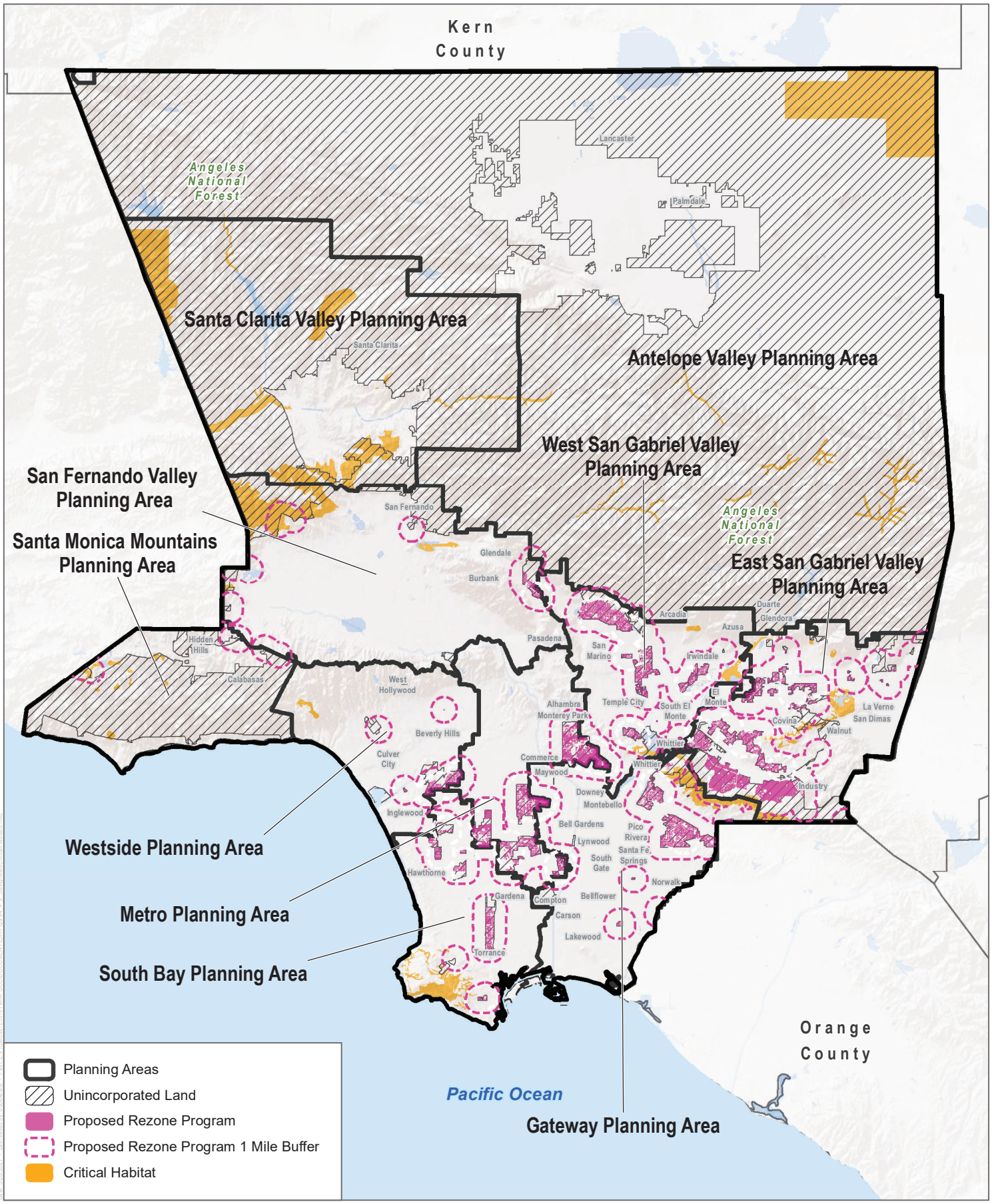
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FIGURE 4.4-1

Sensitive Biological Resources

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021, USFWS 2021

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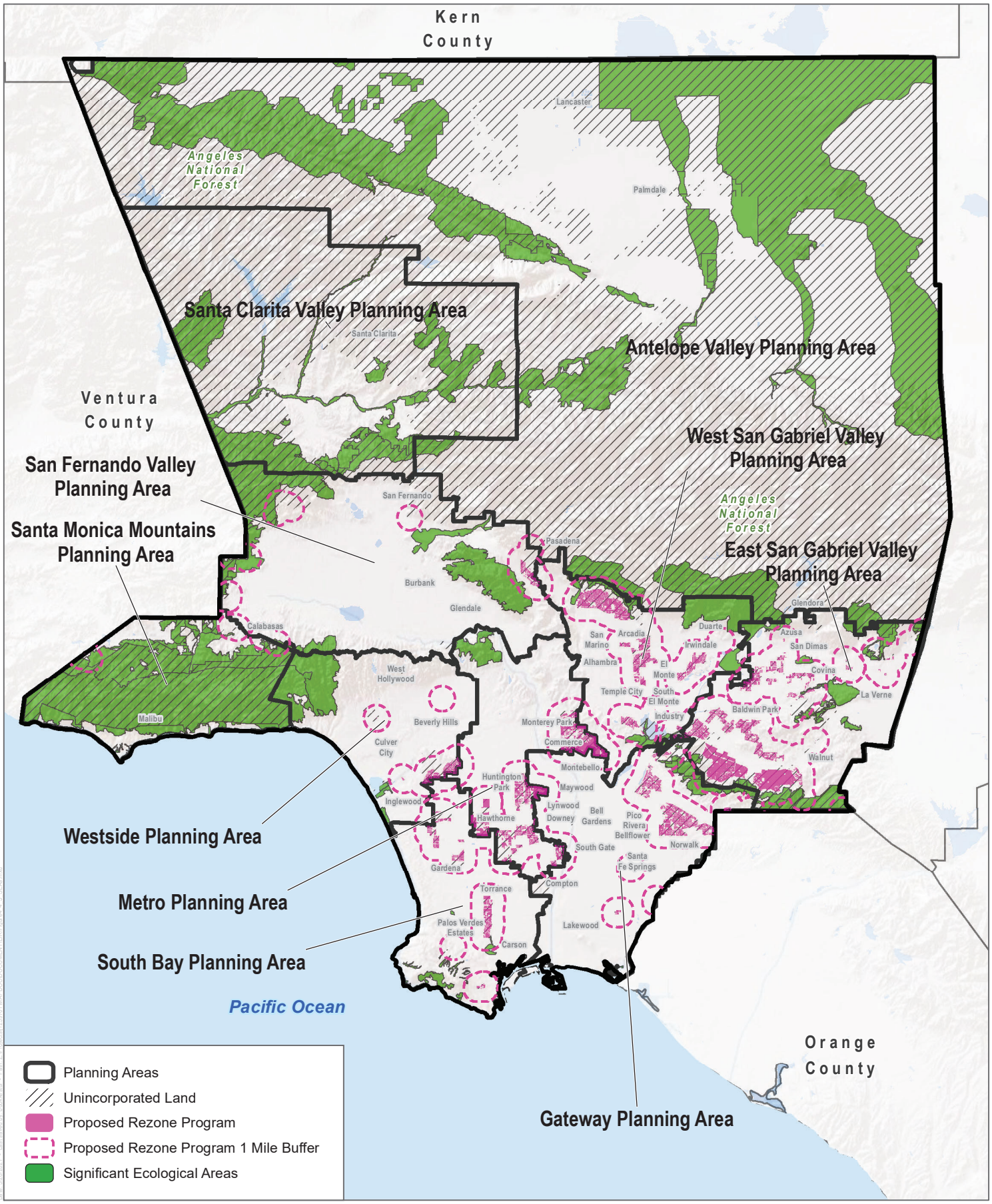
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FIGURE 4.1-2

Designated Critical Habitats

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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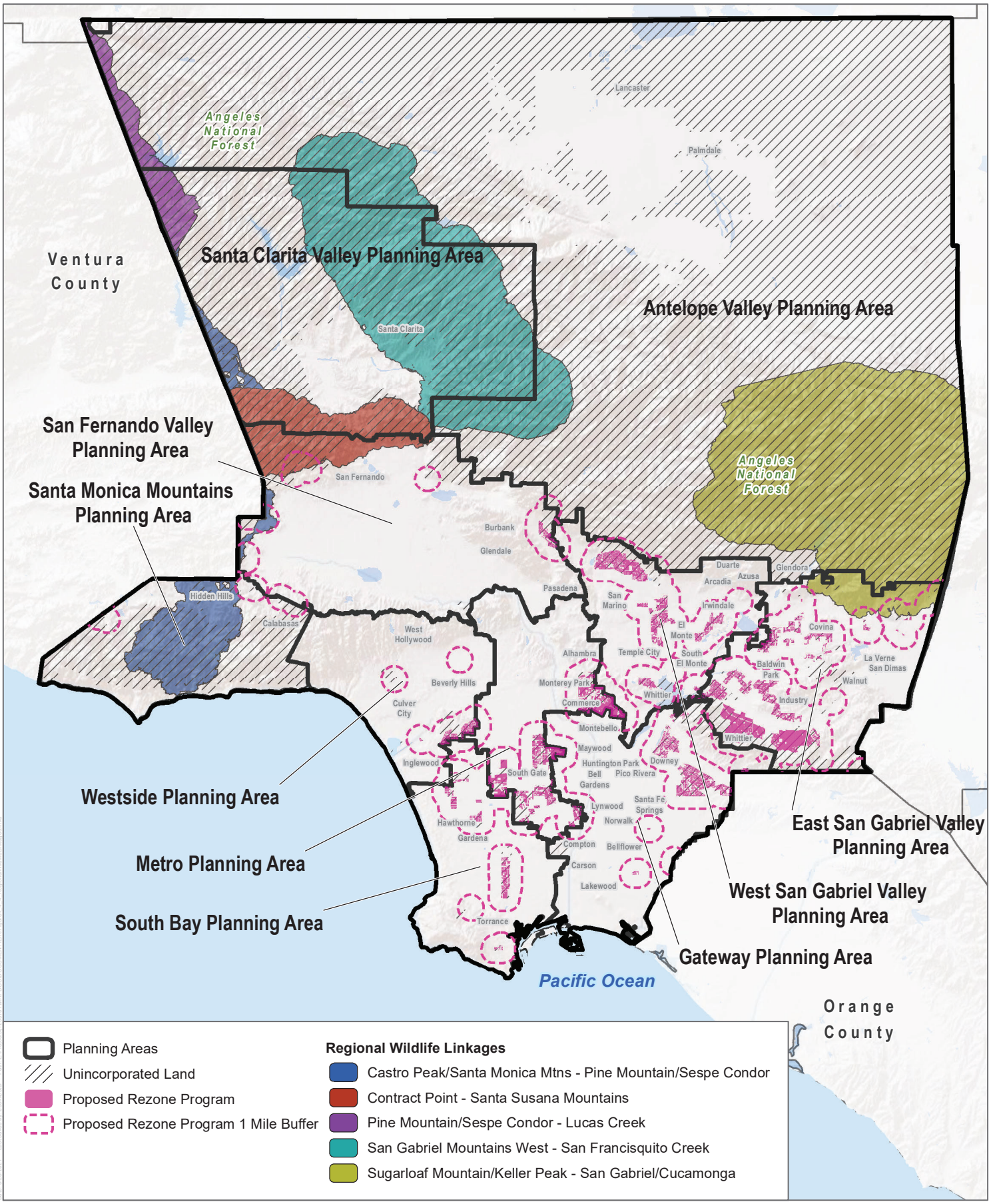
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FIGURE 4.4-3

Significant Ecological Areas (SEAs)

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021,CDFW 2021

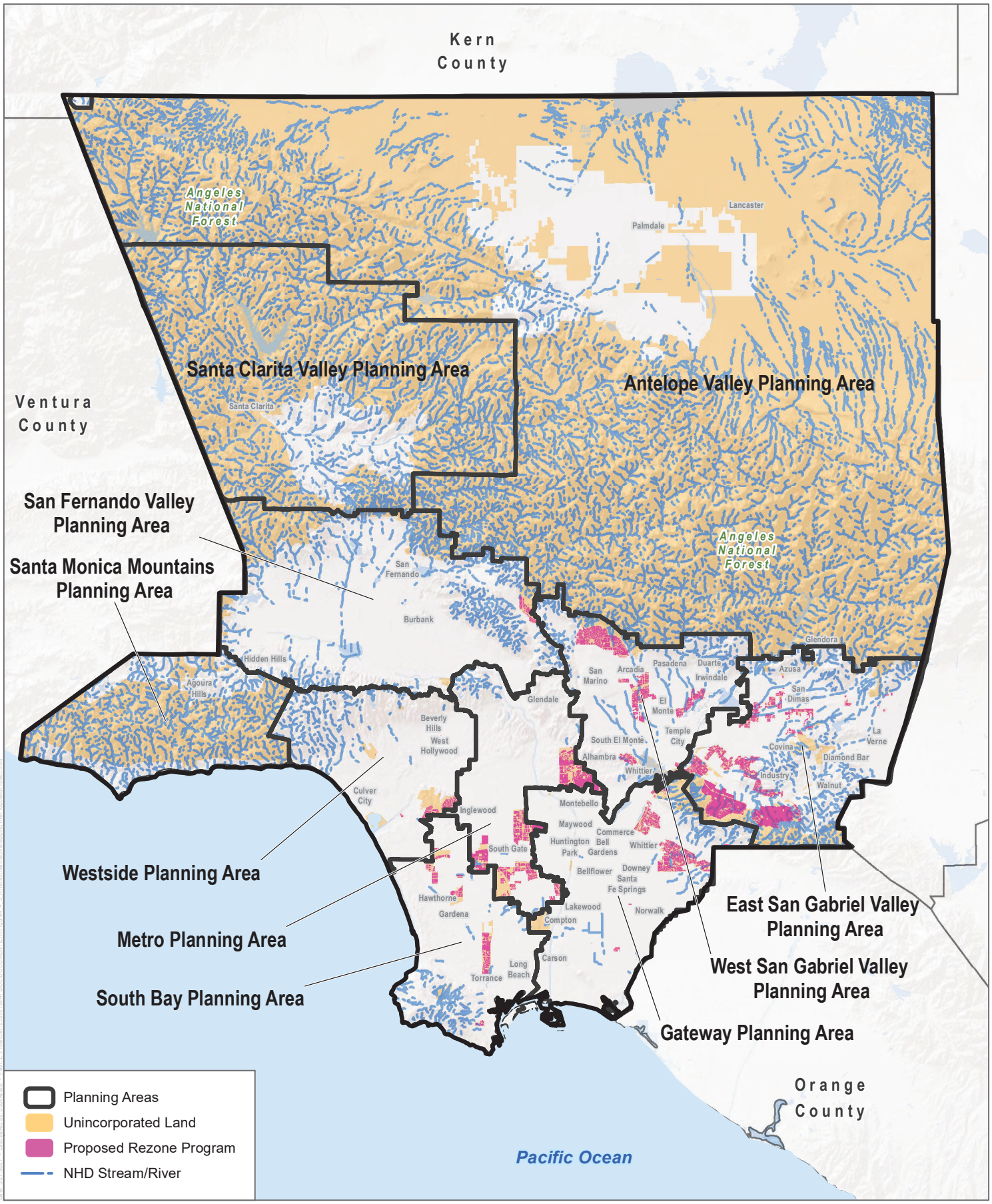
FIGURE 4.4-4

Regional Wildlife Linkages

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021, USGS NHD 2021

FIGURE 4.4-5

Rivers and Streams Overlapping the Proposed Project

Los Angeles County Housing Element Update

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4.5 Cultural Resources

This section evaluates the potential impacts to cultural resources (including historic built environment, archaeological, and paleontological resources) in the Project Area from implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project). Cultural resources include places, objects, and settlements that reflect group or individual religious, archaeological, or architectural activities and fossils and associated locality data. Such resources provide information on scientific progress, environmental adaptations, group ideology, or other human advancements. The analysis in this section is based, in part, upon cultural resource records search results and information included in Appendix C of this Draft Program Environmental Impact Report (PEIR) (divided into non-confidential Appendix C-1 and confidential Appendix C-2).

4.5.1 Environmental Setting

This section discusses the existing environmental setting relative to cultural resources. As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analysis or studies.

Cultural Setting

Prehistoric Context

Evidence for continuous human occupation in Southern California spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad period have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. However, given the direction of research and differential timing of archaeological study following intensive development in Riverside County, chronology building in the Inland Empire must rely on data from neighboring regions to fill the gaps. To be more inclusive, this research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (before 7500 BP)[1], Archaic (10,000–1500 BP), and Late Prehistoric (1500 BP–AD 1769).

Paleoindian Period (before 7500 years ago)

Evidence for Paleoindian occupation in the region is tenuous. Our knowledge of associated cultural pattern(s) is informed by a relatively sparse body of data that has been collected from within an area extending from coastal San Diego, through the Mojave Desert, and beyond. A very unique technology defined by fluted projectile points and a highly formal lithic tool kit with almost no processing equipment is often considered to be the earliest evidence of human adaptation to North America. Widely known as "Clovis," regional manifestations of this toolkit show important variability both in projectile point style and tool kit composition. Importantly, the attributes of "Clovis" are uncommon in California, with very few examples of the diagnostic, "fluted" Clovis point. There is

[1] "BP" indicates calibrated, calendar years before present (specifically, prior to AD 1950). Ages presented herein have been calibrated from the original age estimates wherever possible; ranges of general phenomena (e.g. cultural periods are approximate).

however, a notable exception from Crystal Cove State Park in southern Orange County (Fitzgerald and Rondeau 2012). This, along with other potential attributes of Clovis culture along the California Coast remain undated, and most of the earliest well-dated sites from the region contain rather different archaeological assemblages (Erlandson et al. 2007).

While the earliest evidence for human activity in California comes from the Channel Islands, ca. 13,000 BP, it does not exhibit obvious cultural similarity with the Clovis phenomenon. However, in the southern Central Valley fluted Clovis points date from ca. 11,000–10,500 BP (Rogers and Yohe 2020). One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) comes from CA-SDI-4669/W-12 in La Jolla, with human remains dating to ca. 9900–9050 BP (Bada et al. 1984). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of ground stone, battered cobbles, and expedient flake tools) (Kennedy 1983). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. Prime examples of this pattern come from Naval Air Weapons Station China Lake near Ridgecrest (Davis 1978). These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Fluted points from CA-SBR-2355 and CA-SBR-2356, also in the Mojave Desert, are considered quite ancient (on the thickness of obsidian hydration rinds) and co-occur with a diverse assemblage that also contains stemmed points, typically attributed to the Lake Mojave archaeological culture. Other typical Paleoindian sites in the desert include the Komodo site (CA-MNO-679)—a multi-component fluted point site, and CA-MNO-680—a single component Great Basined Stemmed point site (Basgall 1987, 1988; Basgall et al. 2002). At CA-MNO-679 and -680, ground stone tools were rare while finely made projectile points were common.

Turning back to coastal Southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional image of Paleoindians as highly mobile big-game hunters. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (before 7500 BP) that submerged as much as 16 kilometers of the San Diego coastline since people first arrived in California, ca. 13,000 years ago (ICF 2013). If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as CA-SDI-210 along Agua Hedionda Lagoon, contain stemmed points similar in form and age to Silver Lake and Lake Mojave projectile points from the high desert (Basgall and Hall 1993; Warren et al. 2004). However, sites of this nature are extremely rare; more typical are sites that contain large numbers of milling tools intermingled with older projectile point forms. Separating cultural components on the basis of artifact form and frequency is therefore difficult.

Warren et al. (2004) claim that a biface manufacturing tradition at the Harris site complex (CA-SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between ca. 11,200 and 8200 BP (on the basis of radiocarbon dates from the Harris site itself). Termed San Dieguito (also see Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of well-made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (also see Warren 1964; Warren 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987, 2017) suggested that the San Dieguito pattern is simply the inland manifestation of a broader economic pattern. This interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent on tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies the regional Archaic sites (see below). It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents an economic strategy distinct from that represented by other roughly contemporaneous assemblages from throughout the region.

San Dieguito sites are rare in the inland valleys, with one possible candidate, CA-RIV-2798/H, located on the shore of Lake Elsinore. Excavations at Locus B at CA-RIV-2798/H produced a toolkit consisting predominately of flaked stone tools, including crescents, points, and bifaces, and lesser amounts of groundstone tools, among other items (Grenda 1997). A calibrated and reservoir-corrected radiocarbon date on a shell from this site points to an early occupation, ca. 8880–8525 BP. Grenda suggested this site represents seasonal exploitation of lacustrine resources and small game and resembles coastal San Dieguito assemblages and spatial patterning.

If the San Dieguito pattern truly represents a socioeconomic strategy distinct from the regional Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in Southern California deserts, where hunting-related tools were replaced by processing tools during the early Holocene (Basgall and Hall 1990).

Archaic Period (10,000 – 1500 years ago)

The more than 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in Southern California. If San Dieguito is the only recognized Paleoindian component in the coastal Southern California, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the region (see Hale 2001, 2009).

The Archaic pattern, which has also been termed the Millingstone Horizon (among other things), is relatively easy to define with assemblages that consist primarily of processing tools, such as millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the region with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Basgall and Hall 1990; Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurred until the bow and arrow, and then ceramics, were adopted after 1500 BP (Griset 1996; Hale 2009; Schaefer 2012). Even then, assemblage formality remained low. After the bow was adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decreased in proportion relative to expedient, unshaped ground stone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complemented only by the addition of the bow and ceramics.

Late Prehistoric Period (1500 BP–AD 1769)

The period of time following the Archaic and before Ethnohistoric times (AD 1769) is commonly referred to as the Late Prehistoric (McDonald and Eighmey 2004; Rogers 1945; Wallace 1955); however, several other subdivisions continue to be used to describe various shifts in assemblage composition. In general, this period is defined by the addition of arrow points and ceramics, as well as the widespread use of bedrock mortars. The fundamental Late Prehistoric assemblage is very similar to the Archaic pattern but includes arrow points and large quantities of fine debitage from producing arrow points, as well as ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces. Some argue that the Ethnohistoric intensive acorn economy extends as far back as 1500 BP (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred before 600 BP. In Riverside County and the surrounding region, millingstones and handstones persisted in higher frequencies than mortars and pestles until the last 500 years (Basgall and Hall 1990); even then, weighing the economic significance of millingstone-handstone versus mortar-pestle technology is tenuous due to incomplete information on archaeological assemblages.

Historic Setting

Post-Contact history for the State of California is generally divided into three periods: the Spanish Period (1769–1821), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, signals the beginning of the American Period when California became a territory of the United States.

Spanish Period (1769–1821)

Spanish explorers made sailing expeditions along the coast of southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríquez Cabrillo stopped in 1542 at present-day San Diego Bay. With his crew, Cabrillo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded during the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location the names we use today. The Spanish crown laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonial matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July of 1769, while Portolá was exploring southern California, Franciscan Friar Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

The Portolá expedition first reached the present-day boundaries of Los Angeles in August 1769, thereby becoming the first Europeans to visit the area. Friar Juan Crespí named the campsite by the river "Nuestra Señora la Reina de los Angeles de la Porciúncula" or "Our Lady the Queen of the Angeles of the Porciúncula." Two years later, Friar Junípero Serra returned to the valley to establish a Catholic mission, the Mission San Gabriel Arcángel, on September 8, 1771 (Kyle 2002).

Mexican Period (1821–1846)

A major emphasis during the Spanish Period in California was the construction of missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles). Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the Indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Dallas 1955).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and the establishment of many additional ranchos.

During the heyday of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary Southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of non-native inhabitants increased during this period with the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who did not possess immunities to them.

American Period (1846–Present)

War in 1846 between Mexico and the United States precipitated the Battle of Chino, a clash between resident Californios and Americans in the San Bernardino area. The Mexican-American War ended with the Treaty of Guadalupe Hidalgo in 1848, ushering California into its American Period.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. Territories (Waugh 2003). Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through 1850s. The Gold Rush began in 1848, and with the influx of goldseekers, the ranching economy began to produce meat and dairy, in addition to hides and tallow. During the cattle boom of the 1850s, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom. Cattle were at first driven along major trails or roads such as the Gila Trail or Southern Overland Trail, then were transported by trains when available. The cattle boom ended for southern California as neighbor states and territories drove herds to northern California at reduced prices. Operation of the huge ranchos became increasingly difficult, and droughts severely reduced their productivity (Cleland 2005).

Historical Overview of Los Angeles County

The County of Los Angeles was established on February 18, 1850, and Ciudad de Los Angeles incorporated on April 4, 1850. Settlement of the Los Angeles region continued in the early American Period. Soon after incorporation, City officials began to sell pueblo lands around the original plaza, hastening its development from remote outpost to city. The County's population grew to not only include original descendants of California's Native American tribes, Anglo-Americans, Spanish-speaking Californios, and former African slaves, but immigrants from Europe, Asia, and South America as well (County of Los Angeles 2021).

The development of a local and coast-to-coast rail line dramatically changed the development of Los Angeles. The Southern Pacific Railroad completed its first Los Angeles route in 1880, which led to the start of tourism in the region. By the late 1860s Los Angeles started to increase in population, with marketing campaigns such as "Go West" encouraging a real estate speculative frenzy. The population had increased from approximately 11,000 in 1880 to about 60,000 in 1890. Tourism led to raised land values and civic improvements despite a real estate collapse in 1889. A chamber of commerce was established, which continued to market the area to attract new citizens. Along with the expansion of the railroad, Los Angeles's geographic location on the Pacific Ocean allowed for it to be accessed by ship. In 1869, a railroad was constructed from Los Angeles to San Pedro harbor, which became the gateway for trade between the United States and Asia. The area's position in the international trade market was further established with the construction of the Long Beach harbor in 1911 (LLA 1998).

Los Angeles offered a variety of natural economic advantages that continued to increase the population as well as bring wealth to the area. In the 1890s, the "second black gold rush" began when Edward L. Doheny discovered oil in Downtown Los Angeles. The 1920s brought an increase in drilling activity with the largest finds in Huntington Beach, Santa Fe Springs, and Signal Hill. By this time there were almost 1,500 oil wells in operation throughout Los Angeles. During the 1900s, agriculture also became an important part of the local economy after the City's annexation of the San Fernando Valley. The Valley's climate, elevation, and water supply made it ideal to grow crops including oranges, lemons, olives, alfalfa, apricots, asparagus, barley, melons, pumpkins, and walnuts. With the agricultural industry came other industries such as canning and fruit preserving. Agriculture dominated the Valley's land use into World War II when farms were replaced by residential developments due to the population boom (County of Los Angeles 2021; POLA 2021).

By 1930, the City of Los Angeles' population had surpassed one million, leading to a series of important public works projects providing employment during the Depression. The Boulder Dam (now Hoover Dam) on the Colorado River, bordering Arizona and Nevada, was completed in 1936 and allowed water from the Colorado River aqueduct to serve the Los Angeles metropolitan area. The dam brought a reliable source of water and electricity to the area. During World War II, industry shifted from agriculture to production including aircrafts, ships, war supplies, and ammunition. The growth of the local production industry encouraged the movement of people from small rural areas into urban centers, increasing the population to over 1.5 million by 1940. The end of World War II brought three decades of economic growth to the area. A major part of post-war development came because of the popularity of the automobile. By the end of the 1950s, 95% of all trips taken in Los Angeles were done via private automotive. In 1947, a comprehensive freeway plan was introduced and a 1.5 cent statewide fuel tax for highway construction led to a period of freeway construction and expansion (Masters 2012; Caltrans 2011).

The expansion of the California highway system led to the development of suburban Los Angeles County. Real estate developments continued to replace oil and agriculture, particularly in the formally agriculturally based San Fernando Valley. Tract style developments and the growth of suburbia led to multiple environmental, health, political, and social issues including air pollution and racial segregation. By the early 1970s, the County had a

smog problem causing schools to close routinely in urban areas due to unhealthy air quality. This led to the implementation of environmental laws and innovations in car technology. Discriminatory housing practices resulted in housing shortages and severe crowding in racially segregated neighborhoods. Additionally, the construction of freeways often brought devastation to low-income immigrant communities including East Los Angeles, which resulted in displacement and isolation. Since the 1980s, the areas wealth gap has increased, making Los Angeles one of the most socioeconomically divided areas in the United States (Wilman and Wilkman 2006; Caltrans 2011; Perez 2017).

The 1990s brought a shift in the area's industries with the majority of the automotive factories, agricultural land, dairy operations, and aerospace manufacturers shutting down. Despite the shift, many of the early industries including film, television, and music remained based in Los Angeles. Large studios such as CBS Television City and 20th Century Fox had their headquarters in the county and with them the members of Hollywood including actors, executives, and technicians. Fashion and the manufacturing of clothing also remained a dominant force in the area. Among the region's most valuable economic assets were the ports of Los Angeles and Long Beach, which handled 44% of all goods imported by cargo container in the United States. An economic boom between 1985 and 1990 attracted working immigrants to the area primarily from Asia and Mexico. The population demographics of Los Angeles County changed with the increase in immigrants from Mexico, and Central and Latin America. By 2010, Los Angeles County was considered a "majority minority" city where a racial or ethnic minority made up the majority of the population. Currently more than 10.4 million people reside in Los Angeles County, which contains 88 cities and approximately 140 unincorporated areas (County of Los Angeles 2021; POLA 2021).

CHRIS Records Search

On April 5, 2021, staff at the South Central Coast Information Center (SCCIC), located on the campus of California State University, Fullerton, provided the results of a California Historical Resources Information System (CHRIS) records search for the proposed rezone areas. Due to COVID-19, the SCCIC notified researchers that they are only providing data for Los Angeles County that have already been digitized. As such, not all available data known to CHRIS may be provided in the records search. The CHRIS record search results provided by the SCCIC included their digitized collections of mapped prehistoric and historic archaeological resources and historic built-environment resources; Department of Parks and Recreation site records; technical reports; archival resources; and ethnographic references. Dudek reviewed the SCCIC records to determine whether the implementation of the Proposed Housing Element Update would have the potential to impact known cultural resources. The results of previously conducted cultural resources studies are provided in Table 4.5-1.

Previously Conducted Cultural Resources Studies

Table 4.5-1. Previous Cultural Resource Investigations

SCCIC ID	Author	Year	Report Title
LA-01111	Bove, Frederick J.	1977	Impact on Archaeological Resources of the Proposed Willowbrook Park for the Los Angeles County Department of Parks and Recreation
LA-01220	Boxt, Matthew, Richard Aycock, and Susan Colby	1983	An Archaeological Survey and Impact Assessment of the Valley Blvd. Redevelopment Project, Located in the City of Industry, Los Angeles County, California

Table 4.5-1. Previous Cultural Resource Investigations

SCCIC ID	Author	Year	Report Title
LA-01269	Colby, Susan M.	1983	An Archaeological Resource Survey and Impact Assessment of an Approximate 1.3 Mile Extension of Halliburton Road in Hacienda Heights, Los Angeles County, California
LA-02080	Pence, Robert L.	1976	Letter Report: The Parcel of Land Located at 1360 W. 6th Street, San Pedro
LA-02577	Wlodarski, Robert J.	1992	Results of a Records Search Phase Conducted for the Proposed Alameda Corridor Project, Los Angeles County, California
LA-02644	Wlodarski, Robert J.	1992	The Results of a Phase 1 Archaeological Study for the Proposed Alameda Transportation Corridor Project, Los Angeles County, California
LA-02788	Brown, Joan C.	1992	Archaeological Literature and Records Review, and Impact Analysis for the Eastside Corridor Alternatives Los Angeles, California
LA-02904	Stickel, Gary E.	1993	Draft Report a Phase I Cultural Resources Literature Search for the West Basin Water Reclamation Project
LA-03070	Maki, Mary K.	1994	A Phase 1 Cultural Resources Survey of 0.85 Acres at 13542 Valley Boulevard Los Angeles County, California
LA-03289	Davis, Gene	1990	Mobil M-70 Pipeline Replacement Project Cultural Resource Survey Report for Mobil Corporation
LA-03673	Anonymous	1987	Historic Property Survey Report North Outfall Relief Sewer
LA-03823	Wlodarski, Robert J.	1981	Literature Search for Property Located Along the South Side of Valley Boulevard, East of the San Gabriel Freeway, West of Turnbull Canyon Road, in the City of Industry, County of Los Angeles, California
LA-03858	Maki, Mary K.	1997	Negative Phase 1 Archaeological Survey Brady Avenue Homes Los Angeles County, California
LA-03867	McLean, Deborah K.	1998	Archaeological Assessment for Pacific Bell Mobile Services, Telecommunications Facility La-007-16, 10550 Whittier Blvd., City of Whittier, Los Angeles County, Ca.
LA-03909	Unknown	1977	Historic Property Survey Beverly Boulevard - Cash Contract 4832
LA-04300	Love, Bruce	1998	Identification and Evaluation of Historic Properties San Pasqual Sewers Project Los Angeles County, California
LA-04448	Richard Starzak	1994	Section 106 Documentation for the Metro Rail Red Line East Extension in the City and County of Los Angeles, California
LA-05574	Maki, Mary K.	2000	Negative Phase I Archaeological Survey and Impact Assessment of a 1.7 Acres East Rancho Dominguez Community Redevelopment Project, Los Angeles County, California

Table 4.5-1. Previous Cultural Resource Investigations

SCCIC ID	Author	Year	Report Title
LA-06114	Conkling, Steven W. and McLean, Deborah K.B.	2002	Monitoring and Inadvertent Discovery Plan for Proposed Wells and Treated Water Pipelines for Treatment Plant B-6 and B-5, Cities of El Monte, Baldwin Park and Industry, Los Angeles County, California
LA-06235	Billat, Lorna	2001	Nextel Communications Proposed Wireless Telecommunications Service Facilities-northern California
LA-06373	Bonner, Wayne H.	2001	Records Search Results for Sprint Pcs Facility La40xc873e (the East Basin Site), Located at 4413 Compton Blvd. in Compton, Los Angeles County, California
LA-06820	Maki, Mary K.	2003	Phase I Archaeological Survey of Approximately 1.75 Acres for the Avalon Phase II Housing Development Project 13218-132224 Avalon Boulevard Unincorporated Los Angeles County, California
LA-06851	Duke, Curt	2003	Cultural Resource Assessment Cingular Wireless Facility No. Vy 310-01 Altadena, Los Angeles County, California
LA-06859	Unknown	1996	Arcadia General Plan
LA-06953	Bonner, Wayne H.	2001	Records Search Results for American Tower Corporation Telecommunications Facility La706n1 (Eliot Middle School), Located at 2184 N. Lake Ave., Altadena, Los Angeles County, California
LA-07618	Bonner, Wayne H.	2005	Cultural Resource Records Search and Site Visit Results for T-Mobile Telecommunications Facility Candidate La03577a (Compton and Atlantic), 4413 East Compton Boulevard, Compton, Los Angeles County, California
LA-07685	Bonner, Wayne H.	2005	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate La03396 (Compton Creek) 12225 Avalon Boulevard, Los Angeles, Los Angeles County, California
LA-07887	Wlodarski, Robert J.	2006	Record Search and Field Reconnaissance for the Proposed Royal Street Communications Wireless Telecommunications Site La0238 (Wamu E. La), Located at 5301 Whittier Boulevard, East Los Angeles, California 90022
LA-08152	Bonner, Wayne H., Crawford, Kathleen, Taniguchi, Christeen, and Hetzel, Chris	2004	Indirect Ape Historic Architectural Assessment Results for Bechtel Corporation Facility Candidate 950014040c (New York/Allen), 1840 New York Drive, Altadena, Los Angeles County, California
LA-08815	Bonner, Wayne H.	2006	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate Ie05375b (Apple Market), 2515 Fair Oaks Avenue, Altadena, Los Angeles County, California

Table 4.5-1. Previous Cultural Resource Investigations

SCCIC ID	Author	Year	Report Title
LA-09049	Taniguchi, Christeen and Wayne H. Bonner	2004	Site Visit and Direct Ape Historic Architectural Assessment Results for Bechtel Corporation Facility Candidate 950014040c (New York/Allen), 1840 New York Drive, Altadena, Los Angeles County, California
LA-09448	Billat, Lorna	2008	New Tower ("NT") Submission Packet FCC Form 620 Project Name: Honeybaked Ham Project Number: LA-2259B
LA-09640	Maki, Mary K.	2008	Alameda Seniors Housing Project, Huntington Park
LA-09657	Bonner, Wayne H.	2008	Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate IE24858C (Grace Chapel), 1418 North San Gabriel Boulevard, Rosemead, Los Angeles County, California
LA-09921	Scott Billat	2009	New Tower Submission Packet for SCE Juniette Centinela, #LA0363D
LA-10160	Harper, Caprice D. and Francesca Smith	2008	Preliminary Cultural Resources Survey for the Formation of the Wiseburn Unified School District Project, Cities of El Segundo and Hawthorne, and Unincorporated Los Angeles County, CA
LA-10502	Wrobleski, David E. and Richard A. Krautkramer	2001	A Class III Archaeological Investigation for Proposed Wells and Treated Water Pipelines Adjoining the Plant B-6 and B-5 Treatment Facility Project, Los Angeles County, California
LA-10872	Bonner, Wayne	2007	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate IE05351C (SC351-Honeybaked), 460 South Sierra Madre Boulevard, Pasadena, Los Angeles County, California
LA-10968	Bonner, Wayne	2010	Cultural Resource Records Search and Site Visit Results for Clearwire Candidate CA-LOS4109 (Vacant Nursery), 1968 North Lake Avenue, Altadena, Los Angeles County, California
LA-11108	Sims, Douglas	2010	CA-LOS4051a, 4064 East Live Oak, Arcadia, CA 91006
LA-11708	Maki, Mary	2012	Phase I Archaeological Survey Report of 1.72 Acres for the Avalon Apartments Project 13218 & 13219 Avalon Boulevard Willowbrook, Los Angeles County, California
LA-11973	Unknown	2011	Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Final Environmental Impact Statement
LA-11993	O'Neill, Laura	2012	Finding of No Adverse Effect for the Proposed Interstate 710 Corridor Project Between Ocean Boulevard and the State Route 60 Interchange
LA-12021	Bonner, Wayne	2012	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate IEo5348A (SM348 Washington Mutual B), 5301 Whittier Boulevard, Los Angeles, Los Angeles County, California

Table 4.5-1. Previous Cultural Resource Investigations

SCCIC ID	Author	Year	Report Title
LA-12063	Bonner, Wayne	2012	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate IE04923A (LA923 St. Luke Hospital), 2632 East Washington Boulevard, Pasadena, Los Angeles County, California
LA-12191	Bonner, Wayne and Crawford, Kathleen	2013	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate LA03327E (Slauson and Deane T JPA) 5751 Deane Avenue, Los Angeles, California
LA-12497	Maxon, Pat	2010	Draft Program Environmental Impact Report, City of Arcadia, 2010 General Plan Update
LA-13173	Brunzell, David	2014	Cultural Resources Assessment Earvin "Magic" Johnson Recreation Area State Master Plan Amendment/Ujima Village Master Plan Project, City of Los Angeles, Los Angeles County, California

Previously Identified Cultural Resources

The following previously recorded and evaluated resources were identified within the proposed rezone areas as a result of the California Historical Resources Information Center (CHRIS) records search and a review of the Los Angeles County Built Environment Resources Directory (BERD). The results of previously evaluated cultural resources are provided in Table 4.5-2. The complete confidential records search results are available in Appendix C-2.

Table 4.5-2. Previously Identified Cultural Resources

Primary Number	Property Name	Address	CHRSC*	Planning Area(s)
P-19-187085	The Mojave Rd (CHL No. 963)	n/a	1CL	East San Gabriel Valley, Metro, West San Gabriel Valley
P-19-178595	Castle Realty Building	11540 E. Whittier Blvd.	7N	Gateway
P-19-174467	n/a	6919 Compton Ave.	6Y	Metro
P-19-174576	n/a	13232 Avalon Blvd.	6Y	Metro
P-19-176525	United Artists' Theater, Alameda Theater	5134 E. Whittier Blvd.	3S	Metro
P-19-176527	Casa Garcia Restaurant; Tamale Building	6421 E. Whittier Blvd.	2S2	Metro
P-19-176560	Whittier Atlantic Bowling	5150 E. Whittier Blvd.	7N	Metro
P-19-176584	n/a	623 S. Atlantic Blvd.	5S2	Metro
P-19-176629	Tatooland	6144 E. Whittier Blvd.	2S2	Metro
P-19-176631	St. Alphonsus Church	530 S. Atlantic Blvd.	7R	Metro
P-19-176639	Amelia's Dress Shop	6039 E. Whittier Blvd.	2S2	Metro
P-19-187965	SCE Naomi Substation	7101 Compton Ave.	6Y	Metro
P-19-190084	Fotofobia	4709 Whittier Blvd.	6Y	Metro

Table 4.5-2. Previously Identified Cultural Resources

Primary Number	Property Name	Address	CHRSC*	Planning Area(s)
P-19-190087	Chase Bank, Mutual Chase Bank	5301 Whittier Blvd.	6Y	Metro
P-19-190290	Pacific Bell Switch Building	6135 E. Whittier Blvd.	6Y	Metro
P-19-191698	Commercial building	6537 Whittier Blvd	6Y	Metro
—	n/a	7000 Compton Ave.	6U	Metro
—	n/a	7313 Compton Ave.	6Y	Metro
—	n/a	2200 E. Florence Ave.	6U	Metro
—	n/a	7909 Seville Ave.	6U	Metro
—	Working (Mural)	5000 E. Whittier Blvd.	7R	Metro
—	n/a	1037 W. Century Blvd.	6U	Metro
P-19-186860	SCE: Verdugo Distribution Circuit	n/a	6Z	San Fernando Valley
P-19-179291	Pacific Electric RR Co Substation #8	2245 N. Lake Ave.	1S	West San Gabriel Valley
P-19-187702	95001404C - AT&T Wireless Services	1840 New York Ave.	6Y	West San Gabriel Valley
P-19-190089	Hen's Teeth Square, Woestman's Drive-In	2057-2061 N. Los Robles Ave.	6Y	West San Gabriel Valley
P-19-187508	Budget Storage Bldg, May Flower Meat Market, Mayfair Market, Fox Market, Food Fair	4411 W. Slauson Ave.	6Z	Westside

Notes:
* California Historical Resource Status Code
1CL = State Historical Landmark (CHL) numbered 770 and above, or an earlier CHL reheard by the SHRC and determined that it also meets CRHR criteria. Listed in the CRHR.
2S2 = Individually determined eligible for NRHP by consensus through Section 106 process. Listed in the CRHR.
3S = Appears eligible for NRHP individually through survey evaluation.
5S2 = Individually eligible for local listing or designation.
6U = Determined ineligible for NRHP pursuant to Section 106 without review by Office of Historic Preservation (OHP).
6Y = Determined ineligible for NRHP by consensus through Section 106 process – Not evaluated for CRHR or local listing.
6Z = Found ineligible for NRHP, CRHR or local designation through survey evaluation.

Native American Coordination

The Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search, findings received March 29, 2021, was completed with positive results for the proposed rezone areas. The SLF record is maintained at a public land survey system (PLSS) Section level, which indicates a recorded sacred site could be anywhere within one square mile area of a proposed rezone area and as such, the NAHC did not specify whether Native American resources were located within the proposed rezone areas. The NAHC suggested contacting Native American individuals and/or tribal organizations who may have direct knowledge of cultural resources in or near the Project. No additional tribal outreach was conducted by Dudek; however, in compliance with Assembly Bill 52 and Senate Bill 18, the County contacted all NAHC-listed traditionally geographically affiliated tribal representatives that have requested Project notification. The consultation efforts are discussed in Section 4.18, Tribal Cultural Resources. Documents related to the NAHC SLF search are included in Appendix C-1.

4.5.2 Relevant Plans, Policies, and Ordinances

Federal

National Register of Historic Places

The NRHP is the United States' official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service under the U.S. Department of the Interior, the NRHP was authorized under the NHPA, as amended. Its listings encompass all National Historic Landmarks and historic areas administered by the National Park Service.

NRHP guidelines for the evaluation of historic significance were developed to be flexible and to recognize the accomplishments of all who have made significant contributions to the nation's history and heritage. Its criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the NRHP. To be listed in or determined eligible for listing in the NRHP, a property must be demonstrated to possess integrity and to meet at least one of the following criteria (36 CFR, Section 60.4):

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and
>
> A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
> B. That are associated with the lives of persons significant in our past; or
> C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
> D. That have yielded, or may be likely to yield, information important in prehistory or history.

"Integrity" is defined in the NRHP guidance How to Apply the National Register Criteria as "the ability of a property to convey its significance. To be listed in the NRHP, a property must not only be shown to be significant under the NRHP criteria, but it also must have integrity" (NPS 1990). NRHP guidance further states that properties must be completed at least 50 years ago to be considered for eligibility. Properties completed less than 50 years before evaluation must be proven to be "exceptionally important" (criteria consideration G) to be considered for listing.

A historic property is defined as follows (36 CFR 800.16[i][1]):

> Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the NRHP criteria.

State

California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code, Section 5020.1[j]). In 1992, the California Legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (California Public Resources Code, Section 5024.1[a]). The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP and are enumerated below. According to California Public Resources Code, Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
(2) Is associated with the lives of persons important in our past.
(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.
(4) Has yielded, or may be likely to yield, information important in prehistory or history.

To understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 CCR 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- California Public Resources Code, Section 21083.2(g), defines "unique archaeological resource."
- California Public Resources Code, Section 21084.1, and CEQA Guidelines, Section 15064.5(a), define "historical resources." In addition, CEQA Guidelines, Section 15064.5(b), defines the phrase "substantial adverse change in the significance of an historical resource." It also defines the circumstances when a project would materially impair the significance of a historical resource.
- California Public Resources Code, Section 21074(a), defines "tribal cultural resources."

- California Public Resources Code, Section 5097.98, and CEQA Guidelines, Section 15064.5(e), set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated cemetery.
- California Public Resources Code, Sections 21083.2(b) and (c), and CEQA Guidelines, Section 15126.4, provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures. Preservation in place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

Historical Resources

Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (California Public Resources Code, Section 21084.1; 14 CCR 15064.5[b]). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources or identified as significant in a historical resources survey (meeting the requirements of California Public Resources Code, Section 5024.1[q]), it is a "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA (California Public Resources Code, Section 21084.1; 14 CCR 15064.5[a]). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California Public Resources Code, Section 21084.1; 14 CCR 15064.5[a]).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14 CCR 15064.5[b][1]; California Public Resources Code, Section 5020.1[q]). In turn, CEQA Guidelines, Section 15064.5(b)(2), states that the significance of an historical resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any historical resources, then evaluates whether the project would cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance would be materially impaired.

Sectary of the Interior's Standards for the Treatment of Historic Properties

Where a project has been determined to conform with the Standards, the project's impact on historical resources would be considered mitigated to below a level of significance and, thus, not significant (14 CCR 15126.4[b][1]). In most cases, a project that demonstrates conformance with the Secretary of the Interior's Standards is categorically exempt from CEQA (14 CCR 15331), as described in the CEQA Guidelines (14 CCR 15126.4[b][1]):

> Where maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction of the historical resource will be conducted in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Weeks and Grimmer 1995), the project's impact on the historical resource shall generally be considered mitigated below a level of significance and thus is not significant.

The Secretary of the Interior's Standards are a series of concepts focused on maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations. They function as common-sense historic preservation principles that promote historic preservation best practices. There are four distinct approaches that may be applied to the treatment of historical resources:

- **Preservation** focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time.
- **Rehabilitation** acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character.
- **Restoration** depicts a property at a particular period of time in its history, while removing evidence of other periods.
- **Reconstruction** recreates vanished or non-surviving portions of a property for interpretive purposes.

The choice of treatment depends on a variety of factors, including the property's historical significance, physical condition, proposed use, and intended interpretation. The Guidelines provide general design and technical recommendations to assist in applying the Standards to a specific property. Together, the Standards and Guidelines provide a framework that guides important decisions concerning proposed changes to a historic property.

Secretary's Standards for Rehabilitation

The following 10 Standards for Rehabilitation are used to determine if a project is in conformance with the Standards for a rehabilitation. To be in conformance, a project must be consistent with the historic character of the structure(s) and, where applicable, the district in which it is located. The following Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility:

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Unique Archaeological Resources

If it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (California Public Resources Code, Sections 21083.2[a], [b], and [c]).

California Public Resources Code, Section 21083.2(g), defines a "unique archaeological resource" as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (California Public Resources Code, Section 21083.2[a]; 14 CCR 15064.5[c][4]). However, if a non-unique archaeological resource qualifies as Tribal cultural resource (California Public Resources Code, Sections 21074[c] and 21083.2[h]), further consideration of significant impacts is required. CEQA Guidelines, Section 15064.5, assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed in California Public Resources Code, Section 5097.98.

Paleontological Resources

The CEQA Guidelines require that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to paleontological resources. Paleontological resources, which are limited, nonrenewable resources of scientific, cultural, and educational value, are recognized as part of the environment under these state guidelines. This study satisfies project requirements in accordance with CEQA (13 PRC, 2100 et seq.) and Public Resources Code Section 5097.5 (Stats 1965, c 1136, p. 2792). This analysis also complies with guidelines and significance criteria specified by SVP (2010).

Paleontological resources are explicitly afforded protection by CEQA, specifically in Section VII(f) of CEQA Guidelines Appendix G, the "Environmental Checklist Form," which addresses the potential for adverse impacts to "unique paleontological resource[s] or site[s] or … unique geological feature[s]." This provision covers fossils of signal importance – remains of species or genera new to science, for example, or fossils exhibiting features not previously recognized for a given animal group – as well as localities that yield fossils significant in their abundance, diversity, preservation, and so forth. Further, CEQA provides that generally, a resource shall be considered "historically significant" if it has yielded or may be likely to yield information important in prehistory (PRC 15064.5 [a][3][D]). Paleontological resources would fall within this category. The PRC, Chapter 1.7, sections 5097.5 and 30244 also regulates removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sites.

Local

Los Angeles County Historic Preservation Program

Los Angeles County's Historic Preservation Program ("Program") is comprised of the County's Historic Preservation Ordinance that establishes criteria and procedures for the designation, preservation and maintenance of landmarks and historic districts; and the County's Mills Act Historical Property Contract Program which provides property tax relief to owners of historic properties who are willing to restore and maintain their properties. The Program applies only to properties located in unincorporated areas of Los Angeles County.

Los Angeles County Historic Preservation Ordinance (No. 2015-0033)

On September 1, 2015, the Board of Supervisors recognized the importance of preserving the County's distinctive architectural and cultural history by adopting the Historic Preservation Ordinance ("HPO") that:

- Specifies criteria and procedures for the designation of landmarks and historic districts.
- Specifies criteria and procedures for reviewing proposed work on designated landmarks or on property within historic districts.
- Establishes penalties for unauthorized work, including demolition, on landmarks or historic district contributors.
- Requires maintenance of landmarks and historic district contributors to prevent deterioration.
- Prohibits work, including demolition, on property nominated but not yet designated as a landmark or historic district.
- Encourages adaptive reuse of landmarks and historic district contributors by providing relief from parking requirements.
- Provides for the enhancement of historic districts by the establishment of development guidelines and standards, and by allowing streetscape improvements that are compatible with the areas historic character.

Criteria for Designation of Landmarks and Historic Districts (Section 22.124.070 of the Los Angeles County Code)

A. A structure, site, object, tree, landscape, or natural land feature may be designated as a landmark if it is 50 years of age or older and satisfies one or more of the following criteria:
   1. It is associated with events that have made a significant contribution to the broad patterns of the history of the nation, State, County, or community in which it is located;
   2. It is associated with the lives of persons who are significant in the history of the nation, State, County, or community in which it is located;
   3. It embodies the distinctive characteristics of a type, architectural style, period, or method of construction, or represents the work of an architect, designer, engineer, or builder whose work is of significance to the nation, State, County, or community in which it is located; or possesses artistic values of significance to the nation, State, County, or community in which it is located;
   4. It has yielded, or may be likely to yield, significant and important information regarding the prehistory or history of the nation, State, County, or community in which it is located;
   5. It is listed, or has been formally determined eligible by the United States National Park Service for listing, in the National Register of Historic Places, or is listed, or has been formally determined eligible by the State Historical Resources Commission for listing, on the California Register of Historical Resources;
   6. If it is a tree, it is one of the largest or oldest trees of the species located in the County; or
   7. If it is a tree, landscape, or other natural land feature, it has historical significance due to an association with a historic event, person, site, street, or structure, or because it is a defining or significant outstanding feature of a neighborhood.

B. Property less than 50 years of age may be designated as a landmark if it meets one or more of the criteria set forth in Subsection A, above, and exhibits exceptional importance.

C. The interior space of a property, or other space held open to the general public, including but not limited to a lobby, may be designated as a landmark or included in the landmark designation of a property if the space qualifies for designation as a landmark under Subsection A or B, above.

D. Historic Districts. A geographic area, including a noncontiguous grouping of related properties, may be designated as a historic district if all of the following requirements are met:
   1. More than 50 percent of owners in the proposed district consent to the designation;
   2. The proposed district satisfies one or more of the criteria set forth in Subsections A.1 through A.5, above; and
   3. The proposed district exhibits either a concentration of historic, scenic, or sites containing common character-defining features, which contribute to each other and are unified aesthetically by plan, physical development, or architectural quality; or significant geographical patterns, associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of parks or community planning.

Los Angeles County Register of Landmarks and Historic Districts

The Los Angeles County Register of Landmarks and Historic Districts (County Register) is the County's official list created to maintain an inventory of County designated landmarks and historic districts in the unincorporated area of the County. The County Register is maintained by the Historical Landmarks and Records Commission (Landmarks Commission) pursuant to the County's Historic Preservation Ordinance No. 2015-0033.

Los Angeles County Landmark and Historic District Registration

Nominations for designation of landmarks and historic districts come from private individuals and organizations, or may originate with the Board of Supervisors or the Historical Landmarks and Records Commission.

The Landmarks Commission reviews each property (landmark and historic district) proposed for designation and makes a recommendation on its eligibility. The Regional Planning Commission also reviews proposed historic districts for consistency with the General Plan. Ultimately, the Board of Supervisors has authority to designate a listing on the County Register.

Los Angeles County 2035 General Plan

Chapter 9, the Conservation and Natural Resources Element of the Los Angeles County 2035 General Plan, Section VIII. Historic, Cultural, and Paleontological Resources provides the following goals and policies potentially relevant to the Project (County of Los Angeles 2015):

Goal C/NR 14 Protected historic, cultural, and paleontological resources.
Topic: Historic, Cultural, and Paleontological Resource Protection

- **Policy C/NR 14.1** Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.
- **Policy C/NR 14.2** Support an inter-jurisdictional collaborative system that protects and enhances historic, cultural, and paleontological resources.
- **Policy C/NR 14.3** Support the preservation and rehabilitation of historic buildings.
- **Policy C/NR 14.4** Ensure proper notification procedures to Native American tribes in accordance with Senate Bill 18 (2004).
- **Policy C/NR 14.5** Promote public awareness of historic, cultural, and paleontological resources.
- **Policy C/NR 14.6** Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.

4.5.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment with respect to cultural resources if the project would:

C-1: Cause a substantial adverse change in the significance of an historical resource pursuant to Section 15064.5.

C-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

C-3: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

C-4: Disturb any human remains, including those interred outside of formal cemeteries.

4.5.4 Methodology

As described in Chapter 3.0, Project Description, the general areas included as part of the Proposed Project's rezoning program were evaluated in this PEIR at a programmatic level based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. Further analysis was not conducted because the County had no further information and would be too speculative to base an analysis of potential impacts resulting from future housing development per the Proposed Project. As such, potential changes beyond that are considered speculative or unlikely to occur and therefore, not reasonably foreseeable.

Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district (TOD) specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

CHRIS Records Search

A California Historical Resources Information System (CHRIS) records search was completed by staff at the South Central Coastal Information Center (SCCIC) in Fullerton for the proposed Project area on April 5, 2021. This search included the SCCIC's collections of mapped prehistoric, historic, and built environment resources, Department of Parks and Recreation Site Records, technical reports, and ethnographic references. Additional consulted sources included historical maps of the proposed Project Site, the NRHP, the CRHR, the California Historic Property Data File, the lists of California State Historical Landmarks, California Points of Historical Interest, and the Archaeological Determinations of Eligibility. Dudek reviewed the SCCIC records to determine whether implementation of the proposed Project would have the potential to impact known and unknown cultural resources. A summary of the results is provided in Section 4.5.1, and the confidential records search results are provided in Appendix C-2.

Built Environment Resources Directory

Dudek architectural historians closely reviewed the Built Environment Resources Directory (BERD) files, which provide information, organized by county, regarding non-archaeological resources in the Office of Historic Preservation's (OHP) inventory. The OHP administers federally and state mandated historic preservation programs to further the identification, evaluation, registration, and protection of California's irreplaceable resources. All applicable portions of unincorporated Los Angeles County were reviewed.

Natural History Museum of Los Angeles County Paleontological Records Search

To determine the presence of previously investigated fossil localities, Dudek paleontologists requested a paleontological records search though the Natural History Museum of Los Angeles County (LACM) of the Project Components on April 19, 2021. A summary of the LACM records search results, along with a geological map review is provided in Section 4.5.5. The confidential paleontological records search results are provided in Appendix C-2.

4.5.5 Environmental Impacts

Based on Appendix G of the CEQA Guidelines, implementation of the Proposed Project may have a significant impact if it would cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the State CEQA Guidelines. Under CEQA, built environment and archaeological resources (both historic and prehistoric) may qualify as historical resources under CEQA; however, for clarity of this discussion, built environment resources are addressed under Threshold C-1, and archaeological resources are addressed under Threshold C-2 below.

Threshold C-1 Would the Project cause a substantial adverse change in the significance of an historical resource pursuant to Section 15064.5?

The Proposed Project consists of a policy document update, and adoption of Proposed Project alone would not produce environmental impacts. The Proposed Project consists of updating the General Plan Housing Element, and no actual development is proposed as part of the update. Implementation of the programs contained in the updated document would accommodate development required to meet the County's 2021–2029 Regional Housing Needs Assessment (RHNA) allocation. Under the RHNA allocation, the unincorporated County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It has been determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its RHNA gap; refer to Chapter 3 for further details. While the Proposed Project consists of a policy document update, which is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

While the proposed Project area is County-wide, the areas affected by the rezoning program are limited and shown in Figure 3-4, Rezoning Program. Figures 3-5A through 3-5G identify the areas affected by the proposed rezoning program. As illustrated, the areas affected by the rezoning program do not include the Antelope Valley Planning Area, the Santa Monica Mountains Planning Area, the Santa Clarita Valley Planning Area, and the Coastal Islands Planning Areas.

Potential Impacts to Historical Resources

The rezoning program will not directly demolish or materially alter historical resources. As previously described, the Proposed Project includes a rezoning program that would allow for greater densities than previously permitted in the unincorporated areas of the County. Therefore, there is a potential to impact historical (built environment) resources within the rezoning program areas included in the Proposed Project (see Table 4.5.1). Impacts to historical resources are evaluated by determining the potential for the Proposed Project to affect the integrity and character-defining features of historical resources. A summary of potential impacts to historic built environment resources has been provided below by each applicable planning area.

East San Gabriel Valley Planning Area

The general areas within the rezoning program in this Planning Area are limited to the communities of Charter Oak, Avocado Heights, West Puente Valley, Valinda, South San Jose Hills, and Hacienda Heights. One previously recorded historical resource was identified within the proposed rezone area as a result of the CHRIS records search: the Mojave Road (P-19-187085, California Historical Landmark No. 963), which runs from Drum Barracks (near Los

Angeles harbor) to the Cajon Pass and across the Mojave Desert to the Nevada state line. The Proposed Project would not impact this resource. No additional resources were identified as a result of the Los Angeles County BERD review. However, a cursory review of historical aerial photographs indicates that there are properties within the rezone area that are over 45 years old and have not been previously evaluated for historical significance. This could result in a potentially significant impact.

Gateway Planning Area

The general areas within the rezoning program in this Planning Area are limited to the communities of West Whittier-Los Nietos and South Whittier. No historical resources were identified within the rezone areas as a result of the CHRIS records search or the Los Angeles County BERD review. However, a cursory review of historical aerial photographs indicates that there are properties within the rezone area that are over 45 years old and have not been previously evaluated for historical significance. This could result in a potentially significant impact.

Metro Planning Area

The general areas within the rezoning program in this Planning Area are limited to the communities of Walnut Park, Florence-Firestone, West Athens-Westmont, West Rancho Dominguez, East Rancho Dominguez, and East Los Angeles. The CHRIS records search revealed two previously identified historical resources within the plan area: Casa Garcia Restaurant (P-19-176527) in East Los Angeles (2S2); and the Mojave Road (P-19-187085, California Historical Landmark No. 963), which runs from Drum Barracks (near Los Angeles harbor) to the Cajon Pass and across the Mojave Desert to the Nevada state line. Review of the Los Angeles County BERD identified an additional four (4) historical resources within the East Los Angeles portion of the Metro Planning Area: two of these resources have been determined individually eligible for the NRHP (2S2): 6039 and 6144 E. Whittier Boulevard (P-19-176639, -176629,); one these properties appears eligible for the NRHP as an individual property (3S): 5134 E. Whitter Boulevard (P-19-176525); and one property was found individually eligible for local designation (5S2): 623 S. Atlantic Boulevard (P-19-176584). Impacts to these properties could result in potentially significant impacts.

San Fernando Valley Planning Area

The general areas within the rezoning program in this Planning Area are limited to the community of La Crescenta-Montrose. No historical resources were identified as a result of the CHRIS records search or the Los Angeles County BERD review. However, a cursory review of historical aerial photographs indicates that there are properties within the rezone area that are over 45 years old and have not been previously evaluated for historical significance. This could result in a potentially significant impact.

South Bay Planning Area

The general areas within the rezoning program in this Planning Area are limited to the communities of Lennox, Del Aire, Alondra Park, and an unincorporated area around San Pedro. No previously recorded historic built environment resources were identified in the CHRIS records search or Los Angeles County BERD review for the areas proposed for rezoning However, a cursory review of historical aerial photographs indicates that there are properties within the rezoning areas that are over 45 years old and have not been previously evaluated for historical significance. This could result in a potentially significant impact.

West San Gabriel Valley Planning Area

The general areas within the rezoning program in this Planning Area are limited to the communities of Altadena, San Pasqual, May Flower Village, and South San Gabriel. Two historical resources were identified as a result of the CHRIS records search and Los Angeles County BERD review in this Planning Area: the Pacific Electric Railroad Co. Substation #8 (P-19-179291, listed in the NRHP [1S]) in Altadena; and the Mojave Road (P-19-187085, California Historical Landmark No. 963), which runs from Drum Barracks (near Los Angeles harbor) to the Cajon Pass and across the Mojave Desert to the Nevada state line. Impacts to these properties could result in potentially significant impacts.

Westside Planning Area

The general areas within the rezoning program in this Planning Area are limited to an unincorporated area near Culver City, Ladera Heights, and View Park-Windsor Hills. No historical resources were identified as a result of the CHRIS records search or Los Angeles County BERD review. However, a cursory review of historical aerial photographs indicates that there are properties within the rezoning areas that are over 45 years old and have not been previously evaluated for historical significance. This could result in a potentially significant impact.

Summary of Potential Impacts to Historical Resources

The areas included in the rezoning program include properties over 45 years old that have not yet been evaluated for historical significance. Impacts to these properties would be **potentially significant.**

Threshold C-2 Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

As previously discussed under Threshold C-1, the areas affected by the rezoning program are limited to the following seven Planning Areas: East San Gabriel Valley Planning Area, Gateway Planning Area, Metro Planning Area, San Fernando Valley Planning Area, South Bay Planning Area, West San Gabriel Valley Planning Area, and Westside Planning Area.

Potential Impacts to Archaeological Resources

No archaeological resources were identified within the proposed rezone area as a result of the CHRIS records search. Therefore, the potential of encountering and impacting unknown intact subsurface archaeological resources during implementation of the Proposed Housing Element Update is low; however, it is always possible that unanticipated discoveries could be encountered within the Planning Areas identified as part of development activities in accordance with the Proposed County Housing Element Update. If such unanticipated discoveries were encountered, impacts to the encountered resources could be **potentially significant**.

Threshold C-3 Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The LACM did not report any fossil localities within the areas in the rezoning program as shown in Figure 3-4 and Figures 3-5A through 3-5G; however, they do have localities nearby from the same geological units that underlie the areas that are included in the Proposed Project's rezoning program. The geological units and LACM records search results are summarized by affected Planning Area below.

East San Gabriel Valley Planning Area

The general areas within the rezoning program in this Planning Area are limited to the communities of Charter Oak, Avocado Heights, West Puente Valley, Valinda, South San Jose Hills, and Hacienda Heights. According to surficial geological mapping by Dibblee and Ehrenspeck (1999) and Dibblee and Minch (2002) at 1:24,000 scales, the proposed rezoning areas in the East San Gabriel Valley Planning Area (ESGVPA) are underlain by Holocene (<11,700 years ago) alluvial deposits (map unit Qa). While these deposits are generally too young on the surface to contain significant paleontological resources, they are oftentimes underlain by Pleistocene (approximately 11,700 years ago – 2.58 million years ago [mya]) alluvium or older geological formations/units that have the potential to produce fossils.

The LACM reported several Pleistocene, Pliocene (approximately 2.58 mya – 5.3 mya), and Miocene (approximately 5.3 mya – 23 mya) fossil localities from the ESGVPA and vicinity (confidential Appendix C-2). Although not within the Planning Area, fossil locality LACM VP 1728 produced fossil specimens of horse (*Equus*) and camel (*Camelops*) from unnamed Pleistocene, interbedded shale and coarse sand deposits in the city of Chino. The LACM also reported invertebrate specimens, including *Elassum*; cartilaginous fishes (sharks and rays), including mackerel shark (*Isurus*) and megalodon (*Carcharodon carcharius*); bony fishes, including snake mackerel (*Thyrosicles*), herring family (*Ganolytes*), lanternfish (*Diaphus*, *Lampanyctus*), rattail (*Coelorhinchus*), hake (*Merluccius*); and marine mammal (Cetacea) from the early Pliocene (approximately 3.6 mya – 5.3 mya) Repetto Member of the Fernando Formation. These localities, which include LACM VP 6348 – 6362; LACM IP 16968 – 16991, are associated with the Puente Hills Landfill and were collected from an unknown depth below the ground surface (bgs) (confidential Appendix C-2). LACM VP 6170 yielded mackerel-like fish (*Thyrsocles*) and jack (*Decapterus*) from the late Miocene (approximately 5.3 mya – 11.63 mya) Puente Formation. This locality was collected from an unknown depth bgs in the South San Jose Hills. LACM VP 7930 – 7932 produced bony fishes (Osteichthyes), including ray-finned fishes (Clupeidae) from the middle Miocene (approximately 11.63 mya – 15.97 mya) Monterey Formation in West Covina. The localities were collected from between 6.5 and 7 feet bgs. Finally, LACM VP 7933, which is also from the Monterey Formation, yielded a specimen of topsmelt (*Atherinops*) during pipeline trenching in West Covina (confidential Appendix C-2).

The Holocene alluvium mapped within the areas in the rezoning program has low paleontological sensitivity on the surface. The sensitivity increases to moderate to high with depth, where Pleistocene alluvial deposits or Pliocene and Miocene geological formations may be encountered. No unique geological features were identified near the areas within the rezoning program in the East San Gabriel Planning Area.

Gateway Planning Area

The general areas within the rezoning program in this Planning Area are limited to the communities of West Whittier-Los Nietos and South Whittier. According to surficial geological mapping by Dibblee and Ehrenspeck (2001) at a 1:24,000 scale, the rezoning areas in the Gateway Planning Area are underlain by Holocene alluvium (map unit Qa), Pleistocene alluvium (map units Qae and Qoa), and the early Pliocene Repetto Member of the Fernando Formation (map unit Tfr). While Holocene alluvial deposits are generally too young on the surface to contain significant paleontological resources, they are oftentimes underlain by Pleistocene alluvium or older geological formations/units that have the potential to produce fossils. Pleistocene alluvial deposits and the Fernando Formation have the potential to produce significant paleontological resources.

The LACM reported several Pleistocene fossil localities from the Gateway Planning Area, including LACM VP 7702, which produced fossil specimens of fish (*Gasterosteus*), snake (Colubridae), rodents (*Thomomys*, *Microtus*), and rabbit (*Sylvilagus*) from an unnamed Pleistocene geological unit 30 feet bgs in Bell Gardens; LACM VP 3660, which produced a fossil mammoth (*Mammuthus*) from unnamed Pleistocene geological unit 19 feet bgs in Lakewood; and LACM VP 3347, which yielded a fossil horse (*Equus*) from the La Habra Formation 2 feet bgs in Whittier; LACM VP 4129, which produced a fossil elephant (Proboscidea) and camel (Camelidae) from Pleistocene deposits 24 feet bgs in Carson; and LACM VP 3319, which produced a fossil mammoth (*Mammuthus*) from 30 feet bgs in Carson (confidential Appendix C-2).

The LACM also reported fossil localities from the Repetto Member of the Pliocene Fernando Formation discussed within the ESGVPA section above. The localities include invertebrate specimens, including *Elassum*; cartilaginous fishes (sharks and rays), including mackerel shark (*Isurus*) and megalodon (*Carcharodon carcharius*); bony fishes, including snake mackerel (*Thyroscles*), herring family (*Ganolytes*), lanternfish (*Diaphus*, *Lampanyctus*), rattail (*Coelorhinchus*), hake (*Merluccius*); and marine mammal (Cetacea). These localities, which include LACM VP 6348 – 6362; LACM IP 16968 – 16991, are associated with the Puente Hills Landfill and were collected from an unknown depth below the ground surface (bgs) (confidential Appendix C-2).

The Holocene alluvium mapped within the rezoning areas has low paleontological sensitivity on the surface. The sensitivity increases to moderate to high with depth, where Pleistocene alluvial deposits or Pliocene and Miocene geological formations may be encountered. The unnamed Pleistocene geological units have moderate to high paleontological sensitivity and the La Habra Formation and the Fernando Formation have high paleontological sensitivity throughout their extent. No unique geological features were identified near the areas within the rezoning program that are located in the Gateway Planning Area.

Metro Planning Area

The general areas within the rezoning program in this Planning Area are limited to the communities of Walnut Park, Florence-Firestone, West Athens-Westmont, West Rancho Dominguez, East Rancho Dominguez, and East Los Angeles. According to surficial geological mapping by Dibblee and Minch (2007) at a 1:24,000 scale and Saucedo et al. (2016) at a 1:62,500 scale, the proposed rezoning components of the Metro Planning Area are underlain by Holocene alluvium (map units Qa and Qya_2) and Pleistocene alluvial deposits (map unit Qoa). While Holocene alluvial deposits are generally too young on the surface to contain significant paleontological resources, they are oftentimes underlain by Pleistocene alluvium or older geological formations/units that have the potential to produce fossils. Pleistocene alluvial deposits have the potential to produce significant paleontological resources on the surface or at depth.

The LACM reported numerous Pleistocene fossil localities from the Metro Planning Area (confidential Appendix C-2). These localities are presented in Table 4.5-3.

Table 4.5-3. LACM Fossil Localities Within the Metro Planning Area

Locality Number	Location	Geological Unit/Age	Taxa	Depth BGS (Feet)
LACM VP* 2032	Downtown Los Angeles	Unnamed Pleistocene unit consisting of silt and clay	Mastodon (*Mammut*)	20 – 35
LACM CIT** 342	Highland Park	Unnamed Pleistocene	Mammoth (*Mammuthus*), Bison (*Bison*)	14

Table 4.5-3. LACM Fossil Localities Within the Metro Planning Area

Locality Number	Location	Geological Unit/Age	Taxa	Depth BGS (Feet)
LACM VP 7758	Los Angeles	Unnamed Pleistocene	Three-spined stickleback (*Gasterosteus*); Rodents (*Perognathus, Thomomys, Microtus*)	16
LACM IP*** 21043, 21051	Hyde Park	Unnamed Pleistocene	Unspecified Invertebrates	Unknown
LACM IP 2690	Watts	Unnamed Pleistocene	Unspecified Invertebrates	Unknown
LACM VP 1225	Los Angeles	Unnamed Pleistocene	Mammoth (*Mammuthus*)	15 - 20
LACM VP 3266	Los Angeles (Athens Neighborhood)	Unnamed Pleistocene Calcareous Siltstone	Uncatalogued Vertebrates	15 – 18
LACM VP 3252	Hyde Park	Unnamed Pleistocene	Bison (*Bison*), Camel (*Camelops*)	Unknown
LACM VP 3365	Los Angeles (Athens Neighborhood)	Unnamed Pleistocene	Mammoth (*Mammuthus*)	Unknown
LACM IP 7	Near Compton	Unnamed Pleistocene	Oysters on a Fragmentary Pecten	735
LACM VP 3382	Compton	Unnamed Pleistocene Brown, Clayey Silt	Mammoth (*Mammuthus*)	5

Notes:
* Vertebrate Paleontology Collections
** California Institute of Technology
*** Invertebrate Paleontology Collections

The Holocene alluvium mapped within the areas included in the rezoning program has low paleontological sensitivity on the surface. The sensitivity increases to moderate to high with depth, where Pleistocene alluvial deposits may be encountered. The unnamed Pleistocene geological units have moderate to high paleontological sensitivity on the surface and at depth. No unique geological features were identified near the areas included in the rezoning program in the Metro Planning Area.

San Fernando Valley Planning Area

The general areas within the rezoning program in this Planning Area are limited to the community of La Crescenta-Montrose. According to surficial geological mapping by Dibblee and Ehrenspeck (1989) at a 1:24,000 scale, the areas included in the rezoning program in the West San Gabriel Planning Area are underlain by Pleistocene alluvial fan deposits (map unit Qof) and early Cretaceous (approximately 122 mya) quartz diorite and Cretaceous (approximately 66 mya – 145 mya) granitic rocks (map units qd and gr). Whereas Pleistocene alluvial fan deposits have the potential to yield significant paleontological resources, quartz diorite and granitic igneous rocks do not produce scientifically significant fossils.

The LACM reported one vertebrate fossil locality within the vicinity of the proposed rezoning components. Fossil locality LACM VP 6970 produced Ground Sloth (*Glossotherium*), Camel, (*Camelops*), and Bison (*Bison*) from old alluvium (Pleistocene) at a depth of 60 to 80 feet bgs near Toluca Lake (confidential Appendix C-2).

Whereas the unnamed Pleistocene alluvial fan deposits have moderate to high paleontological sensitivity on the surface and at depth, the Cretaceous igneous rocks mapped within the areas included in the rezoning program have no paleontological sensitivity. No unique geological features were identified near the areas included in the rezoning program in the San Fernando Planning Area.

South Bay Planning Area

The general areas within the rezoning program in this Planning Area are limited to the communities of Lennox, Del Aire, Alondra Park, and an unincorporated area around San Pedro. According to surficial geological mapping by Dibblee and Minch (2007) at a 1:24,000 scale and Saucedo et al. (2016) at a 1:62,500 scale, the proposed rezoning components of the South Bay Planning Area are underlain by Pleistocene sedimentary deposits (map units Qae, Qos, and Qoa). Pleistocene alluvial deposits have the potential to produce significant paleontological resources on the surface or at depth.

The LACM reported numerous Pleistocene fossil localities from the South Bay Planning Area (confidential Appendix C-2). These localities are presented in Table 4.5-4.

Table 4.5-4. LACM Fossil Localities Within the South Bay Planning Area

Locality Number	Location	Geological Unit/Age	Taxa	Depth BGS (Feet)
LACM VP* 7138	San Pedro	Unnamed Pleistocene	Seaduck (*Chendytes*), Albatross (*Diomedea albatrus*), mastodon (*Mammut*)	Unknown
LACM IP** 42798	San Pedro	Unnamed Quaternary Terrace Deposits	Invertebrate (*Calicanthanus fortis*)	Unknown
LACM IP 20221	San Pedro	Unnamed Quaternary Terrace Deposits	Clam (*Mactromeris hemphilli*)	Unknown
LACM VP 7140	Rancho Palos Verdes	Monterey Formation	Toothed whale (Odontoceti)	Unknown
LACM VP 7472-7474	Rancho Palos Verdes	Monterey Formation (Altamira Shale; Light Gray Diatomaceous Shale)	Herring Family (*Ganolytes*, *Xyne*), Drumfish (*Lompoquia*)	Subsurface, up to 46 ft BGS (Collected During Grading and Augering)

Notes:
* Vertebrate Paleontology Collections
** Invertebrate Paleontology Collections

Given the record of past paleontological discoveries from Pleistocene sedimentary deposits in this region, they have moderate to high paleontological sensitivity throughout their extent. No unique geological features were identified near the general areas within the rezoning program in the South Bay Planning Area.

West San Gabriel Valley Planning Area

The general areas within the rezoning program in this Planning Area are limited to the communities of Altadena, San Pasqual, May Flower Village, and South San Gabriel. According to surficial geological mapping by Dibblee and Ehrenspeck (1989 and 1998) at a 1:24,000 scale, the areas within the rezoning program in the West San Gabriel Planning Area are underlain by Holocene alluvial deposits (map units Qa and Qg) and Pleistocene sedimentary deposits (map units Qof and Qoa). While Holocene alluvial deposits are generally too young on the surface to contain significant paleontological resources, they are oftentimes underlain by Pleistocene alluvium or older geological formations/units that have the potential to produce fossils. Pleistocene alluvial deposits have the potential to produce significant paleontological resources on the surface or at depth.

The LACM reported several Pleistocene fossil localities from the West San Gabriel Planning Area. Fossil locality LACM VP 3363 yielded a specimen of Horse (*Equus*) from an unknown depth bgs in the Coyote Pass area of Monterey Park (confidential Appendix C-2). Invertebrate fossil localities LACM IP 2896/11852 and LACM IP 7683 produced invertebrates including tusk shell (*Neodentalium neohexagonium*) and unspecified invertebrates from unknown depths within the Pliocene to early Pleistocene Pico Formation of the Merced and Repetto Hills, respectively. The Pico Formation is not mapped within the general areas included in the rezoning program in the West San Gabriel Valley Planning Area.

The Holocene alluvium underlying the areas within the rezoning program has low paleontological sensitivity on the surface. The sensitivity increases to high with depth, where Pleistocene alluvial deposits may be encountered. The unnamed Pleistocene sedimentary deposits have high paleontological sensitivity on the surface and at depth. No unique geological features were identified near the areas within the rezoning program in the West San Gabriel Planning Area

Westside Planning Area

The general areas within the rezoning program in this Planning Area are limited to an unincorporated area near Culver City, Ladera Heights, and View Park-Windsor Hills. According to surficial geological mapping by Dibblee and Minch (2007) at a 1:24,000 scale, the areas within the rezoning program in the Westside Planning Area are underlain by Holocene alluvial deposits (map unit Qa), Pleistocene terrestrial sedimentary deposits (map units Qoa and Qos), and Pleistocene marine deposits associated with the Inglewood Formation of Dibblee and Minch (2007) (map unit Qi). While Holocene alluvial deposits are generally too young on the surface to contain significant paleontological resources, they are oftentimes underlain by Pleistocene alluvium or older geological formations/units that have the potential to produce fossils. Pleistocene alluvial deposits have the potential to produce significant paleontological resources on the surface or at depth.

The LACM reported numerous Pleistocene fossil localities from the Westside Planning Area, which are presented in Table 4.5-5.

Table 4.5-5. LACM Fossil Localities Within the South Bay Planning Area

Locality Number	Location	Geological Unit/Age	Taxa	Depth BGS (Feet)
LACM IP* 42394 - 42408	Baldwin Hills	Unnamed Pleistocene Marine Unit	Invertebrates, Including Shell Beds of Oysters (*Ostrea*) and Scallops (*Leptopecten, Chlamys*) and Sponge Trace (*Entobia*),	Surface to 6

Table 4.5-5. LACM Fossil Localities Within the South Bay Planning Area

Locality Number	Location	Geological Unit/Age	Taxa	Depth BGS (Feet)
LACM IP 236	Baldwin Hills	Unnamed Pleistocene Marine Unit	Unspecified Invertebrates	Unknown
LACM VP** 4942	Westchester	Unnamed Pleistocene Terrestrial Unit	Mammoth (*Mammuthus*); bison (*Bison*); hare (*Lepus*)	16
LACM VP 3789	Westchester	Unnamed Pleistocene Terrestrial Unit (Pebbly Gray – Green to Brown Mud Overlying Gray – Green Fine Sand	Mammoth (*Mammuthus*)	14

The Holocene alluvium underlying areas within the rezoning program has low paleontological sensitivity on the surface. The sensitivity increases to high with depth, where Pleistocene alluvial deposits may be encountered. The unnamed Pleistocene sedimentary deposits have high paleontological sensitivity on the surface and at depth. No unique geological features were identified near the areas within the rezoning program in the Westside Planning Area.

Summary of Potential Impacts to Paleontological Resources

The areas included in the rezoning program include geological units with moderate to high paleontological sensitivity. Therefore, impacts to significant paleontological resources would be **potentially significant.**

Threshold C-4 Would the Project disturb any human remains, including those interred outside of formal cemeteries?

No prehistoric or historic burials were identified within the Proposed Project's rezoning program areas. Moreover, the proposed areas as part of the rezoning program are not part of a dedicated cemetery and as such, the likelihood of disturbing human remains is low. However, the possibility of encountering human remains exists. In the unexpected event that human remains are unearthed during construction activities, impacts would be potentially significant. However, in the event that human remains are inadvertently encountered during construction activities, such resources would be treated in accordance with state and local regulations that provide requirements with regard to the accidental discovery of human remains, including California Health and Safety Code Section 7050.5, California Public Resources Code Section 5097.98, and the California Code of Regulations Section 15064.5(e). With adherence to these regulatory requirements, which requires immediate notification of the county coroner and halting construction activities within the vicinity of the find, impacts would be considered **less than significant.**

4.5.6 Cumulative Impacts

Development of related projects can affect historical resources if such projects adversely alter and/or demolish historical resources that may be interrelated, such as historical resources that are part of a historic district. Because all historical resources are unique and nonrenewable members of finite classes, projects that demolish or alter

certain historical resources have the potential to erode a class of historical resources that could result in a cumulatively significant effect on historical resources. However, given the diversity of Planning Area location and resource type throughout portions of Los Angeles County, the proposed Project would not contribute to a cumulatively significant impact to cultural resources.

Potential cumulative impacts to paleontological resources would result from projects that combine to create an environment where fossils, exposed on the surface, are vulnerable to destruction by earthmoving equipment, looting by the public, and natural causes such as weathering and erosion. The majority of impacts to paleontological resources are site-specific and are therefore generally mitigated on a project-by-project basis. Cumulative projects would be required to assess impacts to paleontological resources. Additionally, as needed, projects would incorporate individual mitigation for site-specific geological units present on each individual project site.

Furthermore, the Project does not propose construction (including grading/excavation) or design features that could directly or indirectly contribute to an increase in a cumulative impact to paleontological resources, as the mitigation measure provided in this analysis ensures any significant paleontological resources uncovered during excavations for future proposed rezoning components would be properly analyzed and salvaged by the on-site paleontological monitor. Alternatively, future rezoning efforts would need to complete future discretionary review and CEQA analysis. Therefore, the Project, in combination with the past, present, and reasonably foreseeable future projects in the Project vicinity, would result in less-than-significant cumulative impacts to paleontological resources, and no further mitigation measures are required. Moreover, impacts to paleontological resources would be avoided and/or mitigated with implementation of a paleontological mitigation program during excavations into paleontologically sensitive geological units. Therefore, the Project's contribution to cumulative impacts would not be cumulatively considerable. As such, cumulative impacts on paleontological resources would be **less than significant**.

4.5.7 Mitigation Measures

The following mitigation measures would help reduce impacts to cultural, archaeological, and paleontological resources.

MM C-1 **Evaluate Historic Built Environment Resources:** Prior to the approval of future development projects in the Planning Area facilitated as part of the Proposed County Housing Element Update, a qualified architectural historian shall record any previously identified built environment resources and evaluate all previously unevaluated buildings or structures over 45 years old within the project site in accordance with the County's Historic Preservation Ordinance and CEQA. The report shall include a detailed physical description of the resource(s) evaluated, detailed photographs, an appropriate site-specific historic context, and a historical significance evaluation in consideration of County, CRHR, and NRHP designation criteria and integrity requirements. The appropriate set of State of California Department of Parks and Recreation Series 523 Forms (DPR forms) shall be appended to the report. If historical resources are identified within the project site, the architectural historian shall develop clear mitigation measures in accordance with CEQA for addressing project-related impacts to historical resources. The architectural historian shall give consideration to all feasible mitigation, even if it cannot reduce impacts below a level of significance.

MM C-2 **Review for Conformance with the Secretary of the Interior's Standards:** Prior to the approval of future development projects in the Planning Area facilitated as part of the Proposed County Housing Element Update, a qualified architectural historian shall review all proposed alterations or modifications to historical resources within the project site for conformance with the Secretary of

the Interior's Standards (Standards) for Rehabilitation. If the proposed work conforms to the Standards for Rehabilitation, impacts to historical resources would be considered less than significant, and no additional review would be required for purposes of CEQA. In most instances, a project that conforms to the Standards can be exempted from further review under CEQA, and no additional environmental documentation is necessary. If the architectural historian determines that the proposed work is not in conformance with the Standards, the project shall be further evaluated to determine whether impacts to the resource's significance can be lessened through effective project-specific mitigation.

MM C-3 **WEAP Training:** All construction personnel and monitors who are not trained archaeologists shall be briefed regarding inadvertent discoveries prior to the start of construction activities. A basic presentation and handout or pamphlet shall be prepared in order to ensure proper identification and treatment of inadvertent discoveries. The purpose of the Workers Environmental Awareness Program (WEAP) training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker shall also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the site supervisor and archaeological monitor.

MM C-4 **Inadvertent Discovery of Archaeological Resources:** A qualified archaeologist shall be retained and on-call to respond and address any inadvertent discoveries identified during initial excavation in native soil. Initial excavation is defined as initial construction-related earth moving of sediments from their place of deposition. As it pertains to archaeological monitoring, this definition excludes movement of sediments after they have been initially disturbed or displaced by project-related construction. A qualified archaeological principal investigator, meeting the Secretary of the Interior's Professional Qualification Standards, should oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits or material. The archaeological monitor will be responsible for maintaining daily monitoring logs.

In the event that potential prehistoric or historical archaeological resources (sites, features, or artifacts) are exposed during construction activities for the project, all construction work occurring within 100 feet of the find shall immediately stop and a qualified archaeologist must be notified immediately to assess the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find, the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work such as preparation of an archaeological treatment plan, testing, data recovery, or monitoring may be warranted.

If monitoring is conducted, an archaeological monitoring report shall be prepared within 60 days following completion of ground disturbance and submitted to the County for review. This report should document compliance with approved mitigation, document the monitoring efforts, and include an appendix with daily monitoring logs. The final report shall be submitted to the SCCIC.

MM C-5 **Paleontological Monitoring Program.** Prior to the commencement of any grading activity for individual proposed rezoning component, the applicant shall retain a qualified paleontologist to ensure the implementation of a paleontological monitoring program. The paleontologist shall meet the requirements of a qualified paleontologist, as defined by the Society of Vertebrate Paleontology (SVP 2010). The qualified paleontologist shall attend any preconstruction meetings and manage the paleontological monitor(s) if they are not doing the monitoring. A paleontological monitor shall be on site during all excavations below the depth of previously disturbed sediments. The paleontological monitor shall monitor construction excavations below a depth of five feet below ground surface in areas underlain by Quaternary alluvium. The qualified paleontologist shall determine the level of monitoring required based on subsurface conditions. If Pleistocene sedimentological indicators or paleontologically sensitive formations are not observed below five feet, the qualified paleontologist or paleontological monitor shall spot-check excavations at five-foot intervals to determine if Pleistocene sediments or other paleontologically sensitive geological units are being impacted. Project components underlain by Pleistocene sedimentary deposits, the Pico Formation, the Fernando Formation, the Puente Formation, or the Monterey Formation on the surface shall be monitored full-time for paleontological resources. The paleontological monitor shall be equipped with necessary tools for the collection of fossils and associated geological and paleontological data. If sedimentological indicators conducive to the preservation of microvertebrates (as defined by SVP [2010]) are encountered, test sediment samples shall be collected and screened on- or off-site to determine the presence of microvertebrate fossils. The monitor shall complete daily logs detailing the day's excavation activities and pertinent geological and paleontological data. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Following the paleontological monitoring program, a final monitoring report shall be submitted to the County for approval. The report shall summarize the monitoring program and include geological observations and any paleontological resources recovered during paleontological monitoring for the Project.

4.5.8 Level of Significance After Mitigation

Potential Impacts to Historical Resources (Threshold C-1)

The areas included in the rezoning program include properties over 45 years old that have not yet been evaluated for historical significance. **MM C-1** would ensure that these properties are evaluated in accordance with professional standards prior to implementation of any project-specific activities associated with the Proposed Project in order to assess project-specific impacts to historical resources in conformance with CEQA Guidelines Section 15064.5.

If the Proposed Project involves alterations or modifications to historical resources, and the proposed work conforms to the Secretary of the Interior's Standards for the Treatment of Historic Properties, specifically the Standards for Rehabilitation (Standards), impacts to historical resources would be considered less than significant, and no additional review would be required for purposes of CEQA. In most instances, a project that conforms to the Standards can be exempted from further review under CEQA, and no additional environmental documentation is necessary. **MM C-2** would ensure that identified historical resources are appropriately considered prior to implementation of any project-specific activities associated with the Proposed Project. If a future project associated

with the Proposed Project involves alterations or modifications to historical resources, and the proposed work does not conform to the Standards, the project must be evaluated to determine whether impacts to the resource's significance can be mitigated to a level of less than significant. Whether it be through avoidance or project re-design, effective project-specific mitigation must lessen the physical impact that the project would have on the historical resource.

Demolition is generally considered a significant unavoidable impact that cannot be mitigated to a less than significant level. Therefore, if an historical resource is demolished to achieve the stated Project goals, that action would result in a significant unavoidable impact. However, CEQA requires consideration of all feasible mitigation even if it cannot reduce impacts below a level of significance. While documentation and interpretation are common mitigation measures for projects in which there are impacts to historical resources, these measures do not mitigate demolition to a level of less than significant.

As a result, potential impacts relative to historic resources are considered **significant and unavoidable.**

Potential Impacts to Archaeological Resources (Threshold C-2)

With regards to potential impacts to archaeological resources, this analysis concludes that the Project would result in potentially significant impacts with regard to a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. With the implementation of **MM C-3**, which requires that all Project construction personnel take the Workers Environmental Awareness Program (WEAP) training for the proper identification and treatment of inadvertent discoveries, and **MM C-4**, which requires the retention of an on-call qualified archaeologist to address inadvertent discoveries and requires all construction work occurring within 100 feet of the find shall immediately stop until the qualified archaeologist, meeting the Secretary of Interior's Professional Qualification Standards for Archaeology, can evaluate the significance of the find, potentially significant impacts to unknown archaeological resources would be reduced to less than significant. Impacts would therefore be **less than significant with mitigation incorporated**.

Potential Impacts to Paleontological Resources (Threshold C-3)

This analysis concludes that the proposed Project has the potential to significantly impact paleontological resources as part of project-specific activities. These activities have the potential to destroy unique paleontological resources or sites. With implementation of **MM C-5**, which requires the retention of a qualified paleontologist to implement a paleontological monitoring program, impacts would be reduced to **less than significant with mitigation incorporated**.

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4.6 Energy

This section describes the existing setting related to energy, identifies associated regulatory requirements, and evaluates potential energy impacts from implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project), including potential housing development facilitated by the Proposed Project. See Appendix B for supporting data and information.

4.6.1 Environmental Setting

Electricity

According to the U.S. Energy Information Administration, California used approximately 250,379 gigawatt hours of electricity in 2019 (EIA 2021). Electricity usage in California for different land uses varies substantially by the types of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Due to the state's energy efficiency building standards and efficiency and conservation programs, California's electricity use per capita in the residential sector is lower than any other state except Hawaii (EIA 2020a).

Southern California Edison (SCE) provides electricity to the unincorporated areas of Los Angeles County. SCE, a subsidiary of Edison International, serves approximately 180 cities in 11 counties across Central and Southern California. SCE administers various energy efficiency and conservation programs that may be available to residents, businesses, and other organizations in Los Angeles County. According to the California Public Utilities Commission (CPUC), approximately 84 billion kilowatt-hours (kWh) of electricity were used in SCE's service area in 2017. Demand forecasts anticipate that approximately 75 billion kWh of electricity will be used in SCE's service area in 2020 (CPUC 2020).

SCE receives electric power from a variety of sources. According to the 2019 SCE Power Content Label, eligible renewable energy accounts for 35% of SCE's overall energy resources, with geothermal resources at 6%, wind power at 12%, eligible hydroelectric sources at 1%, and solar energy at 16% (SCE 2020). Within Los Angeles County, annual non-residential electricity use in 2019 was approximately 47 billion kWh per year, while residential electricity use is approximately 20 billion kWh per year (CEC 2021a).

Natural Gas

According to the U.S. Energy Information Administration, California used approximately 2,154,030 million cubic feet of natural gas in 2019 (EIA 2020b). The majority of California's natural gas customers are residential and small commercial customers (core customers). These customers account for approximately 35% of the natural gas delivered by California utilities (CPUC 2019). Large consumers, such as electric generators and industrial customers (noncore customers), account for approximately 65% of the natural gas delivered by California utilities (CPUC 2021). CPUC regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. California gas utilities may soon also begin receiving biogas into their pipeline systems (CPUC 2021).

The Southern California Gas Company (SoCalGas) provides the County with natural gas service. SoCalGas' service territory encompasses approximately 20,000 square miles and more than 500 communities. In the California Energy Demand mid-energy demand scenario, natural gas demand is projected to have an annual growth rate of 0.03% in SoCalGas's service territory. The total capacity of natural gas available to SoCalGas in 2020 is estimated to be 3.8 billion cubic feet per day. In 2024, the total capacity available is also estimated to be 3.8 billion cubic feet per day[1] (California Gas and Electric Utilities 2020). This amount is approximately equivalent to 3.88 billion thousand British thermal units (kBTU) per day or 38.8 million therms per day. In 2019, SoCalGas delivered approximately 3,048 million therms (304.8 billion kBTU) to Los Angeles County (CEC 2021b).

Petroleum

According to the U.S. Energy Information Administration, California used approximately 681 million barrels of petroleum in 2018, with the majority (584 million barrels) used for the transportation sector (EIA 2021b). This total annual consumption equates to a daily use of approximately 1.9 million barrels of petroleum. There are 42 U.S. gallons in a barrel, so California consumes approximately 78.6 million gallons of petroleum per day, adding up to an annual consumption of 28.7 billion gallons of petroleum. In California, petroleum fuels refined from crude oil are the dominant source of energy for transportation sources. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel. California has implemented policies to improve vehicle efficiency and to support use of alternative transportation, which are described in Section 4.6.2.

4.6.2 Relevant Plans, Policies, and Ordinances

Federal

The following federal regulations pertaining to energy would apply to the Proposed Project.

Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Intermodal Surface Transportation Efficiency Act of 1991

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 promoted the development of intermodal transportation systems to maximize mobility and address national and local interests in air quality and energy. ISTEA contained factors for metropolitan planning organizations to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, metropolitan planning organizations adopted policies defining the social, economic, energy, and environmental values guiding transportation decisions.

[1] One cubic foot of natural gas has approximately 1,020 BTUs of natural gas or 1.02 kBTUs of natural gas.

Transportation Equity Act for the 21st Century

The Transportation Equity Act for the 21st Century was signed into law in 1998 and builds on the initiatives established in the ISTEA legislation (previously discussed). The act authorizes highway, highway safety, transit, and other efficient surface transportation programs. The act continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of transportation decisions. The act also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of intelligent transportation systems to help improve operations and management of transportation systems and vehicle safety.

Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act (EISA) of 2007 was signed into law. In addition to setting increased Corporate Average Fuel Economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- Renewable Fuel Standard (RFS) (Section 202)
- Appliance and Lighting Efficiency Standards (Sections 301–325)
- Building Energy Efficiency (Sections 411–441)

This federal legislation requires ever-increasing levels of renewable fuels (the RFS) to replace petroleum (EPA 2017). The U.S. Environmental Protection Agency is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that lay the foundation for achieving significant reductions in greenhouse gas (GHG) emissions from the use of renewable fuels, reducing imported petroleum, and encouraging the development and expansion of the renewable fuels sector in the United States. The updated program is referred to as RFS2 and includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel and set separate volume requirements for each one.
- EISA required the U.S. Environmental Protection Agency to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green" jobs.

State

The following state regulations pertaining to energy would apply to the Proposed Project.

Warren-Alquist Act

The California legislature passed the Warren-Alquist Act in 1974. The Warren-Alquist Act created the California Energy Commission (CEC). The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- It directed the CEC to formulate and adopt the nation's first energy conservation standards for buildings constructed and appliances sold in California.
- It removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high-demand projections, and transferred it to a more impartial CEC.
- The CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources.

State of California Energy Action Plan

The CEC and CPUC approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies are provided, and identified policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers. In 2005, a second Energy Action Plan was adopted by the CEC and CPUC to reflect various policy changes and actions of the prior 2 years.

At the beginning of 2008, the CEC and CPUC determined that it was not necessary or productive to prepare a new energy action plan. This determination was based, in part, on a finding that the state's energy policies have been significantly influenced by the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (discussed below). Rather than produce a new energy action plan, the CEC and CPUC prepared an update that examines the state's ongoing actions in the context of global climate change.

Senate Bills 1078 (2002), 107 (2006), X1-2 (2011), 350 (2015) and 100 (2018)

Senate Bill (SB) 1078 established the California Renewables Portfolio Standard (RPS) Program and required that a retail seller of electricity purchase a specified minimum percentage of electricity generated by eligible renewable energy resources as defined in any given year, culminating in a 20% standard by December 31, 2017. These retail sellers include electrical corporations, community choice aggregators, and electric service providers. The bill relatedly required the CEC to certify eligible renewable energy resources, design and implement an accounting system to verify compliance with the RPS by retail sellers, and allocate and award supplemental energy payments to cover above-market costs of renewable energy.

SB 107 (2006) accelerated the RPS established by SB 1078 by requiring that 20% of electricity retail sales be served by renewable energy resources by 2010 (not 2017). Additionally, SB X1-2 (2011) required all California utilities to generate 33% of their electricity from eligible renewable energy resources by 2020. Specifically, SB X1-2 set a three-stage compliance period: by December 31, 2013, 20% of electricity had to come from renewables; by December 31, 2016, 25% of electricity had to come from renewables; and by December 31, 2020, 33% was required to come from renewables.

SB 350 (2015) expanded the RPS by requiring retail seller and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030, with interim goals of 40% by 2024 and 45% by 2027.

SB 100 (2018) accelerated and expanded the standards set forth in SB 350 by establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024; 52% by December 31, 2027; and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 also states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity does not increase carbon emissions elsewhere in the western grid. Additionally, 100% zero-carbon electricity cannot be achieved through resource shuffling.

Consequently, utility energy generation from non-renewable resources is expected to be reduced based on implementation of the RPS requirements described above. The Proposed Project's reliance on non-renewable energy sources would be reduced accordingly.

Assembly Bill 1007 (2005)

AB 1007 (2005) required the CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the plan in partnership with the California Air Resources Board (CARB) and in consultation with other state agencies, plus federal and local agencies. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Assembly Bill 32 (2006) and Senate Bill 32 (2016)

In 2006, the state legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. In 2016, the legislature enacted SB 32, which extended the horizon year of the state's codified GHG reduction planning targets from 2020 to 2030, requiring California to reduce its GHG emissions to 40% below 1990 levels by 2030. In accordance with AB 32 and SB 32, CARB prepares scoping plans to guide the development of statewide policies and regulations for the reduction of GHG emissions. Many of the policy and regulatory concepts identified in the scoping plans focused on increasing energy efficiencies, using renewable resources, and reducing the consumption of petroleum-based fuels (such as gasoline and diesel). As such, the state's GHG emissions reduction planning framework creates co-benefits for energy-related resources. Additional information on AB 32 and SB 32 is provided in Section 4.8, Greenhouse Gas Emissions, of this PEIR.

California Building Standards

Part 6 of Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. Part 6 establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. The current Title 24 standards are the 2019 Title 24 Building Energy Efficiency Standards, which became effective January 1, 2020.

Title 24 also includes Part 11, California Green Building Standards Code (CALGreen). CALGreen institutes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The 2019 CALGreen standards are the current applicable standards. For non-

residential projects (and residential development four stories or greater under the Proposed Project), some of the key mandatory CALGreen 2019 standards involve requirements related to bicycle parking, designated parking for clean air vehicles, electric vehicle charging stations, shade trees, water conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, recycled water supply systems, construction waste management, excavated soil and land clearing debris, and commissioning (24 CCR Part 11).

Integrated Energy Policy Report

The CEC is responsible for preparing integrated energy policy reports that identify emerging trends related to energy supply, demand, and conservation; public health and safety; and maintenance of a healthy economy. The CEC's 2018 Integrated Energy Policy Report discusses the state's policy goals of decarbonizing buildings, doubling energy efficiency savings, and increasing flexibility in the electricity grid system to integrate more renewable energy (CEC 2018). Specifically, for the decarbonizing of building energy, the goal would be achieved by designing future commercial and residential buildings to have their energy sourced almost entirely from electricity in place of natural gas. Regarding the increase in renewable energy flexibility, the goal would be achieved through increases in energy storage capacity within the state, increases in energy efficiency, and adjusting energy use to the time of day when the most amount of renewable energy is being generated. Over time these policies and trends would serve to reduce GHG emissions profile.

State Vehicle Standards

In response to the transportation sector accounting for more than half of California's carbon dioxide (CO_2) emissions, AB 1493 was enacted in 2002. AB 1493 required CARB to set GHG emissions standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set GHG emissions standards for motor vehicles manufactured in 2009 and all subsequent model years. The 2009–2012 standards resulted in a reduction in approximately 22% of GHG emissions compared to emissions from the 2002 fleet, and the 2013–2016 standards resulted in a reduction of approximately 30% compared to the 2002 fleet.

In 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 with requirements for greater numbers of zero-emissions vehicles into a single package of standards called Advanced Clean Cars. By 2025, when the rules would be fully implemented, new automobiles would emit 34% fewer global-warming gases and 75% fewer smog-forming emissions (CARB 2020). The National Highway Traffic Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, which revoked California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. Since California and 22 other states, as well as the District of Columbia and four cities, filed suit against the U.S. Environmental Protection Agency and a petition for reconsideration of the rule, the effect of the SAFE Rule on the Advanced Clean Cars program is still to be determined pending the ruling of ongoing litigation. Further, EPA seeks public comment on its reconsideration of the 2019 SAFE-1 for the purposes of rescinding the action taken by the Trump administration. A public hearing on this action is scheduled for June 2, 2021 (EPA 2021).

Although the focus of the state's vehicle standards is on the reduction of air pollutants and GHG emissions, one co-benefit of implementation of these standards is a reduced demand for petroleum-based fuels.

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008, or SB 375, coordinates land use planning, regional transportation plans, and funding priorities to help California meet its GHG emissions reduction mandates established in

AB 32. As codified in California Government Code Section 65080, SB 375 requires metropolitan planning organizations to include a sustainable communities strategy in their regional transportation plan. The main focus of the sustainable communities strategy is to plan for growth in a fashion that will ultimately reduce GHG emissions, but the strategy is also part of a bigger effort to address other development issues, including transit and vehicle miles traveled (VMT), which influence the consumption of petroleum-based fuels.

Local

The following local/regional regulations pertaining to energy would apply to the Proposed Project.

General Plan

The Los Angeles County 2035 General Plan (General Plan) provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Air Quality Element

Policy AQ 3.2	Reduce energy consumption in County operations by 20 percent by 2015.
Policy AQ 3.3	Reduce water consumption in County operations.
Policy AQ 3.5	Encourage energy conservation in new development and municipal operations.

Land Use Element

Policy LU 11.4	Encourage subdivisions to utilize sustainable design practices, such as maximizing energy efficiency through lot configuration; preventing habitat fragmentation; promoting storm water retention; promoting the localized production of energy; promoting water conservation and reuse; maximizing interconnectivity; and utilizing public transit.
Policy LU 11.8	Encourage sustainable subdivisions that meet green neighborhood standards, such as Leadership in Energy and Environmental Design–Neighborhood Development (LEED-ND).

Mobility Element

Policy M 4.15	Reduce vehicle trips through the use of mobility management practices, such as the reduction of parking requirements, employer/institution based transit passes, regional carpooling programs, and telecommuting.
Policy M 7.3	Encourage the use of sustainable transportation facilities and infrastructure technologies, such as liquid and compressed natural gas, and hydrogen gas stations, ITS, and electric car plug-in ports.

Conservation and Natural Resources Element

Policy C/NR 12.1 Encourage the production and use of renewable energy resources.

Policy C/NR 12.2 Encourage the effective management of energy resources, such as ensuring adequate reserves to meet peak demands.

Public Services and Facilities Element

Policy PS/F 2.1 Support water conservation measures.

Policy PS/F 3.2 Support the increased production, distribution and use of recycled water, gray water, and rainwater harvesting to provide for groundwater recharge, seawater intrusion barrier injection, irrigation, industrial processes and other beneficial uses.

Policy PS/F 5.4 Encourage solid waste management facilities that utilize conversion and other alternative technologies and waste to energy facilities.

Proposed Housing Element

Policy 2.2 Encourage multi-family residential and mixed use developments along major commercial and transportation corridors.

Policy 3.2 Incorporate advances in energy and cost-saving technologies into housing design, construction, operation, and maintenance.

4.6.3 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act Guidelines, a project would have a significant effect on the environment with respect to energy if the project would:

E-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.

E-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.6.4 Methodology

This analysis considers the State CEQA Guidelines Appendix G thresholds, as described above, in determining whether the housing element update implementation would result in the inefficient, wasteful, or unnecessary use of energy. The evaluation was based on a review of regulations and determining their applicability to the Proposed Project.

As described in Chapter 3, Project Description, the general areas included as part of the Proposed Project's rezoning program were evaluated in this PEIR at a programmatic level based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. Further analysis was not conducted because the County had no further information and it would be too speculative to

analyze potential impacts resulting from future housing development per the Proposed Project. As such, potential changes beyond that are considered speculative or unlikely to occur and therefore, not reasonably foreseeable.

Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

4.6.5 Environmental Impacts

Threshold E-1 Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

The Proposed Project consists of a policy document update, and adoption of the Proposed Project alone would not produce environmental impacts. The Proposed Project consists of updating the General Plan Housing Element, and no actual development is proposed as part of the update. Implementation of the programs contained in the updated document would accommodate development required to meet the County of Los Angeles (County) 2021–2029 Regional Housing Needs Assessment (RHNA) allocation. Under the RHNA allocation, unincorporated Los Angeles County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It has been determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its RHNA gap; refer to Chapter 3 for further details. While the Proposed Project consists of a policy document update, which is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within Los Angeles County.

Construction

Construction-related energy consumption associated with future housing developments facilitated by the Proposed Project would be subject to approval of permits prior to construction of new housing. Energy use during future housing construction would primarily occur in association with fuel use by vehicles and other equipment to conduct construction activities.

The electricity demand at any given time would vary throughout the construction period based on the construction activities being performed and would cease upon completion of construction. When not in use, electric equipment would be powered off so as to avoid unnecessary energy consumption. The electricity used for construction activities would be temporary and minimal; it would be within the supply and infrastructure service capabilities of SCE and it would not require additional local or regional capacity. The electricity demand during construction is anticipated to be minimal as future residential projects would be built over time during the 8-year planning horizon. The electricity used for any potential future construction activities would be temporary and minimal.

Natural Gas

Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the Petroleum subsection. Peak energy demand specifically applies to electricity; because natural gas (and petroleum) are liquid,

these energy resources do not have the same constraints as electricity supply. Nonetheless, any use of natural gas is anticipated to be sufficiently served by existing supply from SoCalGas and would not require additional local or regional capacity. Any minor amounts of natural gas that may be consumed as a result of construction would be temporary and negligible and would not have an adverse effect.[2]

Petroleum

Heavy-duty equipment associated with construction during development allowed for by the Proposed Project would rely on diesel fuel, as would vendor trucks involved in delivery of materials to the individual parcels within the rezoning program and haul trucks exporting demolition material or other materials off site. Construction workers would travel to and from each of the parcels within the rezoning program throughout the duration of construction. It is assumed in this analysis that construction workers would travel in gasoline-powered light-duty vehicles. Appendix C lists the assumed equipment usage and vehicle trips.

Fuel consumption from construction equipment was estimated by converting the total CO_2 emissions from each construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Construction is estimated to occur intermittently over the planning horizon of the Proposed Project, which is 8 years. The estimated energy demand from the 10-unit scenario was multiplied by the estimated number of 10-unit developments per year (i.e., 6,345 10-unit developments) in order to estimate the annual petroleum consumption from construction. The conversion factor for gasoline is 8.78 kilograms per MT CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per MT CO_2 per gallon (The Climate Registry 2020).

The estimated diesel fuel usage from construction equipment, haul trucks, and vendor trucks, as well as estimated gasoline fuel usage from worker vehicles, is shown in Table 4.6-1.

Table 4.6-1. Total Proposed Project Construction Petroleum Demand

	Off-Road Equipment (diesel)	Haul Trucks (diesel)	Vendor Trucks (diesel)	Worker Vehicles (gasoline)
Project	*Gallons*			
One 10-unit project	5,849	586	120	509
Total (6,345 10-unit projects in 1 year)	37,111,165	3,718,816	762,767	3,234,216
Average over 8 years	4,638,896	464,852	95,345	404,277

Source: Appendix B.

In summary, construction associated with the potential future residential development facilitated by the Proposed Project over 8 years is conservatively anticipated to consume 3,234,216 gallons of gasoline and 41,592,749 gallons of diesel. Averaged over 8 years, it is anticipated that implementation of the Proposed Project would consume on average 404,278 gallons of gasoline and 5,199,093 gallons of diesel per year.[3] Notably, the Proposed Project would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel

[2] While no natural gas is anticipated to be used during construction as construction equipment is typically diesel-fueled, the possibility of natural gas use is acknowledged in the event a natural gas-fueled piece of equipment is used or a natural gas-fueled hot water boiler is used for pipe relining. However, as noted previously, all equipment was assumed to be diesel-fueled in CalEEMod.

[3] For disclosure only, by comparison, California as a whole consumes approximately 29 billion gallons of petroleum per year. Countywide total petroleum use by on-road vehicles only (i.e., not including construction off-road equipment) is expected to be 1.4 billion gallons per year in 2030 (CARB 2021).

engines, vehicles, or equipment greater than 25 horsepower. The regulation (1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; (2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; (3) restricts the adding of older vehicles into fleets starting on January 1, 2014; and (4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The fleet must either show that its fleet average index was less than or equal to the calculated fleet average target rate, or that the fleet has met the Best Achievable Control Technology requirements. Overall, the Proposed Project would not be unusual as compared to overall local and regional demand for energy resources and would not involve characteristics that require equipment that would be less energy-efficient than at comparable construction sites in the region or state.

Additional, any future housing development facilitated by the Proposed Project would be required to adhere to all federal, state, and local requirements for energy efficiency, including the latest Title 24 standards. Considering these requirements, the housing element update would not result in the inefficient, wasteful, or unnecessary consumption of building energy. Therefore, impacts would be **less than significant**, and no mitigation is required.

Operation

Future development facilitated by the Proposed Project would be subject to approval of permits prior to construction and operation of new housing. Operational-related energy consumption associated with future housing development would include building electricity, natural gas usage, and fuel usage from vehicles, all of which are further described and analyzed below.

Electricity

The Proposed Project would require electricity for building operation (e.g., appliances, lighting). However, the 2019 Title 24 standards, or the most recent standards at the time of building issuance, would decrease the amount of electricity required for building operation. The net increase in electricity demand for the future potential buildout of the additional 63,443 dwelling units allowed for by the Proposed Project, including the net increase in residential units and the net decrease in non-residential square footage, is presented in Table 4.6-2.

Table 4.6-2. Proposed Project Annual Operational Electricity Demand Summary

Electricity Demand	mWh/year
Net Increase in Residential Units	337,889
Net Decrease in Non-Residential Square Footage	233,113
Total Net Project Electricity Demand	**104,776**

Notes: Appendix B.
mWh = megawatt hours.

As shown in Table 4.6-2, the net increase in residential units and the net decrease in non-residential square footage are estimated to have a total electrical demand of 337,889 and 233,113 megawatt-hours per year, respectively. Thus, there would be a net increase of 104,776 megawatt-hours per year. Additionally, the applicable Title 24 standards would further ensure that the energy demands would not be inefficient, wasteful, or otherwise unnecessary. Therefore, impacts would be **less than significant**.

Natural Gas

Natural gas consumption during operation would be required for various purposes, including but not limited to, building heating and cooling. Default natural gas generation rates in CalEEMod for the proposed land use and climate zone were used. Table 4.6-3 presents the net increase in natural gas demand for the buildout of the additional potential 63,443 dwelling units, including the net increase in residential units and the net decrease in non-residential square footage.

Table 4.6-3. Annual Operational Natural Gas Demand Summary

Natural Gas Demand	mBTU/year
Net Increase in Residential Units	845,444
Net Decrease in Non-Residential Square Footage	26,128
Total Net Project Natural Gas Demand	**819,316**

Notes: Appendix B.
mBTU = million British Thermal Units.

As shown in Table 4.6-3, the net increase in residential units and the net decrease in non-residential square footage are estimated to have a total electrical demand of 845,444 and 26,128 million British Thermal Units per year, respectively. Thus, there would be a net increase of 819,316 million British Thermal Units per year. Any future residential development facilitated by the Proposed Project is subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations. Prior to development at individual parcel sites, applicants would ensure that the proposed development would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process. Thus, the natural gas consumption related to development facilitated by the Proposed Project would not be considered inefficient or wasteful, and impacts would be **less than significant**.

Petroleum

During operations, the majority of fuel consumption resulting from the future residential development facilitated by the Proposed Project would involve the use of motor vehicles, as well as fuels used for alternative modes of transportation that may be used by residents of the future residential development. Petroleum fuel consumption associated with motor vehicles traveling to and from future residential development is a function of the VMT as a result of operation of the development of the additional 63,443 dwelling units allowed for by the Proposed Project. The annual VMT attributable to the net increase in residential units is anticipated to be 945,243,191 VMT and the net decrease in non-residential square footage is anticipated to generate 1,267,745,646 VMT (Appendix B). Fuel estimates for the buildout of the additional 63,443 dwelling units allowed for by the Proposed Project, including the net increase in residential units and the net decrease in non-residential square footage, are provided in Table 4.6-4.

Table 4.6-4. Total Transportation Annual Fuel Demand

Vehicle Type	Annual Vehicle Miles Traveled	Estimated Annual Gasoline Fuel Consumption (gallons)	Estimated Annual Diesel Fuel Consumption (gallons)	Estimated Annual Fuel Consumption (gallons)
Net Increase in Residential Units	945,243,191	34,997,943	2,445,407	37,423,350

Table 4.6-4. Total Transportation Annual Fuel Demand

Vehicle Type	Annual Vehicle Miles Traveled	Estimated Annual Gasoline Fuel Consumption (gallons)	Estimated Annual Diesel Fuel Consumption (gallons)	Estimated Annual Fuel Consumption (gallons)
Net Decrease in Non-Residential Square Footage	1,267,745,646	48,550,446	3,394,299	51,944,775
Net Total	**–322,502,455**	**–13,572,503**	**–948,892**	**–14,521,395**

Notes: Appendix B.

As summarized in Table 4.6-4, the buildout of the future residential development (additional 63,443 dwelling units as a result of the rezoning program) facilitated by the Proposed Project would result in a decrease in VMT of approximately 322,502,455 annually and an estimated reduction in annual fuel demand of 14,521,395 gallons of petroleum per year. Fuel would be provided by current and future commercial vendors. The Proposed Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT or associated excess and wasteful vehicle energy consumption.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Additionally, the general location of the parcels within the rezoning program proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. Furthermore, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would result in transportation energy consumption. Therefore, transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary and impacts would be **less than significant**.

Threshold E-2 Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Part 6 of Title 24 of the California Code of Regulations and all applicable rules and regulations presented in Section 4.6.2 would reduce energy demand and increase energy efficiency related to future residential development facilitated by the Proposed Project. Part 6 of Title 24 of the California Code of Regulations establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically (every 3 years) to incorporate and consider new energy efficiency technologies and methodologies. Title 24 also includes Part 11, CALGreen.

Additionally, as discussed in Section 4.8, existing various local plans would reduce energy use, including the County's Community Climate Action Plan, SCAG's 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy, and CARB's Scoping Plan. Furthermore, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, impacts would be **less than significant**.

4.6.6 Cumulative Impacts

Cumulative projects that could exacerbate the Proposed Project's impacts include any projects that could result in wasteful, inefficient, or unnecessary use of energy. However, cumulative projects would be required by the Department of Building Inspection to conform to current federal, state, and local energy conservation standards, including the California Energy Code Building Energy Efficiency Standards (24 CCR Part 6), the CALGreen Code (24 CCR Part 11), and SB 743. As a result, the Proposed Project, in combination with other reasonably foreseeable projects, would not cause a wasteful use of energy or other non-renewable natural resources. Therefore, the energy demand and use associated with the Proposed Project and cumulative projects would not substantially contribute to a cumulative impact on existing or proposed energy supplies or resources and **would not cause a significant cumulative impact** on energy resources.

4.6.7 Mitigation Measures

No mitigation is required.

4.6.8 Level of Significance After Mitigation

No mitigation measures are proposed, and energy impacts would be less than significant without mitigation.

4.6.9 References

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4.7 Geology and Soils

This section provides an overview of existing geologic conditions within the Project Area and evaluates the potential environmental impacts of the Proposed Los Angeles County Housing Element Update (Proposed Project) on geology and soils.

4.7.1 Environmental Setting

This section discusses the existing environmental setting relative to geology and soils. As described in Chapter 3.0, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section describes generally the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program as those are the areas that may result in changes to the environment that weren't already considered in previous environmental analysis or studies.

Since 1800, over 90 significant earthquakes have jolted the Los Angeles region. There are over 50 active and potentially active fault segments, an undetermined number of buried faults, and at least four blind thrust faults capable of producing damaging earthquakes in the County. The California Alquist-Priolo Earthquake Fault Zoning Act of 1972 and Title 26 – Building Code, Chapter 1 – Administration, Section 113 of the County's Municipal Code (County of Los Angeles n.d.) prohibits the location of most structures for human occupancy across the traces of active faults, and lessens the impacts of fault rupture. In addition, the California Seismic Hazards Mapping Act of 1990 regulates developments as defined by the act. Seismic Hazard Zone Maps depict areas where earthquake induced liquefaction or landslides have historically occurred, or where there is a high potential for such occurrences.

The main issues in the unincorporated areas associated with geology and landform include (1) seismic hazards and the associated effects and damage caused by earthquakes and (2) geotechnical, or hillside, hazards. The vast majority of hillside hazards include mud and debris flows, active deep-seated landslides, hillside erosion, and human-induced slope instability.

Topographic Setting

The Project Area spans the unincorporated areas of the County and the associated rezoning program includes planning areas such as Westside, Metro, San Fernando Valley, West San Gabriel, East San Gabriel, Gateway, and South Bay (see Figure 3-3, Planning Areas). The parcels proposed for rezoning are located in already developed and dense residential areas of the County; they are largely flat-lying areas. A detailed description of surficial and bedrock geology underlying all of the County is present in the Los Angeles County General Plan Update Environmental Impact Report, from pages 5.6-3 to 5.6-5 (County of Los Angeles 2015).

Soils

For more than 100 years, the soils in the County have been periodically studied and mapped by various agencies and researchers, including the U.S. Department of Agriculture Natural Resource Conservation Service (formerly the Soil Conservation Service). Soil surveys of the area have long recognized the diverse soil types and conditions in the County. An early 20th century investigation identified as many as 17 different soil types in the region. Most of the soils were comprised of sands, loams, sandy loams, and adobe, and granitic gravel was locally noted in soils found close to major drainages or along mountain fronts.

Previous countywide environmental studies have discussed soil types based on three geographic settings: Coastal Lowlands, Central Mountains, and Northern Desert areas. The Coastal Lowlands, which comprise the Los Angeles Coastal Plain; the Santa Monica and Verdugo Mountains; the Repetto, San Rafael, Puente, and San Jose Hills; and the San Fernando, San Gabriel, and Santa Clarita Valleys, are reportedly dominated by soils that are generally amenable to urban development. Certain areas near the margins of the coastal plain reportedly pose problems with respect to such development. For example, in the Palos Verdes Hills, corrosive soils and soils with high expansion potential have been identified. Most of the San Gabriel Valley and the central San Fernando Valley are reportedly underlain by soils well-suited for urban development, although in the vicinity of the City of Calabasas, corrosive soils and soils with high expansion potential have been mapped.

In recent years, the Los Angeles County Department of Public Works has compiled a geographic information system database for major soil types that have been mapped within unincorporated Los Angeles County. The information in that database describes nearly two dozen soil types, including loams; clayey, silty, and sandy loams; clay adobes; and various alluvial and mountain soil types, as shown in Figure 4.7-1, Prominent Soil Types in the Project Area. The prevailing soil types in each of the seven Planning Areas affected by the Proposed Project are summarized in Table 4.7-1.

Table 4.7-1. Predominant Soil Types in the Seven Planning Areas Affected by the Proposed Project

Planning Area	Predominant Soil Types
East San Gabriel Valley Planning Area	Hanford fine sandy loam Hanford gravelly sandy loam Yolo clay loam
Gateway Planning Area	Hanford fine sandy loam Chino silt loam
Metro Planning Area	Hanford fine sandy loam Ramona loam Altamont clay loam
San Fernando Valley Planning Area	Yolo loam Tujunga fine sandy loam Hanford fine sandy loam
South Bay Planning Area	Yolo loam Montezuma clay adobe Oakley fine sand
West San Gabriel Valley Planning Area	Hanford fine sandy loam Chino silt loam Tujunga fine sandy loam
Westside Planning Area	Ramona loam Ramona sandy loam Yolo loam

Source: County of Los Angeles 2015, page 5.6-6.

Regional Faulting and Seismic Setting

Unincorporated Los Angeles County is one of the most seismically active urban settings in North America. Assessments of the earthquake hazards in California have concluded that catastrophic earthquakes are inevitable in the Los Angeles region. The probability that a large earthquake will occur sometime during the next 30 years along the nearby San Andreas Fault is currently estimated to be 40% or greater. Projected losses of billions of dollars and estimated casualties of tens of thousands could surpass any previous natural disaster in the United

States. A catastrophic earthquake would severely strain the emergency response and recovery capabilities of federal, state, and local governments.

From a tectonic perspective, the San Andreas Fault system is a zone of relative motion between the North American and Pacific Plates. The tectonic-driven crustal deformation now taking place in Southern California is dominated by the intersection of the San Andreas and the Transverse Ranges fault systems. The manifestations of this intersection are varied, ranging from the considerable topographic relief along the south flank of the San Gabriel Mountains to transitory events, such as earthquakes. Although these fault systems are part of a long-term, ongoing tectonic process now more than five million years old, they are currently responding to strain related to motion of the Pacific and North American Plates through horizontal slip (aka strike-slip) along the San Andreas Fault system or by vertical slip (aka thrust slip) on Transverse Ranges faults. Seismic hazards present within the County relative to the Project Area are shown on Figure 4.7-2, Active Fault Zones.

Based on subsurface trenching and exploratory borings, surface observations, geomorphologic/topographic patterns, geophysical data, and other evidence, more than 12 faults in or near the Project Area have been classified as "active faults" by the California Geological Survey. By definition, such faults must exhibit evidence of seismic failure within the past 11,000 years. Under the 1972 Alquist-Priolo Earthquake Fault Zoning Act, California law requires the State Geologist to identify such faults, establish protective regulatory zones known as "Earthquake Fault Zones" (or prior to 1991, "Special Studies Zones") around the traces of these faults, then publish and disseminate maps of these zones. These 12 active faults are located within the Newport-Inglewood-Rose-Canyon Fault Zone and overlap parts of the Project Area in the Metro Planning Area and Westside Planning Area (see Figure 4.7-2).

Seismic Hazards

Active Faults

Slip along a fault may result in one or more geologic effects that can damage or destroy structures and injure their inhabitants. In general, ground shaking and surface fault rupture are the effects of greatest concern when an earthquake occurs along a fault in the Los Angeles region. A related effect, the possible generation of tsunamis by submarine earthquakes, may be of concern to coastal areas. For certain structures such as pipelines, canals, and coastal facilities, the regional scale uplift and subsidence that can result from some large earthquakes could pose a minor hazard. Seismic records and data, particularly those dating from the mid-20th century, underscore the probability and severity of large earthquakes in the Project Area.

Surface Fault Rupture

Surface fault rupture can occur during significant seismic events. Surface rupture involves the displacement and cracking of the ground surface along a fault trace. Surface ruptures are visible instances of horizontal or vertical displacement, or a combination of the two, typically confined to a narrow zone along the fault. Surface rupture is more likely to occur in conjunction with active fault segments where earthquakes are large, or where the location of the movement (earthquake hypocenter) is shallow. In general, strike-slip faults such as the San Andreas Fault are more likely to produce lateral offsets in the ground surface, with one side of the fault plane or zone "sliding" past the opposing side. Similarly, faults that generally fail under compressional stress, such as thrust or reverse faults, are more prone to vertical offsets in the ground surface. In either case, buildings or other human-made structures that lie atop the fault can experience serious damage or catastrophic failure during a strong earthquake.

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 regulates development near Holocene-active faults to mitigate the hazard of surface fault rupture. This act requires the State Geologist to establish Earthquake Fault Zones around the surface traces of Holocene-active faults and to issue appropriate maps. Local agencies must regulate most development projects within the zones. Before a project can be permitted, cities and counties must require a geologic investigation to demonstrate that proposed buildings will not be constructed across active faults. An evaluation and written report of a specific site must be prepared by a licensed geologist. If a Holocene-active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault.

Strong Seismic Ground Shaking

An earthquake of moderate to high magnitude can cause significant ground shaking. The exact degree of shaking experienced at a given location would depend on a host of site-specific factors, such as the magnitude of the seismic event, the duration of the seismic event, the distance from a given site to the zone of rupture (i.e., hypocenter), local site-specific geologic conditions (i.e., nature, thickness, and extent of underlying soil and/or bedrock), and broader, often regional geologic factors such as basin geometry. In general, the severity of seismic ground shaking tends to abate with increasing distance from the event hypocenter. Seismic ground shaking, if sufficiently intense and sustained, can result in significant damage to, or catastrophic failure of, buildings or other human-made structures.

Seismically Induced Slop Failure/Landslides

An earthquake of moderate to high magnitude can result in slope failure such as landslides. Although landslides can manifest as a variety of earth movements, a recent study of earthquake-related slope failures found that the following were the most prevalent (in order of decreasing frequency): (1) rock falls, disrupted soil slides, and rock slides; (2) soil lateral spreads, soil slumps, soil block slides, and soil avalanches; and (3) soil falls, rapid soil flows, and rock slumps. The potential for such slope failure is often highly site specific, and can be exacerbated where saturated soil/bedrock is present, steep and/or eroded slopes are noted, and there is evidence of historical slides or slide-prone soil or bedrock types. A more detailed overview of the state-mapped seismic hazard zones in the seven Planning Areas affected by the Proposed Project is presented in Table 4.7-2.

Figure 4.7-3, Landslide Zones, maps the landslide zones relative to the Project Area. According to Figure 4.7-3, the Project Area is not located within any landslide zones.

Liquefaction

Liquefaction occurs when partially saturated soil enters a liquid state, resulting in the soil's inability to support overlying structures. Liquefaction typically occurs in areas where the groundwater is less than 30 feet from the surface and where the soils are composed of poorly consolidated fine to medium sand. Liquefaction hazards are particularly significant along watercourses. Lateral spreading consists of lateral movement of gently to steeply sloping saturated soil deposits that is caused by earthquake-induced liquefaction. As ground acceleration and shaking duration increase during an earthquake, liquefaction potential increases.

In order to preliminarily evaluate a region's susceptibility to liquefaction, several factors ought to be considered, including the following:

- The anticipated intensity and duration of ground shaking.
- The origin, texture, and composition of shallow sediments. In general, cohesionless, fine-grained sediments, such as silts or silty sands, or areas of uncompacted or poorly compacted fills are more prone to liquefaction. By contrast, coarser grained, poorly sorted sediments such as coarse sands and gravels are less susceptible to liquefaction. Liquefiable sediments are found in a variety of depositional environments, including bays, estuaries, river floodplains and basins, lakes, and Aeolian deposits such as dunes and loess.
- The presence of shallow groundwater. Saturated sediments are necessary for seismically induced liquefaction to occur. In general, the highest liquefaction susceptibility is found in fine-grained sediments of late Holocene to late Pleistocene age (i.e., 1,000 to 15,000 years before present) in areas where the groundwater is shallower than about 50 feet below ground surface.

The above-referenced geological settings and conditions are not unusual and they are found in many parts of Southern California. A more detailed overview of the state-mapped seismic hazard zones in the seven Planning Areas affected by the Proposed Project is presented in Table 4.7-2. In preparing this overview, descriptive terms such as "limited" are intended to provide a very generalized, qualitative way in which the Planning Areas might be compared to one another. Comprehensive, project-specific or site-specific evaluations necessarily require more detailed information, beginning with quadrangle-level maps and ranging to invasive sampling and testing.

Table 4.7-2. Overview of Mapped Seismic Hazards in the Planning Areas Affected by the Proposed Project

Planning Area	Seismic Induced Landslide Zones	Seismic Induced Liquefaction Zones
East San Gabriel Valley Planning Area	Several landslide hazard zones have been identified; most lie in foothill areas along south front of San Gabriel Mountains or hilly areas such as the San Jose, Puente, and Whittier Hills.	Several liquefaction hazard zones have been identified. Most are associated with existing drainages and alluvial valleys such as Walnut and San Jose Creeks.
Gateway Planning Area	Limited landslide hazard zones have been identified; most lie in hilly areas such as south flank of the Whittier Hills.	Large liquefaction hazard zones have been identified. The largest are associated with present-day and ancestral San Gabriel and Los Angeles Rivers.
Metro Planning Area	Limited landslide hazard zones have been identified; most lie in hilly areas such as Mount Washington, Silver Lake, and Griffith Park.	Limited liquefaction hazard zones have been identified. Most are associated with present-day and ancestral Los Angeles River.
San Fernando Valley Planning Area	Several landslide hazard zones have been identified; most lie in foothill areas along north front of Santa Monica Mountains or south front of Santa Susana Mountains or hilly areas such as the Verdugo Mountains.	Large liquefaction hazard zones have been identified. The largest are associated with present-day and ancestral Los Angeles Rivers.

Table 4.7-2. Overview of Mapped Seismic Hazards in the Planning Areas Affected by the Proposed Project

Planning Area	Seismic Induced Landslide Zones	Seismic Induced Liquefaction Zones
South Bay Planning Area	Limited landslide hazard zones have been identified; most lie in hilly areas such as the Palos Verdes Hills.	Limited liquefaction hazard zones have been identified. The most prominent lie northeast of the Baldwin Hills.
West San Gabriel Valley Planning Area	Limited landslide hazard zones have been identified; most lie in foothill areas along south front of San Gabriel Mountains or hilly areas such as the San Rafael, Montebello, and Monterey Hills.	Several liquefaction hazard zones have been identified. Most are associated with existing drainages such as Eaton Wash and Arroyo Seco, as well as present-day and ancestral San Gabriel River.
Westside Planning Area	Several landslide hazard zones have been identified; most lie in hilly areas such as the Santa Monica Mountains and Baldwin Hills.	Several liquefaction hazard zones have been identified. Most are associated with present-day and ancestral Ballona Creek.

Source: County of Los Angeles 2015, page 5.6-15.

Additionally, Figure 4.7-4, Liquefaction Zones, map the liquefaction zones relative to the Project Area. Parts of the Project Area in the East San Gabriel Valley Planning Area, West San Gabriel Planning Area, Metro Planning Area, and Westside Planning Area are located within liquefaction zones.

Buildings Prone to Seismic Damage

Earthquake risks are not limited to ground shaking, fault rupture, or liquefaction, but also embrace the damage to inhabited buildings or sensitive, human-made infrastructure. Advances in the field of seismic engineering and strengthened building codes have significantly reduced the potential for catastrophic collapse in newly constructed buildings. However, many older buildings were designed and constructed before modern seismic design standards were incorporated into the building code. Certain building types are of particular concern:

- **Unreinforced Masonry Buildings**: In the late 1800s and early 1900s, unreinforced masonry was the most common type of construction for commercial buildings and multi-story apartments and hotels. These were recognized as a collapse hazard following the 1906 San Francisco Earthquake, the 1925 Santa Barbara Earthquake, and the 1933 Long Beach Earthquake. These buildings are generally recognized as the most susceptible to seismic damage.
- **Precast Concrete Tilt-Up Buildings**: This commercial/industrial building type gained popularity in the late 1950s and 1960s. Extensive damage to concrete tilt-up buildings during the 1971 San Fernando Earthquake revealed the need for seismic reinforcement, such as better anchoring of walls to the roof, floor, and foundation elements, as well as stronger roof diaphragms.

4.7.2 Relevant Plans, Policies, and Ordinances

Federal

No federal laws, plans, or policies related to geology and soils are applicable to the Proposed Project.

State

The following state regulations pertaining to geology, soils, and seismic hazards would apply to the Proposed Project.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (California Public Resources Code, Section 2621) was enacted by the State of California in 1972 to address the hazard of surface faulting to structures for human occupancy. The Alquist-Priolo Earthquake Fault Zoning Act was a direct result of the 1971 San Fernando Earthquake in Southern California, which was associated with extensive surface fault ruptures that damaged homes, commercial buildings, and other structures. The primary purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to prevent the construction of buildings intended for human occupancy on the surface traces of active faults. The Alquist-Priolo Earthquake Fault Zoning Act is also intended to provide citizens with increased safety and minimize the loss of life during and immediately following earthquakes by facilitating seismic retrofitting to strengthen buildings against ground shaking.

The Alquist-Priolo Earthquake Fault Zoning Act requires the State Geologist to establish Earthquake Fault Zones around the surface traces of active faults and to issue appropriate maps to assist cities and counties in planning, zoning, and building regulation functions. Maps are distributed to all affected cities and counties for the controlling of new or renewed construction and are required to sufficiently define potential surface rupture or fault creep. The State Geologist is charged with continually reviewing new geologic and seismic data and revising existing zones and delineating additional earthquake fault zones when warranted by new information.

Local agencies must enforce the Alquist-Priolo Earthquake Fault Zoning Act in the development permit process, where applicable, and may be more restrictive than state law requires. According to the Alquist-Priolo Earthquake Fault Zoning Act, before a project can be permitted, cities and counties shall require a geologic investigation, prepared by a licensed geologist, to demonstrate that buildings will not be constructed across active faults. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back a minimum of 50 feet. The Alquist-Priolo Earthquake Fault Zoning Act and its regulations are presented in California Department of Conservation, California Geological Survey, Special Publication 42, Fault-Rupture Hazard Zones in California.

The general locations of areas in the rezoning program do not include Seismic Margin Assessment (SMA) Class 2 and 3, nor do they include areas within an Alquist-Priolo Earthquake Fault Zone, which are considered SMA Class 3. Areas along an Active Fault Trace or in a Seismically Induced Landslide Zone are also in SMA 2 and 3 and therefore not part of the rezoning program.

Seismic Hazards Mapping Act

In order to address the effects of strong ground shaking, liquefaction, landslides, and other ground failures due to seismic events, the State of California passed the Seismic Hazards Mapping Act of 1990 (California Public Resources Code, Sections 2690–2699). Under the Seismic Hazards Mapping Act, the State Geologist is required to delineate “seismic hazard zones.” Cities and counties must regulate certain development projects within these zones until the geologic and soil conditions of the project site are investigated and appropriate mitigation measures, if any, are incorporated into development plans. The State Mining and Geology Board provides additional regulations and policies to assist municipalities in preparing the safety elements of their general plans and encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety.

Under California Public Resources Code, Section 2697, cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard. Each city or county shall submit one copy of each geotechnical report, including mitigation measures, to the State Geologist within 30 days of its approval. California Public Resources Code, Section 2698, does not prevent cities and counties from establishing policies and criteria that are stricter than those established by the State Mining and Geology Board.

State publications supporting the requirements of the Seismic Hazards Mapping Act include the California Geological Survey Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California, and Special Publication 118, Recommended Criteria for Delineating Seismic Hazard Zones in California. The objectives of Special Publication 117A are to assist in the evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations and to promote uniform and effective statewide implementation of the evaluation and mitigation elements of the Seismic Hazards Mapping Act. Special Publication 118 implements the requirements of the Seismic Hazards Mapping Act in the production of Probabilistic Seismic Hazard Maps for the state.

California Building Standards Code

The state regulations protecting structures from geo-seismic hazards are contained in the California Building Code (CBC) (24 CCR, Part 2), which is updated on a triennial basis. These regulations apply to public and private buildings in the state. Until January 1, 2008, the CBC was based on the then-current Uniform Building Code and contained additions, amendments, and repeals specific to building conditions and structural requirements of the State of California. The 2019 CBC, effective January 1, 2020, is based on the current (2018) International Building Code and enhances the sections dealing with existing structures. Seismic-resistant construction design is required to meet more stringent technical standards than those set by previous versions of the CBC.

Chapters 16 and 16A of the 2019 CBC include structural design requirements governing seismically resistant construction, including (but not limited to) factors and coefficients used to establish seismic site class and seismic occupancy category for the soil/rock at the building location and the proposed building design. Chapters 18 and 18A include (but are not limited to) the requirements for foundation and soil investigations (Sections 1803 and 1803A); excavation, grading, and fill (Sections 1804 and 1804A); damp-proofing and water-proofing (Sections 1805 and 1805A); allowable load-bearing values of soils (Sections 1806 and 1806A); the design of foundation walls, retaining walls, embedded posts and poles (Sections 1807 and 1807A), and foundations (Sections 1808 and 1808A); and design of shallow foundations (Sections 1809 and 1809A) and deep foundations (Sections 1810 and 1810A). Chapter 33 of the 2016 CBC includes (but is not limited to) requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes (Section 3304).

Construction activities are subject to occupational safety standards for excavation and trenching, as specified in the California Safety and Health Administration regulations (Title 8 of the California Code of Regulations) and in Chapter 33 of the CBC. These regulations specify the measures to be used for excavation and trench work where workers could be exposed to unstable soil conditions. The proposed plan would be required to employ these safety measures during excavation and trenching.

Construction General Permit (State Water Resources Control Board Order 2009-0009-DWQ, as Amended)

For stormwater discharges associated with construction activity in the State of California, the State Water Resources Control Board has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) to avoid and minimize water quality impacts

attributable to such activities. In accordance with National Pollutant Discharge Elimination System Phase I Permit requirements, the Construction General Permit applies to all projects in which construction activity disturbs 1 acre or more of soil. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling and excavation. The Construction General Permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP), which would include and specify water quality best management practices (BMPs) designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off site into receiving waters. Routine inspection of all BMPs is required under the provisions of the Construction General Permit, and the SWPPP must be prepared and implemented by qualified individuals as defined by the State Water Resources Control Board.

Local

The following local/regional regulations pertaining to geology, soils, and seismic hazards would apply to the Proposed Project.

Los Angeles County 2035 General Plan

The Safety Element of the Los Angeles County 2035 General Plan (General Plan) provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal S 1 An effective regulatory system that prevents or minimizes personal injury, loss of life and property damage due to seismic and geotechnical hazards.

- **Policy S 1.1** Discourage development in Seismic Hazard and Alquist-Priolo Earthquake Fault Zones.
- **Policy S 1.2** Prohibit the construction of most structures for human occupancy adjacent to active faults until a comprehensive fault study that addresses the potential for fault rupture has been completed.
- **Policy S 1.3** Require developments to mitigate geotechnical hazards, such as soil instability and landsliding, in Hillside Management Areas through siting and development standards.
- **Policy S 1.4** Support the retrofitting of unreinforced masonry structures to help reduce the risk of structural and human loss due to seismic hazards.

The Conservation and Natural Resources Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal C/NR 13 Protect visual and scenic resources.

- **Policy C/NR 13.5** Encourage required grading to be compatible with the existing terrain.
- **Policy C/NR 13.8** Manage development in HMAs to protect their natural and scenic character and minimize risks from natural hazards, such as fire, flood, erosion, and landslides.

Los Angeles County Code

In addition to the adoption of the CBC by reference, the Los Angeles County Code also contains rules and regulations that govern activities that could result in soil erosion or slope instability. These rules and regulations are organized

as Title 26, Appendix J–Grading, where provisions for excavation, grading, and earthwork construction have been established; permitting procedures are set forth; and plan approval and grading inspection protocols and procedures have been identified. Section J110 of this appendix also contains provisions for construction-related erosion control, including the preparation of cut-and-fill slopes and the implementation of erosion control measures such as check dams, cribbing, riprap, or other devices or methods.

The ordinances also include seismic safety requirements for certain building types, such as older concrete tilt-up buildings and unreinforced masonry bearing wall buildings (refer to Title 26, Chapters 95 and 96). The stated goal of these ordinances is to promote public safety and welfare by reducing the risk of death or injury that could result from earthquake damage to certain types of older buildings during moderate or strong earthquakes. Based on the findings of required structural analysis, deficient buildings may need to be strengthened or demolished.

4.7.3 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act Guidelines, a project would normally have a significant effect on the environment with respect to geology and soils if the project would:

G-1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42.)

ii) Strong seismic ground shaking.

iii) Seismic-related ground failure, including liquefaction.

iv) Landslides

G-2: Result in substantial soil erosion or the loss of topsoil.

G-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

G-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial risks to life or property.

G-5: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.7.4 Methodology

The geology and soils analysis considers whether the Proposed Project would exacerbate existing geologic hazards that would expose people or structures to potential substantial adverse effects. Geologic hazards include potential seismic hazards (i.e., earthquakes), liquefaction, soil expansion, and more. The method used to determine

significance of potential impacts is a comparison of the general areas for the Proposed Project's rezoning program against the location of seismic hazards, such as active fault zones, landslide zones, and liquefaction zones. If areas proposed for rezoning are located within the aforementioned zones, mitigation measures can be provided to reduce potential impacts. For determination of significance of impacts unrelated to seismic hazard zones, the analysis considers the Proposed Project buildout against existing rules and regulations on a federal, state, and local level. Typically, compliance with all applicable regulations would ensure a less-than-significant impact on future development and the people that would eventually live and work in the developments.

As discussed above, the general locations included as part of the rezoning program would avoid SMA Class 2 and 3. Additionally, sites within the Alquist-Priolo Earthquake Fault Zone are considered SMA Class 3 and thus are not part of the rezoning program. Areas along an Active Fault Trace or in a Seismically Induced Landslide Zone are also in SMA 2 and 3 and are not included in the rezoning program.

Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

4.7.5 Environmental Impacts

Threshold G-1 Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42.)?

The Proposed Project is a policy document and adoption of the Proposed Project alone would not produce environmental impacts. The Proposed Project consists of an updated housing program for which no actual development is proposed as part of the update. Implementation of the programs contained in the document would accommodate development required to meet the County's 2021–2029 Regional Housing Needs Assessment allocation. Under the Regional Housing Needs Assessment allocation, unincorporated Los Angeles County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It was determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County is including a rezoning program in the Housing Element to accommodate its Regional Housing Needs Assessment gap; refer to Chapter 3, Project Description, for further details. While the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

According to Figure 4.7-2, the areas within the rezoning program are not located within an Alquist-Priolo Earthquake Fault Zone. Additionally, areas along an Active Fault Trace or in a Seismically Induced Landslide Zone are also in SMA 2 and 3 and are not included in the rezoning program.

The exclusion of areas within the Alquist-Priolo Earthquake Fault Zone, as well SMA Class 2 and 3, within the rezoning program would ensure that potential impacts related to the rupture of a known earthquake fault associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document, would not provide any goals, policies, or programs that would significantly increase the risk to a known earthquake fault. Therefore, the Proposed Project would not directly or indirectly cause or exacerbate existing fault rupture risks to people from the construction of new buildings and associated infrastructure on the Project Area. As a result, **no impacts** related to surface rupture of a known earthquake fault would occur.

ii) **Strong seismic ground shaking?**

As described in Threshold G-1.i, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

As discussed above, the general locations included as part of the rezoning program would avoid SMA Class 2 and 3 sites. Additionally, sites within the Alquist-Priolo Earthquake Fault Zone are considered SMA Class 3 and thus are not part of the rezoning program. Areas along an Active Fault Trace or in a Seismically Induced Landslide Zone are also in SMA 2 and 3 and are not included in the rezoning program. As such, the Proposed Project would not directly or indirectly cause substantial adverse effects involving strong seismic ground shaking. Impacts would be **less than significant**.

iii) **Seismic-related ground failure, including liquefaction?**

Hazards associated with soil liquefaction and seismic-related ground failure include temporary loss of soil-bearing capacity, lateral spreading, differential compaction, and slope instability. In regions with extremely saturated, unstable soils, select areas of soil may be stabilized using a gelling agent prior to construction, shoring may be required to stabilize temporary excavations, and structural piles may be required for building foundations. In locations with high groundwater levels, dewatering may be required to ensure a dry construction area during foundation construction.

As described in Threshold G-1.i, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. Therefore, implementation of the Proposed Project would allow for an increase in the numbers of residents, workers, and structures in the areas that are part of the rezoning program. Figure 4.7-4 shows where general areas of the rezoning program overlap with liquefaction zones in East San Gabriel Valley Planning Area, West San Gabriel Planning Area, Metro Planning Area, and Westside Planning Area.

In compliance with the CBC, the County would require development that is allowed for by the rezoning program to complete geotechnical studies to address any geologic hazards associated with liquefaction and seismic-related ground failure. Geotechnical investigations for future development projects considered for approval by the County pursuant to the Proposed Project would be required to evaluate the potential for liquefaction and other seismic ground failure such

as lateral spreading under the respective future project sites. Geotechnical investigation reports would provide recommendations for grading and for foundation design to reduce hazards to people and structures arising from liquefaction and other seismic-related ground failure. Future development projects pursuant to the Proposed Project would be required to adhere to existing building and grading codes, and construction-related grading requires the preparation and submittal of site-specific grading plans and geotechnical reports that must be reviewed and approved by the County beforehand. Each future development project would be required to comply with the recommendations in the geotechnical investigation report and with the CBC, thereby reducing such hazards. More specifically, for multifamily (3 units or more), the geotechnical investigation is required for projects in liquefaction or landslide zones. Fault studies are needed if future projects are within seismic fault zones.

Development allowed for by the Proposed Project that may be located within extremely saturated, unstable soils would use standard construction practices to stabilize soil, such as using a gelling agent prior to construction, shoring to stabilize temporary excavations, and/or using structural piles for building foundations.

In addition to aspects of the existing regulatory framework and standard construction practices that would lessen potential impacts related to liquefaction, a number of goals and policies of the current General Plan, listed in Section 4.7.2, Relevant Plans, Policies, and Ordinances, such as General Plan Policy S 1.3, would serve to minimize the potential for liquefaction to occur. The existing regulatory setting and the goals and policies contained in the General Plan would ensure that potential impacts related to liquefaction associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations and/or standard construction practices and would not provide any goals, policies, or programs that would significantly increase the risk of liquefaction. Therefore, the Proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismically related ground failure, including liquefaction. Impacts would be **less than significant.**

iv) **Landslides?**

As described in Threshold G-1.i, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. However, the parcels proposed for rezoning are largely within flat, developed urban and suburban areas that are served by existing amenities and infrastructure. The propensity for earthquake-induced landslides is greatest in hilly areas with steep slopes and bedrock or soils that are prone to mass movement. As shown in Figure 4.7-3, general areas within the rezoning program are not located within any landslide zones. Therefore, it is unlikely that the Proposed Project would be significantly affected by landslides.

Additionally, CBC regulations, County of Los Angeles Ordinances, and a number of goals and policies of the current General Plan, listed in Section 4.7.2, related to grading would reduce the potential for any slope instability to occur. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations and would not provide any goals, policies, or programs that would significantly increase the risk of landslides. Therefore,

implementation of the Proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Impacts are considered **less than significant.**

Threshold G-2 Would the Project result in substantial soil erosion or the loss of topsoil?

Construction

As described in Threshold G-1.i, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. Most parts of the parcels within the rezoning program are typified by largely flat and urban areas and are less susceptible to erosion and/or the loss of topsoil. Additionally, as discussed in Chapter 3, the rezoning program would exclude areas identified as Hillside Management Areas (HMAs), as well as the areas identified in Figure C.1, Hazard, Environmental and Resource Constraints Map, of the General Plan (Department of Regional Planning 2014), which would have a greater susceptibility to soil erosion.

Further, there are a variety of existing and proposed regulatory processes which would serve to minimize these potential impacts. The state and federal National Pollutant Discharge Elimination System requirements include preparation and implementation of a SWPPP for projects with cumulative ground disturbance in excess of 1 acre. In compliance with Construction General Permit requirements, the SWPPP would establish erosion and sediment control BMPs for construction activities. Typical examples of erosion-related construction BMPs include the following:

1. silt fences and/or fiber rolls installed along limits of work and/or the project construction site
2. stockpile containment and exposed soil stabilization structures (e.g., visqueen plastic sheeting, fiber rolls, gravel bags, and/or hydroseed)
3. runoff control devices (e.g., fiber rolls, gravel bag barriers/chevrons) used during construction phases conducted during the rainy season
4. wind erosion (dust) controls
5. tracking controls at the site entrance, including regular street sweeping and tire washes for equipment
6. regular inspections and maintenance of BMPs

These BMPs would be refined and/or added to as necessary by a qualified SWPPP professional to meet the performance standards in the Construction General Permit.

While the rezoning program would allow for greater intensities than previously permitted in the unincorporated areas of Los Angeles County, the existing regulatory setting and general location of the rezoning areas would ensure that potential impacts related to soil erosion associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations and would not provide any goals, policies, or programs that would significantly increase the risk of soil erosion. Therefore, impacts would be **less than significant.**

Threshold G-3 Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

As described in Threshold G-1.i, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. As described above for Threshold G-1.iii, the rezoning program would not increase the potential for liquefaction and lateral spreading to occur.

Areas of unstable geologic units or unstable or expansive soils are known to occur locally. However, there are several existing building and grading codes that would serve to minimize these potential impacts. These codes contain provisions for soil preparation/conditioning to minimize hazards from unstable and expansive soils. Grading and soil compaction also requires the preparation of site-specific grading plans and soils and geology reports to address liquefaction, subsidence, and other potential geologic or soil stability issues. Such plans and reports must be tendered to the County for review and approval before future projects can commence. Submittal of these technical plans and studies would ensure that hazards arising from unstable and expansive soils would be minimized to the extent practicable. In addition to aspects of the existing regulatory framework that would lessen potential impacts to scenic vistas, a number of goals and policies included in the existing General Plan, as discussed in Section 4.7.2, would also serve to minimize potential impacts related to unstable soils.

While the rezoning program would allow for greater intensities than previously permitted in the unincorporated areas of the County, the existing regulatory setting and the goals and policies contained in the General Plan would ensure that potential impacts related to unstable soils associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations and would not provide any goals, policies, or programs that would increase the risk to unstable geologic units and soil or expansive soil. Therefore, impacts would be **less than significant**.

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

Expansive soils are clay-rich soils that shrink when dry and swell when wet. This change in volume can exert substantial pressure on foundations, resulting in structural distress and/or damage.

As described in Threshold G-1.i, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. The general areas that the rezoning program is within are underlain by a variety of soils, as described in Table 4.7-1. There are a variety of existing regulatory processes that would serve to minimize these potential impacts related to expansive soils, including the following measures from Chapter 18 of the CBC that serve to alleviate potential impacts of expansive soils:

- Excavation of expansive soils until such a depth that competent material is encountered
- Installation of foundations designed to resist forces exerted on the foundation due by expansive soils
- Stabilization of the soils by chemical, dewatering, pre-saturation, or equivalent techniques

The existing regulatory setting would ensure that potential impacts related to expansive soil from implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations or provide any goals, policies, or programs that would increase

or exacerbate the potential for expansive soils to create substantial direct or indirect risks to life or property. As a result, impacts would be **less than significant**.

Threshold G-5 Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?

As described in Threshold G-1.i, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. The majority of the parcels within the rezoning program are already zoned as residential or commercial and are therefore likely connected to existing wastewater systems. Wastewater within the rezoning program area would be discharged into the existing public sanitary sewer systems, where the wastes would be conveyed by pipes to plants for treatment.

In addition, the County Code and other regulations applicable to on-site wastewater treatment systems, including requirements for preparation and submittal of feasibility reports in order to obtain the Department of Public Health - Environmental Health approval for construction and installation of on-site wastewater treatment systems would minimize impacts related to soil capability of supporting the use of septic tanks. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations and would not provide any goals, policies, or programs that would limit the availability of sewers and/or limit the capability of soils to adequately support the use of septic tanks and/or alternative wastewater disposal systems. Therefore, impacts would be **less than significant.**

4.7.6 Cumulative Impacts

Most of Southern California is located in an area of a relatively high seismic activity, including cumulative projects in the County. Potential cumulative impacts on geology and soils would result from projects within the County that combine with projects associated with the proposed rezoning to create geologic hazards, including unstable geologic conditions, or contribute substantially to erosion. All cumulative development within the Project Area and adjacent cities would be subject to the CBC, which contains requirements for development in areas subject to Seismic Design Categories E and F. Additionally, cumulative projects would be subject to the Alquist-Priolo Earthquake Fault Zone Act, which restricts development on active fault traces. Due to the site-specific nature of geological conditions (i.e., soils, geological features, seismic features, etc.), geology and soils impacts are typically assessed on a project-by-project basis, rather than on a cumulative basis. Nonetheless, cumulative growth through Proposed Project buildout would expose a greater number of people to seismic hazards. Future cumulative development under the Proposed Project and the surrounding area would be subject to the same local, state, and federal regulations pertaining to geology and soils, including the CBC and Los Angeles County Building Code requirements (or city building code requirements, as appropriate). Therefore, cumulative development in the region would not result in a significant cumulative impact. The Proposed Project, in combination with other cumulative projects, would not contribute to a potentially significant cumulative impact. Cumulative impacts would be **less than significant.**

4.7.7 Mitigation Measures

No mitigation measures are required.

4.7.8 Level of Significance After Mitigation

No significant unavoidable adverse impacts relating to hazards and hazardous materials have been identified.

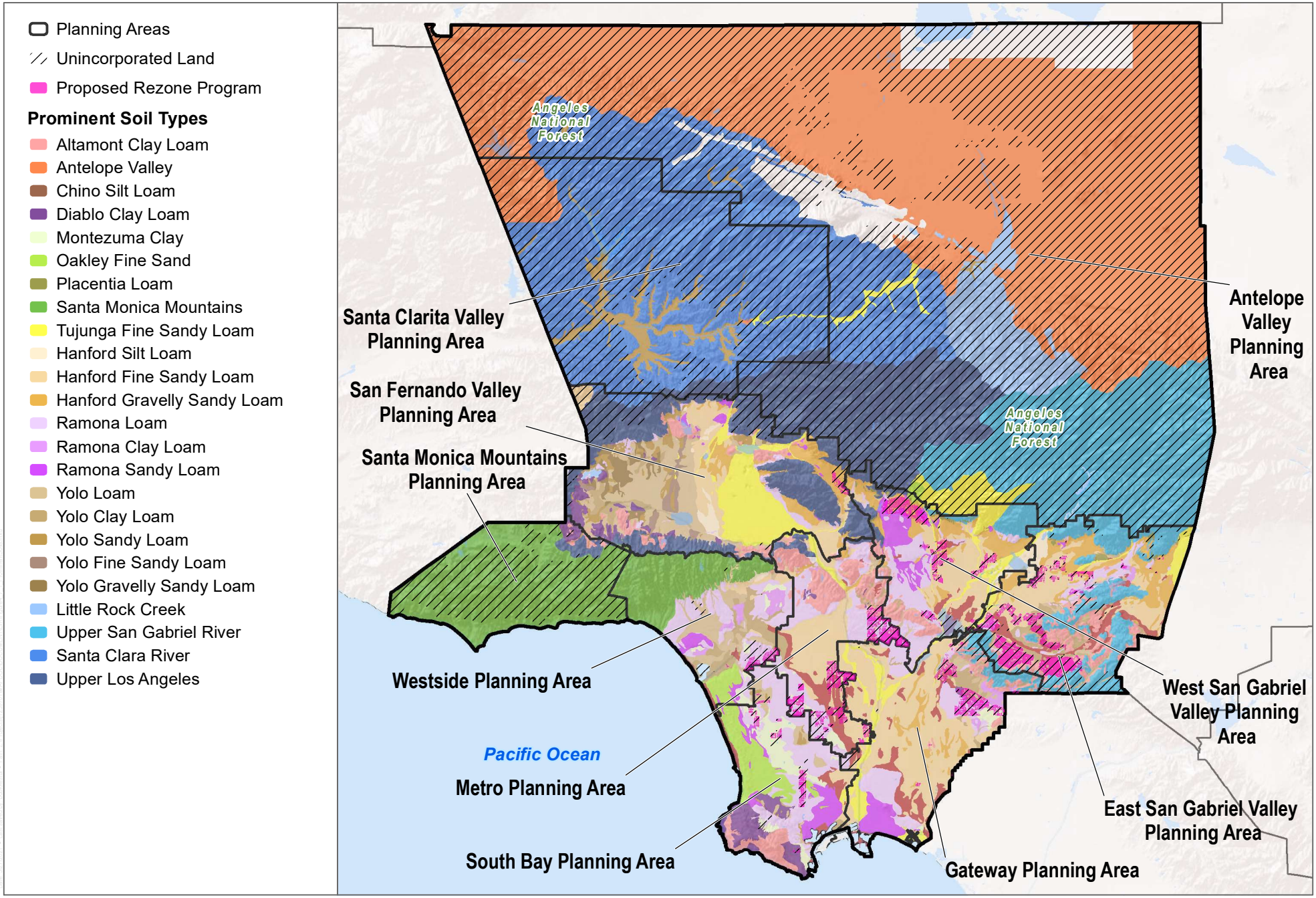
4.7.9 References

County of Los Angeles. 2015. *Los Angeles County General Plan*. State Clearinghouse No. 2011081042. Adopted October 6, 2015. https://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf.

County of Los Angeles. n.d. County of Los Angeles Municipal Code: Title 26 Building Code – Chapter 1 Administration, Section 113 – Earthquake Faults. Accessed April 26, 2021. https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT26BUCO_CH1AD_S113EAFA.

Department of Regional Planning. 2014. Figure C.1 Hazard, Environmental and Resources Constraints Map. Updated November 2014. Accessed April 27, 2021. https://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_C-1_Hazard_Environmental_Constraints.pdf

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SOURCE: ESRI 2021; LA County 2021

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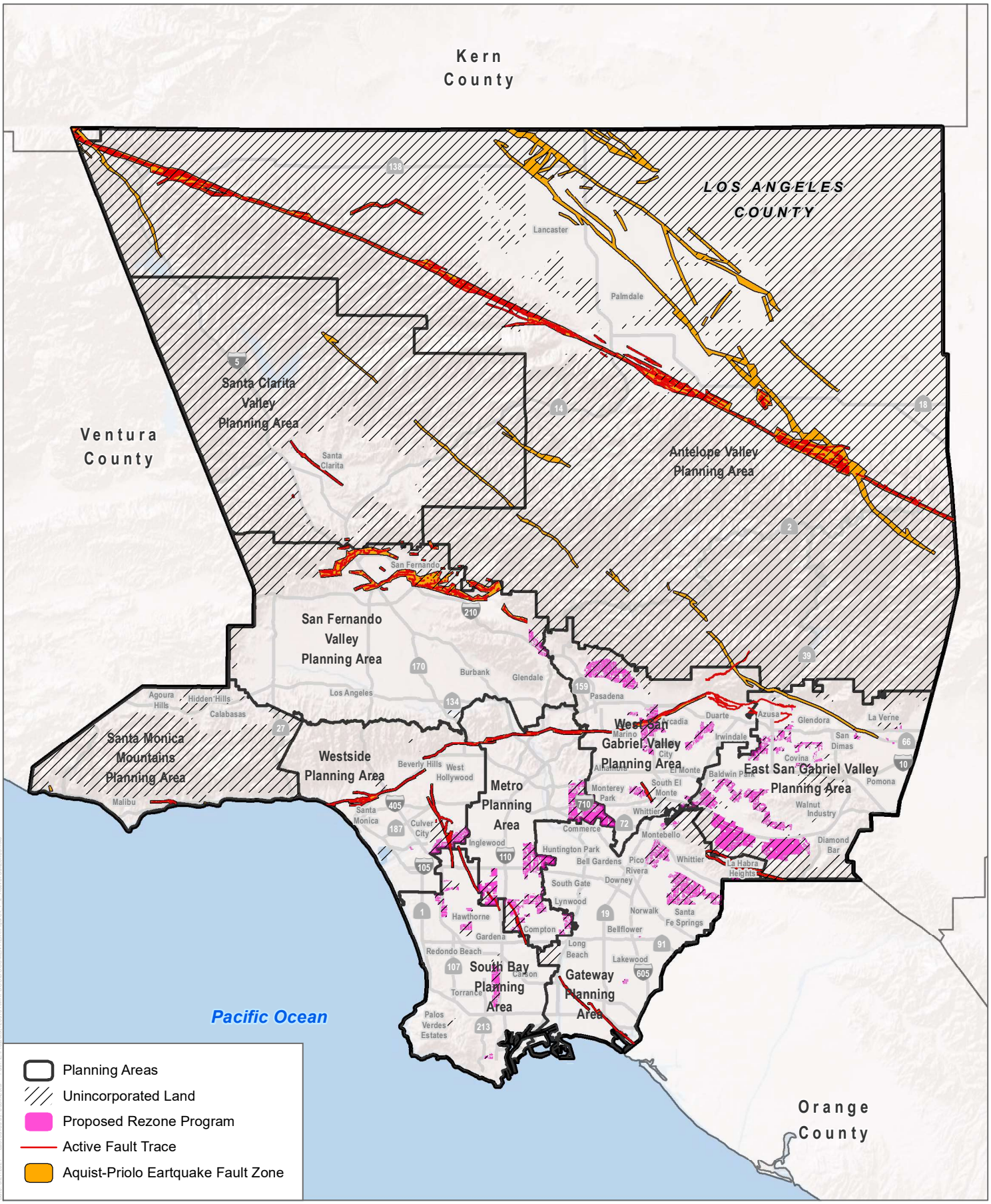
0 31,000 62,000 Feet

FIGURE 4.7-1

Prominent Soil Types in the Project Area

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SOURCE: ESRI 2021; LA County 2021

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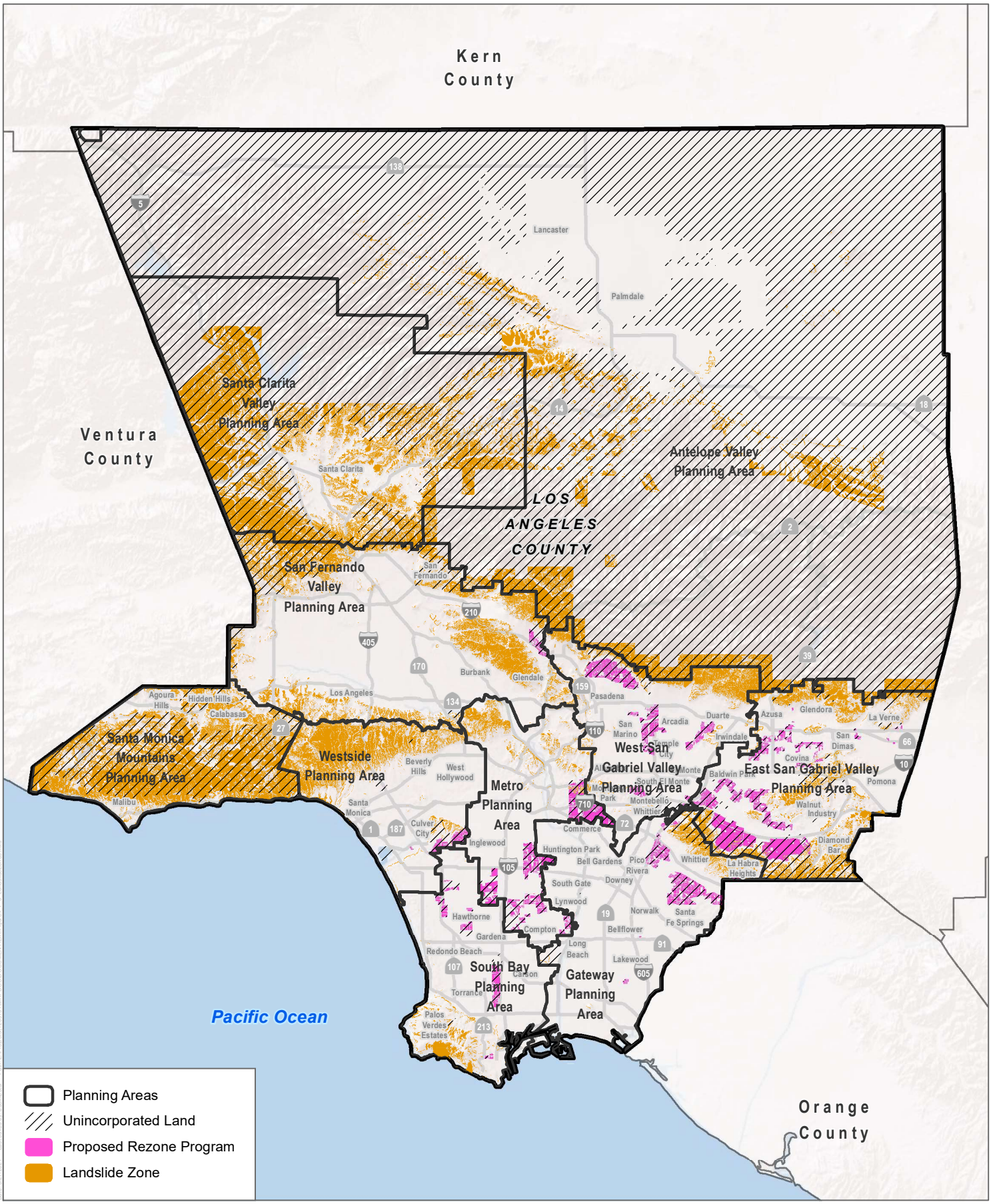
0 5 10 Miles

FIGURE 4.7-2

Active Fault Zones

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SOURCE: ESRI 2021; LA County 2021

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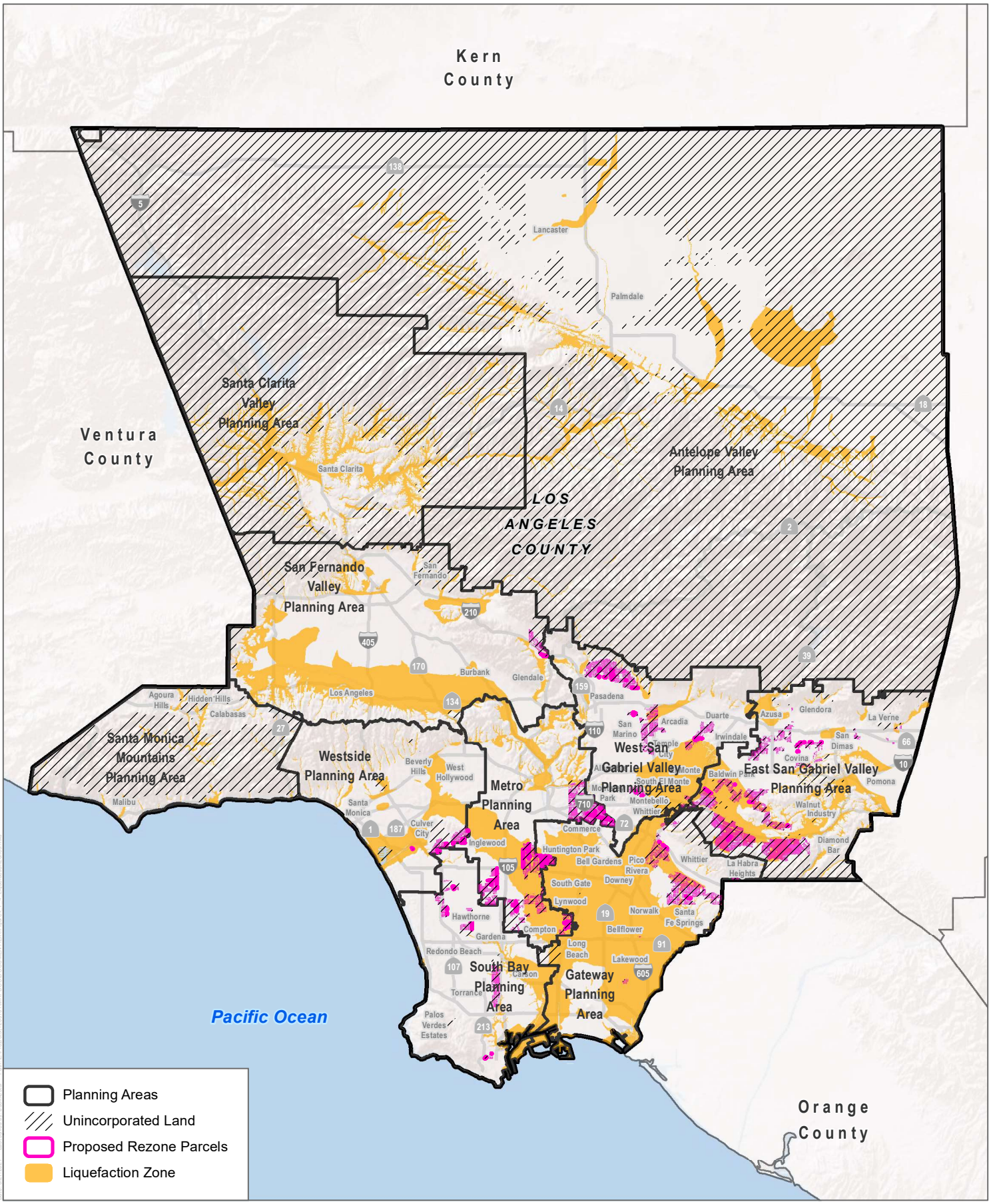
0 5 10 Miles

FIGURE 4.7-3

Landslide Zones

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SOURCE: ESRI 2021; LA County 2021

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0 5 10 Miles

FIGURE 4.7-4

Liquefaction Zones

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4.8 Greenhouse Gas Emissions

This section evaluates whether the Proposed Los Angeles County Housing Element Update (Proposed Project) would contribute to greenhouse gas (GHG) emissions that would constitute a cumulatively considerable contribution to global climate change. This section describes the existing conditions related to GHG emissions and climate change, identifies associated regulatory requirements, evaluates potential GHG emissions impacts, and identifies mitigation measures. Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis. GHG emissions modeling, which supports the analysis provided herein, is included in Appendix B of this Draft Program Environmental Impact Report (PEIR).

4.8.1 Environmental Setting

This section discusses the existing environmental setting relative to greenhouse gas emissions. As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analysis or studies.

Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process: short-wave radiation emitted by the sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of Earth's climate shows that the climate system varies naturally over a wide range of time scales, and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of warming since the mid-twentieth century and are the most significant driver of observed climate change (EPA 2017; IPCC 2013). Human influence on the climate system is evident from the increasing GHG concentrations in the

atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions, and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system.

Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (see also 14 CCR 15364.5).[1] Some GHGs, such as CO_2, CH_4, and N_2O, are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs have a much greater heat-absorption potential than CO_2 and include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.[2]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities; it is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungi; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are the combustion of fuels such as coal, oil, natural gas, and wood, and changes in land use.

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric O_3-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to O_3-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the O_3- depleting substances. The two main

[1] Climate-forcing substances include GHGs and other substances, such as black carbon and aerosols. This discussion focuses on the seven GHGs identified in California Health and Safety Code Section 38505.

[2] The descriptions of GHGs are summarized from the IPCC Fourth Assessment Report (2007), CARB's "Glossary of Terms Used in GHG Inventories" (2018), and EPA's "Climate Change" (2017).

sources of PFCs are aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.

- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.
- **Chlorofluorocarbons (CFCs).** CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.
- **Hydrochlorofluorocarbons (HCFCs)**. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.
- **Black Carbon.** Black carbon is a component of $PM_{2.5}$, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influencing cloud formation, and darkening the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived substance that varies spatially, which makes it difficult to quantify its global warming potential (GWP). Diesel exhaust emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter as a result of the California Air Resources Board's (CARB's) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have been reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).
- **Water Vapor.** The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere, and maintains a climate necessary for life.
- **Ozone.** Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen, plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3 due to chemical reactions that may be enhanced by climate change results in an increased ground-level flux of ultraviolet-B radiation.
- **Aerosols.** Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat, and can cool the atmosphere by reflecting light.

Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects

atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2017). The Intergovernmental Panel on Climate Change developed the GWP concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e).

The current version of the California Emissions Estimator Model (CalEEMod) (Version 2016.3.2) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the project.

Sources of Greenhouse Gas Emissions

Global Inventory

Anthropogenic GHG emissions worldwide in 2018 (the most recent year for which data is available) totaled approximately 51,800 million metric tons (MMT) of CO_2e, excluding land use change and forestry (PBL 2019). Six countries—China, the United States, the Russian Federation, India, Japan, and Brazil—and the European community accounted for approximately 65% of the total global emissions, or approximately 33,700 MMT CO_2e (PBL 2019).

National and State Inventories

Per the EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2018, total U.S. GHG emissions were approximately 6,676.6 MMT CO_2e in 2018 (EPA 2020). The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 81.3% of total GHG emissions (5,428.1 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.8% of CO_2 emissions in 2018 (5,031.8 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2018 are higher by 3.7%, down from a high of 15.2% above 1990 levels in 2007. GHG emissions decreased from 2017 to 2018 by 2.9% (188.4 MMT CO_2e) and overall, net emissions in 2018 were 10.2% below 2005 levels (EPA 2020).

According to California's 2000–2018 GHG emissions inventory (2020 edition), California emitted 425 MMT CO_2e in 2018, including emissions resulting from out-of-state electrical generation (CARB 2020a). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high GWP substances, and recycling and waste. The California GHG emission source categories and their relative contributions in 2018 are presented in Table 4.8-1.

Table 4.8-1. Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total[a]
Transportation	169.50	40%
Industrial	89.18	21%
Electric power[b]	63.11	15%
Agriculture	32.57	8%
Residential	25.74	6%

Table 4.8-1. Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total[a]
Commercial	13.46	4%
High global-warming potential substances	20.46	5%
Recycling and waste	9.09	2%
Total	**425.28**	**100%**

Source: CARB 2020a.
Notes: GHG = greenhouse gas; MMT CO_2e = million metric tons of carbon dioxide equivalent; GWP = global warming potential. Emissions reflect 2017 California GHG inventory.
[a] Percentage of total has been rounded and total may not sum due to rounding.
[b] Includes emissions associated with imported electricity, which account for 24.57 MMT CO_2e annually.

Between 2000 and 2018, per-capita GHG emissions in California have dropped from a peak of 14.0 MT per person in 2001 to 10.7 MT per person in 2018, representing a 24% decrease (CARB 2020b). In 2016, statewide GHG emissions dropped below the 2020 GHG Limit of 431 MMT CO_2e and have remained below the Limit since that time (CARB 2020b).

Local Inventory

Table 4.8-2 identifies the existing GHG emissions inventory of the unincorporated areas for 2010 as evaluated in the County's Community Climate Action Plan (CCAP). The inventory is based on existing land uses in the unincorporated areas. GHG emissions generated within the unincorporated areas were estimated using EMFAC2011 for on- road transportation emissions and data compiled for the CCAP 2020 for all other sectors.

Table 4.8-2. Existing Unincorporated Areas GHG Emissions Inventory (2010)

Sector	Annual GHG Emissions (MT CO_2e)	Percent of Total
Building Energy	3,906,213	53%
Transportation	2,751,579	37%
Waste Generation	535,148	7%
Water and Wastewater	126,074	2%
Agriculture	30,290	<1%
Stationary Sources	1,283	<1%
Total	**7,350,587**	**100%**
Service Population	1,319,075	—
MT CO_2e/Service Population	5.6 MT CO_2e/Service Population	—

Source: Los Angeles County 2015.

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 Intergovernmental Panel on Climate Change Synthesis Report indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, rising sea levels, and ocean acidification (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Reflecting the long-term warming trend since pre-industrial times, observed global mean surface temperature for the decade 2006–2015 was 0.87°C (likely between 0.75°C and 0.99°C) higher than the average over the 1850–1900 period (IPCC 2018). Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities are estimated to have caused approximately 1.0°C (1.8°F) of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C (1.4°F to 2.2°F) (IPCC 2018). Global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment (OEHHA) identified various indicators of climate change in California, which are scientifically-based measurements that track trends in various aspects of climate change. Many indicators reveal discernible evidence that climate change is occurring in California and is having significant, measurable impacts in the state. Changes in the state's climate have been observed including an increase in annual average air temperature with record warmth from 2012 to 2016, more frequent extreme heat events, more extreme drought, a decline in winter chill, an increase in cooling degree days and a decrease in heating degree days, and an increase in variability of statewide precipitation (OEHHA 2018).

Warming temperatures and changing precipitation patterns have altered California's physical systems – the ocean, lakes, rivers and snowpack – upon which the state depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the state's annual water supply. Impacts of climate on physical systems have been observed such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters (OEHHA 2018).

Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed including climate change impacts on terrestrial, marine, and freshwater ecosystems. As with global observations, species responses include those consistent with warming: elevational or latitudinal shifts in range, changes in the timing of key plant and animal life cycle events, and changes in the abundance of species and in community composition. Humans are better able to adapt to a changing climate than plants and animals in natural ecosystems. Nevertheless, climate change poses a threat to public health as warming temperatures and changes in precipitation can affect vector-borne pathogen transmission and disease patterns in California as well as the variability of heat-related deaths and illnesses. In addition, since 1950, the area burned by wildfires each year has been increasing.

The California Natural Resources Agency (CNRA) has released four California Climate Change Assessments (2006, 2009, 2012, and 2018), which have addressed the following: acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming. To address local and regional governments need for information to support action in their communities, the Fourth Assessment (2018) includes

reports for nine regions of the state, including the Los Angeles region, where the Proposed Project is located. Key projected climate changes for the Los Angeles region include the following (CNRA 2018a):

- Continued future warming over the Los Angeles region. Across the region, average maximum temperatures are projected to increase around 4°F to 5°F by the mid-century, and 5°F to 8°F by the late 21st century.
- Extreme temperatures are also expected to increase. The hottest day of the year may be up to 10°F warmer for many locations across the Los Angeles region by the late 21st century under certain model scenarios. The number of extremely hot days is also expected to increase across the region.
- Despite small changes in average precipitation, dry and wet extremes are both expected to increase. By the late 21st century, the wettest day of the year is expected to increase across most of the Los Angeles region, with some locations experiencing 25% to 30% increases under certain model scenarios. Increased frequency and severity of atmospheric river events are also projected to occur for this region.
- Sea levels are projected to continue to rise in the future, but there is a large range based on emissions scenario and uncertainty in feedbacks in the climate system. Roughly 1 foot to 2 feet of sea level rise is projected by the mid-century, and the most extreme projections lead to 8 feet to 10 feet of sea level rise by the end of the century.
- Projections indicate that wildfire may increase over southern California, but there remains uncertainty in quantifying future changes of burned area over the Los Angeles region.

4.8.2 Relevant Plans, Policies, and Ordinances

Federal

The following federal regulations pertaining to GHG emissions would apply to the Project.

Energy Independence and Security Act of 2007. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel by 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, and directs the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In 2007, in response to the *Massachusetts v. EPA* U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017 to 2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 by model year 2025 on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200), and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6% to 23% over the 2010 baselines (76 FR 57106–57513).

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model years 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

In August 2018, EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks, and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards now in place, the 2018 proposal would increase U.S. fuel consumption by approximately 0.5 million barrels per day (2–3% of total daily consumption, according to the Energy Information Administration), and would impact the global climate by 3/1000th of 1°C by 2100 (EPA and NHTSA 2018). California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures, and have committed to cooperating with other countries to implement global climate change initiatives. Thus, the timing and consequences of the 2018 federal proposal are speculative at this time.

On September 27, 2019, the EPA and NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (84 FR 51310), which became effective November 26, 2019. The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the EPA and NHTSA issued the Part Two Rule, which went into effect 60 days after being published in the Federal Register. The Part Two Rule sets CO_2 emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. On January 20, 2021, President Joe Biden issued an EO on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which includes review of the Part One Rule by April 2021 and review of the Part Two Rule by July 2021 (The White House 2021).

State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

California has taken a number of actions to address climate change. These include executive orders, legislation, and CARB plans and requirements. These are summarized below.

EO S-3-05. EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

EO S-3-05 also directed the California EPA to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010.

Assembly Bill 32. In furtherance of the goals established in EO S-3-05, the Legislature enacted Assembly Bill (AB) 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive, multiyear program to limit California's GHG emissions at 1990 levels by 2020, and initiate the transformations required to achieve the state's long-range climate objectives.

CARB's 2007 Statewide Limit. In 2007, in accordance with California Health and Safety Code Section 38550, CARB approved a statewide limit on GHG emissions by 2020, consistent with the determined 1990 baseline (427 MMT CO_2e).

CARB's Climate Change Scoping Plan. One specific requirement of AB 32 is for CARB to prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code Section 38561[a]), and to update the Scoping Plan at least once every 5 years. In 2008, CARB approved the first Scoping Plan. The Climate Change Scoping Plan: A Framework for Change (Scoping Plan) included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions

4. Establishing targets for transportation related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS) (17 Cal. Code Regs., Section 95480 et seq.)
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15% from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the state's GHG emission reduction priorities for the next 5 years, and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The First Update concluded that California is on track to meet the 2020 target, but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050, including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level using more recent GWPs identified by the Intergovernmental Panel on Climate Change, from 427 MMT CO_2e to 431 MMT CO_2e.

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050, as set forth in EO S-3-05. Governor Jerry Brown called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In summer 2016, the Legislature affirmed the importance of addressing climate change through passage of Senate Bill (SB) 32 (Pavley, Chapter 249, Statutes of 2016).

In December 2017, CARB adopted California's 2017 Climate Change Scoping Plan (2017 Scoping Plan) (CARB 2017a). The 2017 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target as established by SB 32 and define the state's climate change priorities to 2030 and beyond. The strategies' known commitments include implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the LCFS, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant (SLCP) Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%.

For local governments, the 2017 Scoping Plan replaced the initial Scoping Plan's 15% reduction goal with a recommendation to aim for a community-wide goal of no more than 6 MT CO_2e per capita by 2030, and no more than 2 MT CO_2e per capita by 2050, which are consistent with the state's long-term goals. These goals are also consistent with the Under 2 Memorandum of Understanding (Under 2 Coalition 2020) and the Paris Agreement (UNFCCC 2019), which were developed around the scientifically based levels necessary to limit global warming to below an increase of 2°C. The 2017 Scoping Plan recognized the benefits of local government GHG planning (e.g., through Climate Action Plans [CAPs]) and provide more information regarding tools CARB is working on to support those efforts (CARB 2017a). It also recognizes the CEQA streamlining provisions for project-level review where there is a legally adequate CAP.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and the EOs and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. A project is considered consistent with the statutes and EOs if it meets the general policies in reducing GHG emissions to facilitate the achievement of the state's goals and does not impede attainment of those goals. As discussed in several cases, a given project need not be in perfect conformity with each and every planning policy or goals to be consistent. A project would be consistent if it would further the objectives and not obstruct their attainment.

EO B-18-12. EO B-18-12 (April 2012) directed state agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing state buildings for reducing grid-based energy purchases and water use.

CARB's Regulations for the Mandatory Reporting of Greenhouse Gas Emissions. CARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that EPA promulgated in its Final Rule on Mandatory Reporting of Greenhouse Gases (40 CFR Part 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that EPA promulgated in the Federal Register on October 30, 2009; July 12, 2010; September 22, 2010; October 28, 2010; November 30, 2010; December 17, 2010; and April 25, 2011. In general, entities subject to the Mandatory Reporting Regulation that emit more than 10,000 MT CO_2e per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 MT CO_2e per year threshold are required to have their GHG emission report verified by a CARB-accredited third party.

SB 605 and SB 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the state, and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for CH_4 and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its SLCP Reduction Strategy in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases (CARB 2017b).

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update its Climate Change Scoping Plan: A Framework for Change (Scoping

Plan) to express the 2030 target in terms of MMT CO_2e. The EO also called for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

Senate Bill (SB) 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

EO B-55-18. EO B-55-18 (September 2018) establishes a statewide policy for California to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net-negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the state's GHG emissions. CARB will work with relevant state agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code [PRC] Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (PRC Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (PRC Section 25402[d]) and cost effectiveness (PRC Sections 25402[b][2] and [b][3]). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2019 Title 24 standards are the currently applicable building energy efficiency standards, and became effective on January 1, 2020. The 2019 Title 24 Building Energy Efficiency Standards will further reduce energy used and associated GHG emissions compared to current standards. In general, single-family residences built to the 2019 standards are anticipated to use approximately 7% less energy due to energy efficiency measures than those built to the 2016 standards; once rooftop solar electricity generation is factored in, single-family residences built under the 2019 standards will use approximately 53% less energy than those under the 2016 standards (CEC 2018). Non-residential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The 2019 CALGreen standards are the current applicable standards. For non-residential projects, some of the key mandatory CALGreen

2019 standards involve requirements related to bicycle parking, designated parking for clean air vehicles, electric vehicle (EV) charging stations, shade trees, water conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, recycled water supply systems, construction waste management, excavated soil and land clearing debris, and commissioning (24 CCR Part 11).

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards.

SB 1. SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the California Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for homes and businesses within 10 years of adoption, and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

AB 1470 (Solar Water Heating). AB 1470 established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. AB 1470 required the CEC to evaluate the data available from a specified pilot program, and, if it made a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting to reduce electricity consumption by 50% for indoor residential lighting and by 25% for indoor commercial lighting.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (Sher) (September 2002) established the Renewables Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107, EO S-14-08, and S-21-09).

SB 1368. SB 1368 (September 2006), required CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC).

EO S-14-08. EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. The CNRA, through collaboration with the CEC and the California Department of Fish and Game (now the California Department of Fish and Wildlife), was directed to lead this effort.

EO S-21-09 and SB X1-2. EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with CPUC and CEC to ensure that the regulation builds upon the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, statutes of 2011) signed by Governor Brown in April 2011.

SB X1-2 expanded the RPS by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under SB X1-2, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB X1-2 applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All these entities must meet the renewable energy goals listed above.

SB 350. SB 350 (October 2015) further expanded the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires CPUC, in consultation with CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

SB 100. SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. SB 100 requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid, and that the achievement not be achieved through resource shuffling.

Mobile Sources

AB 1493. AB 1493 (Pavley) (July 2002) was enacted in response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards would result in a reduction of approximately 22% of GHG emissions compared to the emissions from the 2002 fleet, and the mid-term (2013–2016) standards would result in a reduction of approximately 30%. However, as described in Section 3.2.1, Federal Regulations, EPA's Safer Affordable Fuel-Efficient Vehicles Rule Part One, adopted in November 2019, revokes California's authority to set its own GHG emissions standards.

Heavy-Duty Diesel. CARB adopted the final Heavy Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014, to reduce diesel particulate matter (black carbon) and NO_x emissions from heavy-duty diesel vehicles. The rule requires diesel particulate matter filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485).

EO S-1-07. EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining LCFS for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The initial target of the LCFS was to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.). In September 2018, CARB approved amendments for the LCFS that require a 20% reduction in carbon intensity by year 2030. Carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered.

SB 375. SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, and to update those targets every 8 years. SB 375 requires the state's 18 regional metropolitan planning organizations to prepare a sustainable communities strategy (SCS) as part of their Regional Transportation Plan (RTP) that will achieve the GHG reduction targets set by CARB. If a metropolitan planning organization is unable to devise a SCS to achieve the GHG reduction target, the metropolitan planning organization must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program. The Advanced Clean Cars program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2012). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that by 2025, cars will emit 75% less smog-forming pollution than the average new car sold in 2015. To reduce GHG emissions, CARB, in conjunction with EPA and NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% by 2025. The zero-emissions vehicle program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of zero-emissions vehicles and plug-in hybrid EVs in the 2018 to 2025 model years.

EO B-16-12. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

AB 1236. AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of electric-vehicle charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based on substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provided for appeal of that decision to the planning commission, as specified. The bill provided that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of electric vehicle charging stations is a matter of statewide concern. AB 1236 required electric vehicle charging stations to meet specified standards. The bill required a city, county, or city and county with a population of less than 200,000 residents to adopt this ordinance by September 30, 2017.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency, and broadens its applicability to include new development projects with smaller landscape areas.

EO B-37-16. Issued May 2016, EO B-37-16 directed the State Water Resources Control Board (SWRCB) to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the state. The SWRCB also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25% reduction called for in EO B-29-15. The SWRCB and Department of Water Resources will develop new, permanent water use targets that build upon the existing state law requirements that the state achieve 20% reduction in urban water usage by 2020. EO B-37-16 also specifies that the SWRCB permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

EO B-40-17. EO B-40-17 (April 2017) lifted the drought emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. It also rescinded EO B-29-15, but expressly states that EO B-37-16 remains in effect and directs the SWRCB to continue development of permanent prohibitions on wasteful water use.

Solid Waste

AB 939, AB 341, and AB 1826. In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000. AB 341 (Chapter 476, Statutes of 2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week.

Other State Actions

SB 97. SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine the significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. CNRA adopted the CEQA Guidelines amendments in December 2009, and they became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis, or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines state that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions (14 CCR 15064.4[a]). The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009b), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016 (CNRA 2016). In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that state government should take to build climate change resiliency (CNRA 2018b).

Regional

South Coast Air Quality Management District

Air districts typically act in an advisory capacity to local governments in establishing the framework for environmental review of air pollution impacts under CEQA. This may include recommendations regarding significance thresholds, analytical tools to estimate emissions and assess impacts, and mitigations for potentially significant impacts. Although air districts will also address some of these issues on a project-specific basis as responsible agencies, they may provide general guidance to local governments on these issues (SCAQMD 2008). As discussed in Section 4.8.3, the South Coast Air Quality Management District (SCAQMD) has recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects; however, these thresholds were not adopted.

Antelope Valley Air Quality Management District

As discussed in Section 4.8.3, the Antelope Valley Air Quality Management District (AVAQMD) has adopted numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects.

Southern California Association of Governments

As noted above, California's 18 metropolitan planning organizations have been tasked with creating SCSs in an effort to reduce the region's vehicle miles traveled (VMT) in order to help meet AB 32 targets through integrated transportation, land use, housing, and environmental planning. Pursuant to SB 375, CARB set per-capita GHG emissions reduction targets from passenger vehicles for each of the state's 18 metropolitan planning organizations. For the Southern California Association of Governments (SCAG), the state's initial mandated reductions were set at 8% by 2020 and 13% by 2035. In March 2018, CARB updated the SB 375 targets for SCAG to require 8% reduction by 2020 and a 19% reduction by 2035 in per-capita passenger vehicle GHG emissions.

Pursuant to Government Code Section 65080(b)(2)(B), the SCS must "set forth forecasted development pattern for the region which when integrated with the transportation network, and other transportation measures and policies, will reduce the GHG emissions from automobiles and light trucks to achieve the GHG reduction targets." To that end, SCAG has developed Connect SoCal, the 2020–2045 RTP/SCS, which complies with CARB's updated emissions reduction targets and meets the requirements of SB 375 by achieving per-capita GHG emissions reductions relative to 2005 of 8% by 2020 and 19% by 2035 (SCAG 2020). In addition, the plan anticipates a 25.7% decrease in time spent in traffic delay per capita and a 5% decrease in daily miles driven per capita from 2016 to 2045. The 2020–2045 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals, and charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks, between planning strategies, and between the people whose collaboration can improve the quality of life for southern Californians. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The following are the 2020-2045 RTP/SCS goals (SCAG 2020):

1. Encourage regional economic prosperity and global competitiveness
2. Improve mobility, accessibility, reliability, and travel safety for people and goods

3. Enhance the preservation, security, and resilience of the regional transportation system
4. Increase person and goods movement and travel choices within the transportation system
5. Reduce GHG emissions and improve air quality
6. Support healthy and equitable communities
7. Adapt to a changing climate and support an integrated regional development pattern and transportation network
8. Leverage new transportation technologies and data-driven solutions that result in more efficient travel
9. Encourage development of diverse housing types in areas that are supported by multiple transportation options
10. Promote conservation of natural and agricultural lands and restoration of habitats

On September 3, 2020, the Regional Council approved of the 2020–2045 RTP/SCS in its entirety (SCAG 2020).

Local

The following local/regional regulations pertaining to GHG emission would apply to the Proposed Project.

OurCounty Sustainability Plan

OurCounty is a regional sustainability plan for the County of Los Angeles (County), which focuses on enhancing the well-being of every community in the County while reducing damage to the natural environment and adapting to the changing climate. The plan envisions streets and parks that are accessible, safe, and welcoming to everyone; air, water, and soil that are clean and healthy; affordable housing that enables all residents to thrive in place; and an economy that runs on renewable energy instead of fossil fuels. The plan consists of the following goals (County of Los Angeles 2019):

Goal 1 **Resilient and healthy community environments where residents thrive in place.** The County will protect low-income communities and communities of color from pollution, reduce health and economic inequalities and support more resilient and inclusive communities.

Goal 2 **Buildings and infrastructure that support human health and resilience.** The buildings and infrastructure of both yesterday and tomorrow will utilize more efficient technologies and practices that reduce resource use, improve health, and increase resilience.

Goal 3 **Equitable and sustainable land use and development without displacement.** With policy tools such as anti-displacement measures, existing community members can remain in and strengthen their neighborhoods and networks while accepting new residents through more com- pact, mixed-use development.

Goal 4 **A prosperous Los Angeles County that provides opportunities for all residents and businesses and supports the transition to a green economy.** We will support the growth of green economy sectors through our procurement practices, land use authority, and various economic and workforce development incentives.

Goal 5 **Thriving ecosystems, habitats, and biodiversity.** The region's ecosystems, habitats, and biodiversity are under stress from urbanization and climate change. Careful planning will ensure that our ecosystems, including urban habitats, thrive even as our region becomes increasingly urbanized.

Goal 6 **Accessible parks, beaches, recreational waters, public lands, and public spaces that create opportunities for respite, recreation, ecological discovery, and cultural activities.** The County will help make parks and public lands more accessible and inclusive and will manage them carefully so that all residents may enjoy their benefits.

Climate Action Plan

The County adopted a Community Climate Action Plan (CCAP) in 2015 as part of the Los Angeles County 2035 General Plan (General Plan) to address the County's local GHG reduction goals for 2020 pursuant to AB 32. The purpose of the CCAP was to (1) establish a baseline emissions inventory and reduction needed to meet County goals, (2) identify specific actions that would measurably reduce GHG emissions consistent with AB 32, (3) establish a framework for implementing state and local level actions, and (4) provide a mechanism for ongoing tracking and updates to the CCAP. The 2015 CCAP expired in 2020 and will be replaced by the Los Angeles County Climate Action Plan. Through this updated Los Angeles County Climate Action Plan, the County is targeting carbon neutrality by 2045 in unincorporated areas of Los Angeles County. Adoption of the Los Angeles County Climate Action Plan is anticipated by 2022 and is an implementation program of the proposed Housing Element.

Los Angeles County 2035 General Plan

The following goals and policies from the Los Angeles County General Plan may be applicable to the Proposed Project (County of Los Angeles 2015).

Air Quality Element

Policy AQ 1.1 Minimize health risks to people from industrial toxic or hazardous air pollutant emissions, with an emphasis on local hot spots, such as existing point sources affecting immediate sensitive receptors.

Policy AQ 1.2 Encourage the use of low or no volatile organic compound (VOC) emitting materials.

Policy AQ 1.3 Reduce particulate inorganic and biological emissions from construction, grading, excavation, and demolition to the maximum extent feasible.

Policy AQ 1.4 Work with local air quality management districts to publicize air quality warnings, and to track potential sources of airborne toxics from identified mobile and stationary sources.

Policy AQ 2.1 Encourage the application of design and other appropriate measures when siting sensitive uses, such as residences, schools, senior centers, daycare centers, medical facilities, or parks with active recreational facilities within proximity to major sources of air pollution, such as freeways.

Policy AQ 2.2 Participate in, and effectively coordinate the development and implementation of community and regional air quality programs.

Policy AQ 2.3 Support the conservation of natural resources and vegetation to reduce and mitigate air pollution impacts.

Policy AQ 3.1 Facilitate the implementation and maintenance of the Community Climate Action Plan to ensure that the County reaches its climate change and greenhouse gas emission reduction goals.

Policy AQ 3.2 Reduce energy consumption in County operations by 20% by 2015.

Policy AQ 3.3 Reduce water consumption in County operations.

Policy AQ 3.4 Participate in local, regional and state programs to reduce greenhouse gas emissions.

Policy AQ 3.5 Encourage energy conservation in new development and municipal operations.

Policy AQ 3.7 Support and expand urban forest programs within the unincorporated areas.

Land Use Element

Policy LU 1.5 In the review of a project-specific amendment(s) to convert OS-C designated lands to other land use designations, ensure that the project-specific amendment(s) does not contribute to the overall loss of open space that protects water quality, provides natural habitats, and contributes to improved air quality.

Policy LU 1.6 In the review of a project-specific amendment(s) to convert lands within the EPD Overlay to non-industrial land use designations, ensure that the project-specific amendment(s):

- Is located on a parcel that adjoins a parcel with a comparable use, at a comparable scale and intensity;
- Will not negatively impact the productivity of neighboring industrial activities;
- Is necessary to promote the economic value and the long-term viability of the site; and
- Will not subject future residents to potential noxious impacts, such as noise, odors or dust or pose significant health and safety risks.

Policy LU 2.4 Coordinate with other local jurisdictions to develop compatible land uses.

Policy LU 2.5 Support and actively participate in inter-jurisdictional and regional planning efforts to help inform community-based planning efforts.

Policy LU 2.9 Utilize the General Plan Land Use Legend and the Hazard, Environmental and Resource Constraints Model to inform the development of land use policy maps.

Policy LU 3.1 Encourage the protection and conservation of areas with natural resources, and SEAs.

Policy LU 3.2 Discourage development in areas with high environmental resources and/or severe safety hazards.

Policy LU 3.3 Discourage development in undeveloped areas where infrastructure and public services do not exist, or where no or where no major infrastructure projects are planned, such as state and/or federal highways.

Policy LU 4.1 Encourage infill development in urban and suburban areas on vacant, underutilized, and/or brownfield sites.

Policy LU 4.2 Encourage the adaptive reuse of underutilized structures and the revitalization of older, economically distressed neighborhoods.

Policy LU 4.3 Encourage transit-oriented development in urban and suburban areas with the appropriate residential density along transit corridors and within station areas.

Policy LU 4.4 Encourage mixed use development along major commercial corridors in urban and suburban areas.

Policy LU 5.1 Encourage a mix of residential land use designations and development regulations that accommodate various densities, building types and styles.

Policy LU 5.2 Encourage a diversity of commercial and retail services, and public facilities at various scales to meet regional and local needs.

Policy LU 5.3 Support a mix of land uses that promote bicycling and walking, and reduce VMTs.

Policy LU 5.4 Encourage community-serving uses, such as early care and education facilities, grocery stores, farmers markets, restaurants, and banks to locate near employment centers.

Policy LU 5.7 Direct resources to areas that lack amenities, such as transit, clean air, grocery stores, bikeways, parks, and other components of a healthy community.

Policy LU 5.10 Encourage employment opportunities and housing to be developed in proximity to one another.

Policy LU 7.1 Reduce and mitigate the impacts of incompatible land uses, where feasible, using buffers and other design techniques.

Policy LU 7.2 Protect industrial parks and districts from incompatible uses.

Policy LU 7.3 Protect public and semi-public facilities, including but not limited to major landfills, natural gas storage facilities, and solid waste disposal sites from incompatible uses.

Policy LU 6.3 Encourage low density and low intensity development in rural areas that is compatible with rural community character, preserves open space, and conserves agricultural land.

Policy LU 8.2 Evaluate the potential impact of new structures within MOAs to ensure the safety of the residents on the ground and continued viability of military operations within the MOAs. In the review of development within MOAs, consider the following:

- Uses that produce electromagnetic and frequency spectrum interference, which could impact military operations;
- Uses that release into the air any substance such as steam, dust and smoke, which impair pilot visibility;
- Uses that produce light emissions, glare or distracting lights, which could interfere with pilot vision or be mistaken for airfield lighting; and
- Uses that physically obstruct any portion of the MOA due to relative height above ground level.

Policy LU 9.1 Promote community health for all neighborhoods.

Policy LU 10.4 Promote environmentally-sensitive and sustainable design.

Policy LU 10.6 Encourage pedestrian activity through the following:

- Designing the main entrance of buildings to front the street;
- Incorporating landscaping features;
- Limiting masonry walls and parking lots along commercial corridors and other public spaces;
- Incorporating street furniture, signage, and public events and activities; and
- Using wayfinding strategies to highlight community points of interest.

Policy LU 10.7 Promote public spaces, such as plazas that enhance the pedestrian environment, and, where appropriate, continuity along commercial corridors with active transportation activities.

Policy LU 11.1 Encourage new development to employ sustainable energy practices, such as utilizing passive solar techniques and/or active solar technologies.

Policy LU 11.2 Support the design of developments that provide substantial tree canopy cover, and utilize light colored paving materials and energy-efficient roofing materials to reduce the urban heat island effect.

Policy LU 11.3 Encourage development to optimize the solar orientation of buildings to maximize passive and active solar design techniques.

Policy LU 11.4 Encourage subdivisions to utilize sustainable design practices, such as maximizing energy efficiency through lot configuration; preventing habitat fragmentation; promoting storm water retention; promoting the localized production of energy; promoting water conservation and reuse; maximizing interconnectivity; and utilizing public transit.

Policy LU 11.5 Prohibit the use of private yards as required open space within subdivisions, unless such area includes active recreation or outdoor activity areas dedicated for common and/or public use.

Policy LU 11.7 Encourage the use of design techniques to conserve natural resource areas.

Policy LU 11.8 Encourage sustainable subdivisions that meet green neighborhood standards, such as Leadership in Energy and Environmental Design–Neighborhood Development (LEED-ND).

Mobility Element

Policy M 1.1 Provide for the accommodation of all users, including pedestrians, motorists, bicyclists, equestrians, users of public transit, seniors, children, and persons with disabilities when requiring or planning for new, or retrofitting existing, transportation corridors/networks whenever appropriate and feasible.

Policy M 2.4 Ensure a comfortable walking environment for pedestrians by implementing the following, whenever appropriate and feasible:

- Designs that limit dead-end streets and dead-end sidewalks.
- Adequate lighting on pedestrian paths, particularly around building entrances and exits, and transit stops.
- Designs for curb ramps, which are pedestrian friendly and compliant with the American Disability Act (ADA).
- Perpendicular curb ramps at locations where it is feasible.
- Pedestrian walking speed based on the latest standard for signal timing. Slower speeds should be used when appropriate (i.e., near senior housing, rehabilitation centers, etc.)

- Approved devices to extend the pedestrian clearance times at signalized intersections.
- Accessible Pedestrian Signals (APS) at signalized intersections.
- Pedestrian crossings at signalized intersections without double or triple left or right turn lanes.
- Pedestrian signal heads, countdown pedestrian heads, pedestrian phasing and leading pedestrian intervals at signalized intersections.
- Exclusive pedestrian phases (pedestrian scrambles) where turning volume conflicts with very high pedestrian volumes.
- Advance stop lines at signalized intersections.
- Pedestrian Hybrid Beacons.
- Medians or crossing islands to divide long crossings.
- High visibility crosswalks.
- Pedestrian signage.
- Advanced yield lines for uncontrolled crosswalks.
- Rectangular Rapid Flashing Beacon or other similar approved technology at locations of high pedestrian traffic.
- Safe and convenient crossing locations at transit stations and transit stops located at safe intersections.

Policy M 2.5 Ensure a comfortable bicycling environment by implementing the following, whenever appropriate and feasible:

- Bicycle signal heads at intersections.
- Bicycle signal detection at all signalized intersections.
- Wayfinding signage.
- Road diet techniques, such as lane narrowing, lane removal, and parking removal/restriction.
- Appropriate lighting on all bikeways, including those in rural areas.
- Designs, or other similar features, such as: shoulder bikeways, cycle tracks, contra flow bike lanes, shared use paths, buffered bike lanes, raised bike lanes, and bicycle boulevards.

Policy M 2.7 Require sidewalks, trails and bikeways to accommodate the existing and projected volume of pedestrian, equestrian and bicycle activity, considering both the paved width and the unobstructed width available for walking.

Policy M 2.8 Connect trails and pedestrian and bicycle paths to schools, public transportation, major employment centers, shopping centers, government buildings, residential neighborhoods, and other destinations.

Policy M 2.10 Encourage the provision of amenities, such as benches, shelters, secure bicycle storage, and street furniture, and comfortable, safe waiting areas near transit stops.

Policy M 4.1 Expand transportation options that reduce automobile dependence.

Policy M 4.2 Expand shuttle services to connect major transit centers to community points of interest.

Policy M 4.3 Maintain transit services within the unincorporated areas that are affordable, timely, cost- effective, and responsive to growth patterns and community input.

Policy M 4.4 Ensure expanded mobility and increase transit access for underserved transit users, such as seniors, students, low income households, and persons with disabilities.

Policy M 4.6 Support alternative LOS standards that account for a multimodal transportation system.

Policy M 4.11 Improve the efficiency of the public transportation system with bus lanes, signal prioritization, and connections to the larger regional transportation network.

Policy M 4.12 Work with adjacent jurisdictions to ensure connectivity and the creation of an integrated regional network.

Policy M 4.14 Coordinate with Caltrans on mobility and land use decisions that may affect state transportation facilities.

Policy M 4.15 Reduce vehicle trips through the use of mobility management practices, such as the reduction of parking requirements, employer/institution based transit passes, regional carpooling programs, and telecommuting.

Policy M 4.16 Promote mobility management practices, including incentives to change transit behavior and using technologies, to reduce VMTs.

Policy M 5.1 Facilitate transit-oriented land uses and pedestrian-oriented design to encourage transit ridership.

Policy M 5.2 Implement parking strategies that facilitate transit use and reduce automobile dependence.

Policy M 5.3 Maintain transportation right-of-way corridors for future transportation uses, including bikeways, or new passenger rail or bus services.

Policy M 5.4 Support and pursue funding for the construction, maintenance and improvement of roadway, public transit, and equestrian, pedestrian and bicycle transportation systems.

Policy M 6.4 Minimize noise and other impacts of goods movement, truck traffic, deliveries, and staging in residential and mixed-use neighborhoods.

Policy M 7.3 Encourage the use of sustainable transportation facilities and infrastructure technologies, such as liquid and compressed natural gas, and hydrogen gas stations, ITS, and electric car plug-in ports.

Conservation and Natural Resources Element

Policy C/NR 3.4 Conserve and sustainably manage forests and woodlands.

Policy C/NR 3.5 Ensure compatibility of development in the National Forests in conjunction with the U.S. Forest Service Land and Resource Management Plan.

Policy C/NR 4.1 Preserve and restore oak woodlands and other native woodlands that are conserved in perpetuity with no net loss of existing woodlands.

Policy C/NR 9.2 Support innovative agricultural practices that conserve resources and promote sustainability, such as drip irrigation, hydroponics, organic farming, and the use of compost.

Policy C/NR 12.1 Encourage the production and use of renewable energy resources.

Policy C/NR 12.2 Encourage the effective management of energy resources, such as ensuring adequate reserves to meet peak demands.

Parks and Recreation Element

Policy P/R 4.1 Create multi-use trails to accommodate all users.

Policy P/R 4.2 Develop staging areas and trail heads at strategic locations to accommodate multi-use trail users.

Policy P/R 4.3 Develop a network of feeder trails into regional trails.

Policy P/R 4.5 Collaborate with other public, non-profit, and private organizations in the development of a comprehensive trail system.

Policy P/R 4.6 Create new multi-use trails that link community destinations including parks, schools and libraries.

Policy P/R 6.1 Support the use of recycled water for landscape irrigation in County parks.

Policy P/R 6.2 Support the use of alternative sources of energy, such as wind and solar sources to reduce the use of energy at existing parks.

Policy P/R 6.4 Ensure that new buildings on County park properties are environmentally sustainable by reducing carbon footprints, and conserving water and energy.

Policy P/R 6.5 Ensure the routine maintenance and operations of County parks and recreational facilities to optimize water and energy conservation.

Public Services and Facilities Element

Policy PS/F 2.1 Support water conservation measures.

Policy PS/F 2.2 Support educational outreach efforts that discourage wasteful water consumption.

Policy PS/F 3.1 Increase the supply of water though the development of new sources, such as recycled water, gray water, and rainwater harvesting.

Policy PS/F 3.2 Support the increased production, distribution and use of recycled water, gray water, and rainwater harvesting to provide for groundwater recharge, seawater intrusion barrier injection, irrigation, industrial processes and other beneficial uses.

Policy PS/F 5.3 Discourage incompatible land uses near or adjacent to solid waste disposal facilities identified in the Countywide Integrated Waste Management Plan.

Policy PS/F 5.4 Encourage solid waste management facilities that utilize conversion and other alternative technologies and waste to energy facilities.

Policy PS/F 5.5 Reduce the County's waste stream by minimizing waste generation and enhancing diversion.

Policy PS/F 5.6 Encourage the use and procurement of recyclable and biodegradable materials.

Policy PS/F 5.7 Encourage the recycling of construction and demolition debris generated by public and private projects.

Policy PS/F 6.5 Encourage the use of renewable energy sources in utility and telecommunications networks.

Policy PS/F 6.8 Encourage projects that incorporate onsite renewable energy systems.

Economic Development Element

Policy ED 1.2 Encourage and foster the development of the renewable energy economic sectors.

Policy ED 2.2 Utilize adequate buffering and other land use practices to facilitate the compatibility between industrial and non-industrial uses.

Policy ED 2.3 Ensure environmental justice in economic development activities.

Policy ED 2.4 Ensure high standards of development and encourage environmentally sustainable practices in economic development activities.

Policy ED 2.5 Encourage employment opportunities to be located in proximity to housing.

Policy ED 2.6 Encourage community-serving uses, such as child care centers and personal services, to be located in proximity to employment centers.

Policy ED 4.7 Support expedited permitting for green building retrofits.

Proposed Housing Element

Goal 2 Communities with equitable access to employment opportunities, community facilities and services, and amenities.

Policy 2.1 Support the development of housing for extremely low, very low, lower and moderate income households and those with special needs near employment, transit, services, and other community amenities and facilities such as parks.

Policy 2.2 Encourage multi-family residential and mixed use developments along major commercial and transportation corridors.

Goal 11 Alignment of housing production with state and local sustainability goals in order to protect natural resources, reduce greenhouse gas emissions, and foster climate resilience.

Policy 11.1 Ensure consistency with the OurCounty Sustainability Plan through equitable and sustainable land use policy.

Policy 11:2 Ensure consistency with the County's Green Building Standards (Title 31) to enhance building design and construction and encourage sustainable construction practices.

Policy 11.3 Support policies and programs that aim to reduce resource consumption, such as solar panel installation, cool roof installation, back-up battery power, and incentivization of housing near transit.

Title 31 – Green Building Standards Code

The County's Green Building Standards Code includes cool roof standards for cool roof construction to reduce the heat island effect.

4.8.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment with respect to GHG emissions if the Proposed Project would:

GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment.

GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the Project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project-level under CEQA.

The CEQA Guidelines do not proscribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with various factors prescribed by CEQA Guideline 15064.4. The State of California has not adopted emission-based thresholds for GHG emissions under CEQA. The Governor's Office of Planning and Research's Technical Advisory, titled Discussion Draft CEQA and Climate Change Advisory (OPR 2018), states that:

> [N]either the CEQA statute nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for perming an impact analysis. This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable. Even in the absence of clearly defined thresholds for GHG emissions, such emissions must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact.

Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice." Section 15064.7(c) of the CEQA Guidelines specifies that "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

South Coast Air Quality Management District Recommendation

Although the 3,000 MT CO_2e per year threshold for residential/commercial uses was proposed a decade ago and was never adopted, the 3,000 MT CO_2e per year threshold was developed and recommended by SCAQMD, an expert agency, based on substantial evidence as provided in the Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold (2008) document and subsequent Working Group meetings (latest in 2010). This threshold uses the Executive Order S-3-05 goal as the basis, so it is not tied to only the 2020 target year and is thus not outdated. This threshold is also based on the 90% capture rate methodology, which means that 90% of total emissions from all new or modified projects would be subject to some type of CEQA analysis, which was the approach taken by SCAQMD to establish the stationary/industrial source threshold, as well as by CARB (for interim threshold for stationary source projects) and one of the options suggested by the California Air Pollution Control Officers Association (quantitative threshold based on market capture). Further, this threshold has been used for hundreds (if not thousands) of GHG analyses performed for projects located within SCAQMD's jurisdiction.

In October 2008, the SCAQMD proposed recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects as presented in its Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold (SCAQMD 2008). This guidance document, which builds on the previous guidance prepared by the California Air Pollution Control Officers Association, explored various approaches for establishing a significance threshold for GHG emissions. The draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. However, in December 2008, the SCAQMD adopted an interim 10,000 MT CO_2e per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (see SCAQMD Resolution No. 08-35, December 5, 2008).

The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1 Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2 Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3 Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2e per year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2e per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4 Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per service population per year (MT CO_2e/SP/year) for project level analyses and 6.6 MT CO_2e/SP/year for plan level analyses. The 2035 efficiency targets are 3.0 MT CO_2e/SP/year for project level analyses and 4.1 MT CO_2e/SP/year for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5 Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

Per the SCAQMD guidance, construction emissions should be amortized over the operational life, which is assumed to be 30 years (SCAQMD 2008).

Antelope Valley Air Quality Management District Recommendation

The AVAQMD has prepared criteria and thresholds for determining significance under CEQA. Per the *CEQA and Federal Conformity Guidelines*, any project is significant if it triggers or exceeds the most appropriate evaluation criteria, including criterion 1, which states that a project would result in significant emissions if it "Generates total emissions (direct and indirect) in excess of the thresholds" as follows (AVAMQD 2016):

- Daily threshold: 548,000 pounds CO_2e per day
  - While the AVAQMD has a daily threshold of 548,000 pounds per day for multi-phases projects with phases shorter than one year, this is not applicable to the Proposed Project
- Annual threshold: 100,000 tons CO_2e per year, which equates to 90,718 MT CO_2e per year

Approach Summary

Regarding the potential for the future residential development facilitated by the Proposed Project to generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment, the following numeric thresholds are applied consistent with the air districts recommendations:

- SCAQMD: 3,000 MT CO_2e per year
- AVAQMD: 90,718 MT CO_2e per year

Regarding the potential for the Proposed Project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, the Proposed Project is evaluated for its potential to conflict with various GHG emission reduction plans including the County's CCAP, CARB's Scoping Plan, SCAG's RTP/SCS, and statewide 2030 and 2050 GHG reduction targets identified in SB 32 and EO S-3-05. While the County's CCAP does not serve as a Qualified Greenhouse Gas Emissions Reduction Plan under State CEQA Guidelines Section 15183.5(b), for disclosure, the potential for the Proposed Project to conflict with applicable objectives and reduction measures is provided in the impact analysis.

4.8.4 Methodology

As described in Chapter 3, the general areas included as part of the Proposed Project's rezoning program were evaluated in this PEIR at a programmatic level based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. Additionally, for purposes of this analysis hypothetical potential residential development scenarios were developed in order to frame the analysis. Further analysis was not conducted because the County had no further information and it would be too speculative to analyze potential impacts resulting from future housing development per the Proposed Project. As such, potential changes beyond that are considered speculative or unlikely to occur and therefore, not reasonably foreseeable.

Individual project specifics for construction and operation of potential future residential development facilitated by the Proposed Project are not available at this time. However, emissions were estimated to provide screening tables illustrating the magnitude of hypothetical potential residential development scenarios that may occur as a result of the Proposed Project.

Construction Emissions

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145). Nonetheless, an effort shall be made to show a good faith analysis and comply with CEQA's information disclosure requirements (CEQA Guideline 15064.4[a]).

To estimate total GHG emissions from construction over 8 years, the estimated annual GHG emissions from the 10-unit scenario, used to disclose the scale of GHG emissions, was multiplied by the estimated number of 10-unit developments (i.e., 6,345 [63,443 total units ÷ 10 units = 6,345 10-unit developments when rounded up). CalEEMod Version 2016.3.2 was used to estimate potential GHG emissions during construction resulting from potential future projects developed under the Proposed Project. Construction would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 4.3.4, Methodology (Construction Emissions), are also applicable for the estimation of construction-related GHG emissions. As such, see Section 4.3.4 for a discussion of construction emissions calculation methodology and assumptions used in the GHG emissions analysis.

Construction of the potential implementation of the Proposed Project is assumed to last a total of approximately 8 years. The 10-unit development scenario modeled in 2021-2022 reflects the estimated worst-case construction year because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Operational Emissions

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. However, emissions from the operational phase

of the Proposed Project due to future residential development were estimated using CalEEMod Version 2016.3.2. Operational year 2030 was assumed consistent with the anticipated first full year of buildout. The full potential buildout is anticipated to result in a net increase in 63,443 residential units and a net decrease in 16,029,317 square feet of non-residential development. As stated in Section 4.3.4, Methodology (Operational Emissions), while the type of housing will vary, for emission estimation purposes, all units were assumed to be mid-rise apartments consistent with the traffic analysis. Similarly, the non-residential development as a result of the change in development associated with the rezoning program as part of the Proposed Project is anticipated to vary in type of land uses; however, for emissions modeling purposes and consistent with the traffic analysis, all non-residential development was assumed to be regional shopping center.

Potential operational GHG emissions from the potential development of the additional 63,443 dwelling units were estimated for area sources (landscape maintenance), energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment. Emissions from each category are discussed in the following text with respect to the potential development of the additional 63,443 dwelling units. For additional details, see Section 4.3.4, Methodology (Operational Emissions), for a discussion of operational emission calculation methodology and assumptions, specifically for area, energy (natural gas), and mobile sources.

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from hearths, consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating, water heating, and stoves are calculated in the building energy use module of CalEEMod. See Section 4.3.4 for a discussion of landscaping equipment and hearth emissions calculations. Consumer product use and architectural coatings result in VOC emissions, which are analyzed in air quality analysis only, and little to no GHG emissions.

Energy Sources

The estimation of operational energy emissions was based on CalEEMod land use defaults and units or total area (i.e., square footage) of the residential and non-residential land uses. The energy use from residential land uses is calculated in CalEEMod based on the Residential Appliance Saturation Study. For non-residential buildings, CalEEMod energy intensity values (natural gas usage per square foot per year) assumptions were based on the California Commercial End-Use Survey database. Emissions are calculated by multiplying the energy use by the utility carbon intensity (pounds of GHGs per kilowatt-hour for electricity or 1,000 British thermal units for natural gas) for CO_2 and other GHGs. Annual natural gas and electricity emissions were estimated in CalEEMod using the emissions factors for Southern California Edison (SCE), which would be the energy provider for the Project Area.

The current version of CalEEMod assumes compliance with the 2016 Title 24 Building Energy Efficiency Standards (CAPCOA 2017); however, future residential development allowed for under the Proposed Project would be required to comply with the 2019 Title 24 Standards at a minimum. The 2019 Title 24 first-year% savings for newly constructed non-residential buildings (and high-rise residential) representing reductions from the 2016 Title 24 standard are 10.7% of electricity, 9% of demand, and 1% of natural gas (CEC 2018a). Therefore, the residential and non-residential land use Title 24 electricity and natural gas values were reduced by 10.7% and 1%, respectively.

CalEEMod default energy intensity factors (CO_2, CH_4, and N_2O mass emissions per kilowatt-hour) for SCE is based on the value for SCE's energy mix in 2012. The CO_2 emissions intensity factor for utility energy use in CalEEMod was adjusted consistent with SCE's 2018 Sustainability Report (SCE 2021).[3] As explained in Section 4.8.2, above, SB-100 calls for further development of renewable energy, with a target of 44% by 2024, 52% by 2027, and 60% by 2030. Because SCE is striving to meet the 60% RPS by December 31, 2030, the CO_2 emissions intensity factor is anticipated to be less than assumed in CalEEMod at full buildout from implementation of the Proposed Project (2030), which would reflect the increase in percentage of renewable energy in SCE's energy portfolio.

Mobile Sources

All details for criteria air pollutants discussed in Section 4.3.4 are also applicable for the estimation of operational mobile source GHG emissions.

Applied trip generation rates are based on the traffic data provided in Section 4.17, Transportation, of this EIR. As noted previously, mid-rise apartments were assumed for all residential land uses; however, different trip rates for multifamily units proposed in both general urban/sub-urban and dense multi-use urban areas were used since some of the sites would be developed with a higher density with higher accessibility to transit and/or proximity to employment centers.

Regulatory measures related to mobile sources include AB 1493 (Pavley) and related federal standards. AB 1493 required that CARB establish GHG emission standards for automobiles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. In addition, the NHTSA and EPA have established corporate fuel economy standards and GHG emission standards, respectively, for automobiles and light-, medium-, and heavy-duty vehicles. Implementation of these standards and fleet turnover (replacement of older vehicles with newer ones) will gradually reduce emissions from the Proposed Project's motor vehicles. The default vehicle mix provided in CalEEMod 2016.3.2, which is based on CARB's Mobile Source Emissions Inventory model (EMFAC) version 2014, was applied for both the residential and non-residential land uses. Emission factors representing year 2030 were used to estimate emissions associated with of the first full year of operations.

Solid Waste

The potential residential developments of the Proposed Project would generate solid waste, and therefore, result in GHG emissions associated with landfill off-gassing from operation. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste. No solid waste diversion was assumed in the emission modeling. It should be noted that this is a conservative assumption, as the goal for the state is 75% diversion by 2020 in accordance with AB 341.

Water and Wastewater Treatment

Supply, conveyance, treatment, and distribution of water for the implementation of the Proposed Project would require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the any future residential development resulting from implementation of the Proposed Project would require the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. The indoor and outdoor water use and electricity consumption from water use and wastewater generation were estimated using CalEEMod default values.

[3] The CalEEMod default CO_2 intensity factor for SCE is 702.44 pounds per megawatt hour. The CO_2 intensity factor was revised to 531.44 pounds per megawatt hour for SCE to reflect power provided by eligible renewable sources in 2018.

Potential Other Sources of Emissions

Due to the plan-nature of the potential development of the additional 63,443 dwelling units, development could result in additional operational emission sources that are either not captured in CalEEMod or specifics are not available to accurately estimate emissions using CalEEMod. However, based on the type of land uses that would be developed under the buildout, specifically residential land uses, other sources of emissions are not anticipated to be common or substantial. Nonetheless, it is acknowledged that additional emission sources may occur that are not captured in this analysis.

4.8.5 Environmental Impacts

Threshold GHG-1 Would the Project generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment?

The Proposed Project consists of a policy document update. Adoption of Proposed Project alone would not produce environmental impacts. The Proposed Project consists of updating the General Plan Housing Element, and no actual development is proposed as part of the update. Implementation of the programs contained in the updated document would accommodate development required to meet the County's 2021–2029 Regional Housing Needs Assessment allocation, under which the unincorporated County is required to provide the zoned capacity to accommodate the development of at least 90,052 dwelling units using various land use planning strategies. It has been determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to close this gap; refer to Chapter 3, Project Description, for further details. While the Proposed Project consists of a policy document update, which is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

Construction Emissions

Construction of the potential future residential development resulting from facilitation of the Proposed Project's rezoning program (up to approximately 63,443 dwelling units) would result in GHG emissions, which are primarily associated with use of off-road construction equipment and on-road vehicles (haul trucks, vendor trucks, and worker vehicles). The SCAQMD Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold (2008) recommends that, "construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies." Thus, the total construction GHG emissions were calculated, amortized over 30 years, and added to the total operational emissions for comparison with the significance threshold. Therefore, the determination of significance is addressed in the operational emissions discussion following the estimated construction emissions.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 4.3.4, Methodology (Construction Emissions), and 4.8.4, Methodology (Construction Emissions). On-site sources of GHG emissions include off-road equipment and off-site sources including haul trucks, vendor trucks, and worker vehicles.

Table 4.8-3 conservatively presents construction emissions for the potential future residential development of the Proposed Project from on-site and off-site emission sources.

Table 4.8-3. Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
One 10-unit Project: 2021	42.28	0.01	0.00	42.54
One 10-unit Project: 2022	29.12	0.00	0.00	29.33
Total for One 10-Unit Project	**71.40**	**0.01**	**0.00**	**71.87**
Total over 8 years (6,345 10-unit Projects)	**453,033.00**	**63.45**	**0.00**	**456,015.15**
			Amortized over 30 years	**15,200.51**

Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Appendix B for complete results.

As shown in Table 4.8-3, the estimated total GHG emissions during construction would total approximately 456,015 MT CO_2e over the assumed 8-year construction period. Estimated construction emissions from the potential future residential development facilitated by the Proposed Project amortized over 30 years would be approximately 15,201 MT CO_2e per year. Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis in the following text.

Operational Emissions

Operation of the potential future residential development facilitated by the Proposed Project would generate GHG emissions through motor vehicle trips; landscape maintenance equipment operation (area source); energy use (natural gas and electricity); solid waste disposal; and water supply, treatment, and distribution and wastewater treatment. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 4.8.4, Methodology (Operational Emissions).

The estimated operational GHG emissions from the net increase in residential units and the net decrease in non-residential square footage from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation, and the net change in emissions are shown in Table 4.8-4.

Table 4.8-4. Estimated Annual Operational GHG Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Net Increase in Residential Unit Emissions				
Area	14,780.25	1.28	0.25	14,887.19
Energy	106,613.00	4.22	1.52	107,171.90
Mobile	332,073.94	13.91	0.00	332,421.72
Solid waste	5,294.04	350.1	0.00	14,676.57
Water supply and wastewater	21,264.95	135.78	3.41	25,674.36
Total	**480,026.18**	**505.29**	**5.18**	**494,831.74**
Net Decrease in Non-Residential Square Footage Emissions				
Area	0.40	0.00	0.00	0.42
Energy	51,896.61	2.78	0.60	52,143.70
Mobile	460,928.71	20.27	0.00	461,435.10

Table 4.8-4. Estimated Annual Operational GHG Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Solid waste	3,416.51	201.91	0.00	8,464.27
Water supply and wastewater	6,052.46	40.00	0.98	7,318.77
Total	**522,294.69**	**264.96**	**1.58**	**529,362.26**
Net Change in Emissions				
Net Change (Residential Increase – Non-Residential Decrease)	-42,268.51	240.33	3.60	-34,530.52
Amortized construction emissions				*15,200.51*
Total net operational + amortized construction GHGs				**-19,330.02**
SCAQMD Threshold				*3,000*
SCAQMD Threshold Exceed?				*No*
Total net operational + amortized construction GHGs (tons per year)				**-21,307.70**
AVAQMD Threshold (tons per year)				*100,000*
AVAQMD Threshold Exceed?				*No*

Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; SCAQMD = South Coast Air Quality Management District; AVAQMD = Antelope Valley Air Quality Management District.
See Appendix B for complete results.
Totals may not sum due to rounding.
The Proposed Project residential and non-residential emissions reflect operational year 2030.
Limited to sources discussed in Section 4.8.4.

As previously described, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. As shown in Table 4.8-4, estimated net increase in potential residential development facilitated by the Proposed Project would be approximately 494,832 MT CO_2e per year as a result of operations only. As the decrease in non-residential square footage is estimated to generate 529,362 MT CO_2e per year, the net between the net increase in residential development and the net decrease in non-residential development represents a change in emissions associated with the future residential development facilitated by the Proposed Project is estimated to be a decrease of 34,531 MT CO_2e per year. After accounting for amortized construction emissions, total net GHGs generated by the would be approximately a decrease of 19,330 MT CO_2e per year, or a decrease of 21,308 tons CO_2e per year. As such, annual operational GHG emissions with amortized construction emissions would not exceed the SCAQMD threshold of 3,000 MT CO_2e per year and the AVAQMD threshold of 100,000 tons CO_2e per year. Additionally, approval of the Proposed Project itself, as a policy document update, would not provide any goals, policies, or programs that would generate GHG emissions. Furthermore, future housing development facilitated by the Proposed Project will be subject to discretionary permits and future CEQA review on a project-by-project basis. For all these reasons, impacts related to the potential of the construction and operation-generated GHG emissions from potential future residential development facilitated by the Proposed Project, either directly or indirectly, would be **less than significant**.

Threshold GHG-2 Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Potential to Conflict with the County's Community Climate Action Plan

The County's CCAP includes 26 local community actions to reduce GHG emissions from the County's community activities. Those actions are grouped into five strategy areas, listed below. Following each strategy area, a qualitative analysis is provided describing how it relates to the Proposed Project. The potential future residential development projects resulting from implementation of the Proposed Project would become operational outside of the applicable timeline to tier from the County's CCAP; therefore, consistency with the County's CCAP was not utilized to determine significance of GHG impacts, and this discussion is provided for disclosure purposes.

1. **Green Building and Energy.** The Proposed Project would be consistent with the County's General Plan Policies and future residential development would be required to comply with the 2019 Title 24 Standards and 2019 CALGreen at a minimum, such as energy efficient design, utilizing light colored paving materials and reflective roofing materials, optimizing the solar orientation. As required by 2019 CALGreen, the multi-family residential units that would potentially be developed would require 10% of all parking spaces to be electric vehicle capable.
2. **Land Use and Transportation.** The Proposed Project would allow for 19,940 multi-family residential units within dense multi-use urban areas. The proposed multi-family units would be developed with a higher density with increased access to transit and within dense multi-use urban areas. The Proposed Project would be consistent with the County's General Plan Policies to promote sustainability in land use design by encouraging development within dense multi-use urban areas to increase walking, bicycling, and transit ridership to reduce VMT, and improve pedestrian infrastructure through sidewalk continuity and street connectivity. Furthermore, the Proposed Project includes Policy 2.2, which would further encourage multi-family residential and mixed-use developments along major commercial and transportation corridors.
3. **Water Conservation and Wastewater.** Future residential development from implementation of the Proposed Project would be required to comply with the 2019 Title 24 Standards and 2019 CALGreen at a minimum, by installing water conserving plumbing fixtures and fittings to reduce the developments' water use. The Proposed Project would be consistent with the County's General Plan Policies to intensity water conservation efforts, including consistency with the County's Water Conservation Ordinance.
4. **Waste Reduction, Reuse, and Recycling.** As discussed above, future residential developments from implementation of the Proposed Project would be required to comply with the 2019 Title 24 Standards and 2019 CALGreen at a minimum, by installing water conserving plumbing fixtures and fittings to reduce the developments' water use, The Proposed Project would be consistent with the County's General Plan Policies to intensity water conservation efforts, and future residential developments would be consistent with the County's Water Conservation Ordinance.

Therefore, the existing regulatory setting and the goals and policies contained in the General Plan would ensure that the Proposed Project would not conflict with the County's CCAP. Furthermore, the Proposed Project includes the following goal and policies under Strategy 6: Ensure Sustainability in Housing Production:

Goal 11 Alignment of housing production with state and local sustainability goals in order to protect natural resources, reduce greenhouse gas emissions, and foster climate resilience.

Policy 11.1 Ensure consistency with the OurCounty Sustainability Plan through equitable and sustainable land use policy.

Policy 11:2 Ensure consistency with the County's Green Building Standards (Title 31) to enhance building design and construction and encourage sustainable construction practices.

Policy 11.3 Support policies and programs that aim to reduce resource consumption. Examples may include solar panel installation, cool roof installation, back-up battery power, and incentivization of housing near transit. **Policy 11.4:** Prioritize and concentrate new housing developments in least environmentally hazardous areas and with adequate infrastructure such as road networks and water supply.

Potential to Conflict with SCAG's 2020-2045 RTP/SCS

The SCAG 2020–2045 RTP/SCS is a regional growth management strategy that targets per-capita GHG reduction from passenger vehicles and light trucks in the southern California region pursuant to SB 375. In addition to demonstrating the region's ability to attain the GHG emission-reduction targets set forth by CARB, the 2020–2045 RTP/SCS outlines a series of actions and strategies for integrating the transportation network with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. Thus, successful implementation of the 2020–2045 RTP/SCS would result in more complete communities with a variety of transportation and housing choices, while reducing automobile use.

The following strategies are intended to be supportive of implementing the 2020–2045 RTP/SCS and reducing GHGs: focus growth near destinations and mobility options; promote diverse housing choices; leverage technology innovations; support implementation of sustainability policies; and promote a green region. The strategies that pertain to SCAG's support of local jurisdiction sustainability efforts would not apply to the Proposed Project. Compliance with the remaining applicable strategies is presented below.

- **Focus Growth Near Destinations and Mobility Options.** The Proposed Project would facilitate the potential development of up to 19,940 multi-family residential units within dense multi-use urban areas. The proposed multi-family units would be developed with a higher density with increased access to transit and within dense multi-use urban areas. As such, the facilitation of the Proposed Project would provide residences within proximity to transit services. The Project's site location would reduce VMT and associated GHG emissions by being in proximity to complimentary land uses and employment centers, which could encourage use of alternative transportation methods such as transit, walking, or biking, or would result in shorter vehicle trips. The Proposed Project would be consistent with the County's General Plan Policies to promote sustainability in land use design by encouraging development within dense multi-use urban areas to increase walking, bicycling, and transit ridership to reduce VMT, and improve pedestrian infrastructure through sidewalk continuity and street connectivity. Furthermore, the Proposed Project includes Policy 2.2, which would further encourage multi-family residential and mixed-use developments along major commercial and transportation corridors, as well as Policy 11.1 to ensure consistency with the OurCounty Sustainability Plan through equitable and sustainable land use policy, Policy 11.3 to incentivize housing near transit, and Policy 11.4 to prioritize and concentrate new housing developments in areas with adequate infrastructure such as road networks.
- **Promote Diverse Housing Choices.** The Proposed Project would comply with this strategy of the 2020–2045 RTP/SCS since it would result in the development of diverse housing types as well as new market-rate and affordable residential units to increase a mix of housing supply options. The Proposed Project includes goals and policies that would provide a range of housing types in sufficient supply to meet the needs of current and future residents, provide a supply that ranges broadly in housing costs, and maintain a healthy and diverse housing supply.

- **Leverage Technology Innovations.** The Proposed Project would comply with this strategy of the 2020-2045 RTP/SCS since it would be consistent with the County's General Plan Policies and would be required to comply with the 2019 Title 24 Standards and 2019 CALGreen at a minimum, through energy-efficient design and support low emission technologies for transportation, such as alternative fuel vehicles to reduce per capita GHG emissions. As required by 2019 CALGreen, the Proposed Project multi-family residential units would be required 10% of all parking spaces to be electric vehicle capable. Furthermore, the Proposed Project encourages energy-efficient design through Policy 11.2, which would ensure consistency with the County's Green Building Standards (Title 31) to enhance building design and construction and encourage sustainable construction practices, and Policy 11.3, which supports policies and programs that aim to reduce resource consumption, such as solar panel installation, cool roof installation, back-up battery power, and incentivization of housing near transit.
- **Promote a Green Region.** Another applicable strategy within the 2020–2045 RTP/SCS to the Proposed Project involves promoting a green region through efforts such as supporting local policies for renewable energy production and promoting more resource efficient development (e.g., reducing energy consumption) to reduce GHG emissions. As mentioned above, the Proposed Project includes policies to encourage green and resource-efficient development. In addition, the development of multi-family residences allowed for by the Proposed Project would be required to comply with 2019 Title 24 building code (at a minimum), which would require installation solar photovoltaic systems.

Project Consistency with the CARB Scoping Plan, SB 32, and EO S-3-05

The Scoping Plan, approved by CARB in 2008 and updated in 2014 and 2017, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Relatedly, in the Final Statement of Reasons for the Amendments to the CEQA Guidelines, the CNRA observed that "[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009a). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., LCFS), among others. The Proposed Project would comply with all applicable regulations adopted in furtherance of the Scoping Plan to the extent required by law.

As discussed in Section 4.8.2, EO S-3-05 established a goal to reduce statewide GHG emissions to the 1990 level by 2020, and to reduce statewide GHG emissions to 80% below the 1990 level by 2050. SB 32 establishes a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by 2030. While there are no established protocols or thresholds of significance for that future year analysis, CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory of meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014).

The Proposed Project would support achievement of the SB 32 and EO S-3-05 goals through compliance with the County's CCAP and consistency with the strategies identified in SCAG's 2020-2045 RTP/SCS to reduce per capita GHG emissions, as well as not resulting in an increase in GHG emissions, as discussed in Threshold GHG-1.

Summary

As previously described, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program that is part of the Proposed Project would allow for greater densities than are currently allowed within the County. As discussed under Threshold GHG-1 above, the future residential development under the Proposed Project would not exceed the SCAQMD and AVAQMD GHG significance thresholds, given the information provided to date. Furthermore, based on the general areas of the rezoning program, the Proposed Project would likely result in higher density housing developments with complimentary land uses and employment centers, which could encourage use of alternative transportation methods such as transit, walking, or biking, or would result in shorter vehicle trips. Furthermore, the Proposed Project includes Policy 2.2, which would further encourage multi-family residential and mixed-use developments along major commercial and transportation corridors, as well as Policy 11.1 to ensure consistency with the OurCounty Sustainability Plan through equitable and sustainable land use policy, Policy 11.3 to incentivize housing near transit, and Policy 11.4 to prioritize and concentrate new housing developments in areas with adequate infrastructure such as road networks.

The Proposed Project would support achievement of SB 32 and EO S-3-05 goals through the goals and policies included in the Proposed Project, compliance with the County's CCAP, and consistency with the strategies identified in SCAG's 2020-2045 RTP/SCS. In addition, because of the potential residential development VMT impacts, implementation of Transportation Demand Management measures **MM-TRA-1 through MM-TRA-6** and VMT mitigation reduction program **MM-TRA-7**, as described in Section 4.17.7, Mitigation Measures, would further reduce the Proposed Project's VMT and mobile-source GHG emissions. Because the future residential development from facilitation of the Proposed Project would be consistent with the applicable plans and regulations adopted for the purpose of reducing the emissions of GHGs, Project-related GHG impacts would be **less than significant**.

4.8.6 Cumulative Impacts

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. As previously discussed in Section 4.8.1, Existing Conditions, GHG emissions inherently contribute to cumulative impacts, and thus, any additional GHG emissions would result in a cumulative impact. As shown in Tables 4.8-4 and 4.8-5, future residential development facilitated by the Proposed Project is not expected to conflict with applicable GHG reduction plans. Therefore, the Proposed Project would not result in a cumulatively considerable impact and cumulative impacts are considered less than significant.

4.8.7 Mitigation Measures

Project impacts would be less than significant, and no mitigation is required.

4.8.8 Level of Significance After Mitigation

Impacts would be less than significant.

4.8.9 References

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4.9 Hazards and Hazardous Materials

This section discusses the environmental setting and evaluates the potential impacts that could result from implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project) related to hazardous materials, airport hazards, emergency response plans, and wildland fires.

4.9.1 Environmental Setting

This section discusses the existing environmental setting relative to hazards and hazardous materials. As described in Chapter 3.0, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section describes generally the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program as those are the areas that may result in changes to the environment that weren't already considered in previous environmental analysis or studies.

Hazardous materials refer generally to hazardous substances that exhibit corrosive, poisonous, toxic, flammable, and/or reactive properties and have the potential to harm human health and/or the environment. Hazardous materials are used in products (e.g., household cleaners, industrial solvents, paint, pesticides) and in the manufacturing of products (e.g., electronics, newspapers, plastic products). Hazardous materials can include petroleum, natural gas, synthetic gas, acutely toxic chemicals, and other toxic chemicals that are used in agriculture, commercial, and industrial uses; businesses; hospitals; and households. Accidental releases of hazardous materials have a variety of causes, including highway incidents, warehouse fires, train derailments, shipping accidents, industrial incidents, and unintentional releases.

Hazardous Materials Sites

California Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal/EPA) to compile, maintain, and update specified lists of hazardous material release sites. The California Environmental Quality Act (CEQA) Guidelines (California Public Resources Code, Section 21092.6) require the lead agency to consult the lists compiled pursuant to Government Code Section 65962.5 to determine whether the Project and any alternatives are identified on any of the following lists:

- **EPA NPL (National Priorities List):** Lists all sites under the U.S. Environmental Protection Agency (EPA) Superfund program, which was established to fund cleanup of contaminated sites that pose risk to human health and the environment.
- **EPA CERCLIS and Archived Sites:** The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list contains 15,000 sites nationally identified as hazardous sites. This would also involve a review for archived sites that have been removed from CERCLIS due to No Further Remedial Action Planned status.
- **EPA RCRIS (RCRAInfo):** Resource Conservation and Recovery Act Information System (RCRIS or RCRAInfo) is a national inventory system about hazardous waste handlers. Generators, transporters, handlers, and disposers of hazardous waste are required to provide information for this database.

- **DTSC Cortese List:** The Department of Toxic Substances Control (DTSC) maintains the Hazardous Waste and Substances Sites (Cortese) List as a planning document for use by state and local agencies to comply with the CEQA requirements in providing information about the location of hazardous materials release sites. This list includes the Site Mitigation and Brownfields Reuse Program Database (CalSites).
- **DTSC HazNet:** DTSC uses this database to track hazardous waste shipments.
- **SWRCB LUSTIS:** Leaking Underground Storage Tank Information System. The State Water Resources Control Board (SWRCB) maintains an inventory of underground storage tanks and leaking underground storage tanks, which tracks unauthorized releases.

The required lists of hazardous material release sites are commonly referred to as the "Cortese List" after the legislator who authored the legislation. Because the statute was enacted more than 20 years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and, in some cases, the information to be included in the Cortese List does not exist. Those requesting a copy of the Cortese List are now referred directly to the appropriate information resources contained on websites hosted by the boards or departments referenced in the statute, including DTSC's online EnviroStor database and the SWRCB's online GeoTracker database. These two databases include hazardous material release sites, along with other categories of sites or facilities specific to each agency's jurisdiction. A search of commonly accessed online databases on February 24, 2021, identified the following information potentially relevant to proposed land use changes due to adoption and implementation of the Proposed Project.

EnviroStor

The EnviroStor database, maintained by DTSC, identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes federal Superfund sites (National Priorities List), state response sites and voluntary cleanup sites, school investigation and cleanup sites, corrective action sites, and tiered California permit sites. It also includes sites that are being investigated for suspected but unconfirmed contamination.

A search of this database found three parcels within the Proposed Project's general rezoning program area that would be affected by a site identified in EnviroStor. The three parcels include a commercial facility at 6708 S Central Ave, Los Angeles, CA 90001, an industrial facility at 6355 Compton Ave, Los Angeles, CA 90001, and another commercial facility at 6023 Compton Avenue, Florence, CA 90001. All three of the locations are located within the Metro Planning Area.

GeoTracker

The GeoTracker database, maintained by SWRCB, lists a range of types of hazardous materials sites that could affect groundwater quality, including leaking underground storage tank sites, cleanup program sites, land disposal sites, and military sites. A search of the database found that 47 parcels within the Proposed Project's general rezoning program area were identified in GeoTracker. The affected parcels are located in the Project Area within the South Bay Planning Area, Metro Planning Area, Gateway Planning Area, Westside Planning Area, East San Gabriel Valley Planning Area, and West San Gabriel Valley Planning Area.

Hazardous Waste Generators

Large quantity generators are those that generate 1,000 kilograms per month or more of hazardous waste, or more than 1 kilogram per month of acutely hazardous waste. Small quantity generators generate from 100 to 999

kilograms per month of hazardous waste. A search of the RCRA Info database, maintained by EPA, found that 28 parcels within the Proposed Project's general rezoning program area were identified in the database. The affected parcels in the Project Area are within the South Bay Planning Area, Metro Planning Area, Gateway Planning Area, West San Gabriel Planning Area, and the East San Gabriel Planning Area.

Airport Hazards

Assembly Bill 2776, which went into effect January 1, 2004, defines an "airport influence area" as the area where airport-related factors "may significantly affect land uses or necessitate restrictions on those uses as determined by an airport land use commission." The California Public Utilities Code establishes airport land use commissions in every county to provide for the orderly development of air transportation and ensure compatible land uses around airports that are open to public use. According to the State Division of Aeronautics, the airport influence area is usually the planning area designated by an airport land use commission for each airport.

The Los Angeles County Airport Land Use Compatibility Plan provides guidance related to the placement of land uses near the aforementioned airports. These recommendations are based on a variety of factors, including those related to noise, safety, and aircraft movement. In addition to the identification of land use compatibility issues, the Airport Land Use Compatibility Plan identifies notification disclosure areas around each airport.

There are 15 public use airports within the boundaries of Los Angeles County Airport Land Use Commission's jurisdiction, which is conterminous with Los Angeles County (County). Five are owned by the County , nine are owned by other public entities, and one is privately owned. Additionally, there are 11 private-use airstrips, 1 private-use seaplane base, and 138 heliports registered with the Federal Aviation Administration in the County.

A map of all of the airports in the County in relation to the Project Area can be seen on Figure 4.11-2, Airports/Airfields. Only one airport in the County has an airport influence area that overlaps with portions of the Project Area: Los Angeles International Airport.

During the planning of the rezoning program, the County excluded areas within the 65 decibel community noise equivalent level and above, within Airport Influence Areas.

Emergency Response Plans

Emergency response plans include elements to maintain continuity of government, emergency functions of governmental agencies, mobilization and application of resources, mutual aid, and public information. Emergency response plans are maintained at the federal, state, and local level for all types of disasters and hazards, including human-made and natural. It is the responsibility of government to undertake an ongoing comprehensive approach to emergency management in order to avoid or minimize the effects of hazardous events. Local governments have the primary responsibility for preparedness and response activities.

The Los County Office of Emergency Management maintains the Los Angeles County Operational Area Emergency Response Plan and the County of Los Angeles All-Hazard Mitigation Plan. The Los County Office of Emergency Management leads and coordinates disaster plans and disaster preparedness exercises for all cities and 288 special districts in the County. Additionally, hazardous material response in the Project Area would be handled by the hazardous materials response firefighters with the Los Angeles County Fire Department (LACoFD) (County of Los Angeles 2020).

Wildfire Hazards

Fire Hazard Severity Areas in the County are designated by the California Department of Forestry and Fire Prevention, and by LACoFD within cities. Fire hazard severity zone levels range from moderate to very high. Fire hazard severity zones are designated in three types of areas based on what level of government is financially responsible for preventing and suppressing wildfires (see Figure 4.20-1, Fire Hazard Severity Zones):

- Federal Responsibility Areas: The federal government is financially responsible for wildfire suppression. Within the District, the Angeles National Forest and federal land in the Santa Monica Mountains National Recreation Area are Federal Responsibility Areas.
- State Responsibility Areas: The state is financially responsible for wildfire suppression. Within the District, State Responsibility Areas are in outlying areas such as the Santa Susana Mountains, foothills of the San Gabriel Mountains, and parts of the Santa Monica Mountains.
- Local Responsibility Areas: Cities or the County are financially responsible for wildfire suppression. Local Responsibility Areas in the County include foothills of the Santa Susana and San Gabriel Mountains; the Verdugo Mountains, Santa Monica Mountains, Hollywood Hills, San Rafael Hills, and Puente Hills; and in other hills in the central Los Angeles area.

During the planning of the rezoning program, the County excluded areas located within fire hazard severity zones.

4.9.2 Relevant Plans, Policies, and Ordinances

Federal

The following federal regulations pertaining to hazards and hazardous materials would apply to the Proposed Project.

Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984

Federal hazardous waste laws are generally promulgated under the Resource Conservation and Recovery Act (RCRA). These laws provide for the "cradle to grave" regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed. DTSC is responsible for implementing the RCRA program and California's own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law. Under the Certified Unified Program Agency (CUPA) program, Cal/EPA has in turn delegated enforcement authority to the County for state law regulating hazardous waste producers or generators.

Comprehensive Environmental Response, Compensation, and Liability Act and the Superfund Amendments and Reauthorization Act of 1986

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, on December 11, 1980. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. The Superfund Amendments and Reauthorization Act (SARA) amended CERCLA 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.

Emergency Planning Community Right-to-Know Act

The Emergency Planning Community Right-to-Know Act, also known as SARA Title III, was enacted in October 1986. This law requires any infrastructure at the state and local levels to plan for chemical emergencies. Reported information is then made publicly available so that interested parties may become informed about potentially dangerous chemicals in their community. Sections 301 through 312 of the act are administered by EPA's Office of Emergency Management. EPA's Office of Information Analysis and Access implements the Emergency Planning Community Right-to-Know Act Section 313 program. In California, SARA Title III is implemented through the California Accidental Release Prevention Program.

Hazardous Materials Transportation Act

The Department of Transportation regulates hazardous materials transportation under Title 49 of the Code of Federal Regulations. State agencies that have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation (Caltrans). These agencies also govern permitting for hazardous materials transportation. Title 49 of the Code of Federal Regulations reflects laws passed by Congress as of January 2, 2006.

Federal Response Plan

The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a presidential declaration of a major disaster or emergency.

2018 International Fire Code

The International Fire Code (IFC), created by the International Code Council, is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The IFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The IFC and the International Building Code use a hazard classification system to determine what measures are required to protect against structural fires. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, IFC employs a permit system based on hazard classification. The IFC is updated every 3 years.

State

The following state regulations pertaining to hazards and hazardous materials would apply to the Proposed Project.

California Health and Safety Code and Code of Regulations

California Health and Safety Code Chapter 6.95 and 19 California Code of Regulations Section 2729 set out the minimum requirements for business emergency plans and chemical inventory reporting. These regulations require businesses to provide emergency response plans and procedures, training program information, and a hazardous materials chemical inventory disclosing hazardous materials stored, used, or handled on site. A business that uses hazardous materials or a mixture containing hazardous materials must establish and implement a business plan if the hazardous material is handled in certain quantities.

California Environmental Protection Agency

Cal/EPA was created in 1991 by the governor's Executive Order W-5-91. Several state regulatory boards, departments, and offices were placed under the Cal/EPA umbrella to create a cabinet-level voice for the protection of human health and the environment and to assure the coordinated deployment of state resources. Among those responsible for hazardous materials and waste management are DTSC, Department of Pesticide Regulation, and Office of Environmental Health Hazard Assessment. Cal/EPA also oversees the unified hazardous waste and hazardous materials management regulatory program (Unified Program).

California Department of Toxic Substances Control

The California DTSC, which is a department of Cal/EPA, is authorized to carry out the federal RCRA hazardous waste program in California to protect people from exposure to hazardous wastes. The department regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California, primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (22 CCR Divisions 4 and 4.5). Permitting, inspection, compliance, and corrective action programs ensure that people who manage hazardous waste follow state and federal requirements and other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

California Education Code

The California Education Code establishes the law for California public education. The California Education Code requires that DTSC be involved in the environmental review process for the proposed acquisition and/or construction of school properties that will use state funding. The California Education Code requires a Phase I Environmental Site Assessment be completed prior to acquiring a school site or engaging in a construction project. Depending on the outcome of the Phase I Environmental Site Assessment, a Preliminary Environmental Assessment and remediation may be required. The California Education Code also requires potential, future school sites that are proposed within 2 miles of an airport to be reviewed by Caltrans Division of Aeronautics. If Caltrans does not support the proposed site, no state or local funds can be used to acquire the site or construct the school.

California State Aeronautics Act

The State Aeronautics Act is implemented by Caltrans Division of Aeronautics. The purpose of this act is to do the following:

- Foster and promote safety in aeronautics
- Ensure the state provides laws and regulations relating to aeronautics that are consistent with federal aeronautics laws and regulations
- Assure that persons residing in the vicinity of airports are protected against intrusions by unreasonable levels of aircraft noise
- Develop informational programs to increase the understanding of current air transportation issues

Caltrans Division of Aeronautics issues permits for and annually inspects hospital heliports and public-use airports, makes recommendations regarding proposed school sites within 2 miles of an airport runway, and authorizes helicopter landing sites at/near schools.

California Building Code

The State of California provides a minimum standard for building design through the 2019 California Building Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations. The 2019 CBC is based on the 1997 Uniform Building Code but has been modified for California conditions. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local city and county building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all 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 wildlife hazard areas.

California Fire Code (2019)

California Code of Regulations, Title 24, also known as the California Building Standards Code, contains the California Fire Code, included as Part 9 of that title. Updated every 3 years, the California Fire Code includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution. LACoFD provides fire protection services for the unincorporated areas of the County. The Project Area includes parcels that are located in unincorporated areas of the County. As such, the LACoFD implements and enforces the California Fire Code in the Project Area.

Asbestos-Containing Materials Regulations

State-level agencies, in conjunction with EPA and the Occupational Safety and Health Administration, regulate removal, abatement, and transport procedures for asbestos-containing materials. Releases of asbestos from industrial, demolition, or construction activities are prohibited by these regulations and medical evaluation and monitoring is required for employees performing activities that could expose them to asbestos. Additionally, the regulations include warnings that must be heeded and practices that must be followed to reduce the risk for asbestos emissions and exposure. Finally, federal, state, and local agencies must be notified prior to the onset of demolition or construction activities with the potential to release asbestos.

Polychlorinated Biphenyls

The EPA prohibited the use of polychlorinated biphenyls (PCBs) in the majority of new electrical equipment starting in 1979, and initiated a phase-out for much of the existing PCB-containing equipment. The inclusion of PCBs in electrical equipment and the handling of those PCBs are regulated by the provisions of the Toxic Substances Control Act (15 USC Section 2601 et seq.). Relevant regulations include labeling and periodic inspection requirements for certain types of PCB-containing equipment and highly specific safety procedures for their disposal. The state likewise regulates PCB-laden electrical equipment and materials contaminated above a certain threshold as hazardous waste; these regulations require that such materials be treated, transported, and disposed accordingly. At lower concentrations for non-liquids, Regional Water Quality Control Boards may exercise discretion over the classification of such wastes.

Lead-Based Paint

California Occupational Safety and Health Administration's Lead in Construction Standard is contained in Title 8, Section 1532.1, of the California Code of Regulations. The regulations address all of the following areas: permissible exposure limits; exposure assessment; compliance methods; respiratory protection; protective clothing and equipment; housekeeping; medical surveillance; medical removal protection; employee information, training, and certification; signage; record keeping; monitoring; and agency notification.

Local

The following local/regional regulations pertaining to hazards and hazardous materials would apply to the Proposed Project.

Los Angeles County 2035 General Plan

The Land Use Element of the Los Angeles County 2035 General Plan (General Plan) provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal LU 1 A General Plan that serves as the constitution for development, and a Land Use Policy Map that implements the General Plan's Goals, Policies and Guiding Principles.

Policy LU 1.1 Minimize health risks to people from industrial toxic or hazardous air pollutant emissions, with an emphasis on local hot spots, such as existing point sources affecting immediate sensitive receptors.

Policy LU 1.6 In the review of a project-specific amendment(s) to convert lands within the EPD Overlay to non-industrial land use designations, ensure that the project-specific amendment(s):

- Is located on a parcel that adjoins a parcel with a comparable use, at a comparable scale and intensity;
- Will not negatively impact the productivity of neighboring industrial activities;
- Is necessary to promote the economic value and the long-term viability of the site; and
- Will not subject future residents to potential noxious impacts, such as noise, odors or dust or pose significant health and safety risks.

Goal LU 3 A development pattern that discourages sprawl and protects and conserves areas with natural resources and SEAs.

Policy LU 3.2 Discourage development in areas with high environmental resources and/or severe safety hazards.

Goal LU 7 Compatible land uses that complement neighborhood character and the natural environment.

Policy LU 7.6 Ensure that proposed land uses located within Airport Influence Areas are compatible with airport operations through compliance with airport land use compatibility plans.

Policy LU 7.7 Review all proposed projects located within Airport Influence Areas for consistency with policies of the applicable airport land use compatibility plan.

The Air Quality Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal AQ 1 Protection from exposure to harmful air pollutants.

Policy AQ 1.1 Minimize health risks to people from industrial toxic or hazardous air pollutant emissions, with an emphasis on local hot spots, such as existing point sources affecting immediate sensitive receptors.

The Safety Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal S 3 An effective regulatory system that prevents or minimizes personal injury, loss of life, and property damage due to fire hazards.

Policy S 3.1 Discourage high density and intensity development in VHFHSZs (Very High Fire Hazard Severity Zones).

Policy S 3.3 Ensure that the mitigation of fire related property damage and loss in FHSZs limits impacts to biological and other resources.

Policy S 3.4 Reduce the risk of wildland fire hazards through the use of regulations and performance standards, such as fire-resistant building materials, vegetation management, fuel modification and other fire hazard reduction programs.

Policy S 3.6 Ensure adequate infrastructure, including ingress, egress, and peak load water supply availability for all projects located in FHSZs.

Policy S 3.7 Site and design developments located within FHSZs, such as in areas located near ridgelines and on hilltops, in a sensitive manner to reduce the wildfire risk.

Policy S 3.7 Site and design developments located within FHSZs, such as in areas located near ridgelines and on hilltops, in a sensitive manner to reduce the wildfire risk.

Los Angeles County Municipal Code, 105.6.20 – Hazardous Materials

Section 105.6.20 of the Los Angeles County Municipal Code states that operational permits are requirement to store, transport on site, dispense, use, or handle hazardous materials in excess of amounts listed in Table 105.6.20 of the County's Municipal Code.

Certified Unified Program Agency

A CUPA is a local agency that has been certified by Cal/EPA to implement the local Unified Program. The CUPA can be a county, city, or joint powers authority. A participating agency is a local agency that has been designated by the local CUPA to administer one or more Unified Programs within their jurisdiction on behalf of the CUPA. A designated agency is a local agency that has not been certified by Cal/EPA to become a CUPA but is the responsible local agency that would implement the six Unified Programs, listed below, until they are certified. Currently, there are 83 CUPAs in California. LACoFD is the certified CUPA for the Project Area and for many cities throughout the County. The Unified Program consolidates, coordinates, and makes consistent the following six existing programs:

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- California Accidental Release Prevention Program
- Underground Storage Tank Program
- Aboveground Petroleum Storage Act
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs
- California Uniform Fire Code: Hazardous Materials Management Plans and Hazardous Material Inventory Statements

4.9.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment with respect to hazards and hazardous materials if the project would:

H-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

H-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

H-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school.

H-4: Be located on a site which is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

H-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would result in a safety hazard for people residing or working in the Project Area.

H-6: For a project in the vicinity of a private airstrip, result in a safety hazard for people residing or working in the Project Area.

H-7: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

H-8: Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to the urbanized areas or where residences are intermixed with wildlands.

4.9.4 Methodology

The hazards and hazardous materials analysis considers if implementation of the Proposed Project would result in significant exposure of people or property to hazardous materials. The location of existing hazardous materials sites relative to the Project Area is an important consideration in this analysis. Compliance with federal, state, and local hazardous materials regulations and standards would likely reduce potential impacts. If the Proposed Project has the potential to result in potential impacts, mitigation measures can be provided to reduce these impacts.

As described in Chapter 3, Project Description, the general areas included as part of the Proposed Project's rezoning program were evaluated in this PEIR at a programmatic level based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. Further analysis was not conducted because the County had no further information and it would be too speculative to analyze potential impacts resulting from future housing development per the Proposed Project. As such, potential changes beyond that are considered speculative or unlikely to occur and therefore not reasonably foreseeable.

Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

4.9.5 Environmental Impacts

Threshold H-1 **Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Threshold H-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?**

The Proposed Project is a policy document and adoption of Proposed Project alone would not produce environmental impacts. The Proposed Project does not propose construction or other development; rather, it provides capacity for future housing development consistent with State Housing Element Law and the Regional Housing Needs Allocation. Demolition and construction activities associated with future housing development facilitated by the Proposed Project could require transport of hazardous materials (e.g., asbestos-containing materials, lead-based paint, and/or contaminated soils). This transport would be limited in duration.

Numerous federal, state, and local regulations exist that require strict adherence to specific guidelines regarding the use, transportation, and disposal of hazardous materials. Regulations that would be required of those transporting, using, or disposing of hazardous materials include RCRA, which provides the cradle to grave regulation of hazardous wastes; CERCLA, which regulates closed and abandoned hazardous waste sites; the Hazardous Materials Transportation Act, which governs hazardous materials transportation on U.S. roadways; IFC, which creates procedures and mechanisms to ensure the safe handling and storage of hazardous materials; Title 22, which regulates the generation, transportation, treatment, storage and disposal of hazardous waste; Title 27, which regulates the treatment, storage and disposal of solid wastes; and the County Consolidated Fire Code, which regulates hazardous materials and hazardous substance releases. For development within the State of California, Government Code Section 65850.2 requires that no final certificate of occupancy or its substantial equivalent be issued unless there is verification that the owner or authorized agent has met, or is meeting, the applicable requirements of the Health and Safety Code, Division 20, Chapter 6.95, Article 2, Sections 25500 through 25520.

Additionally, the County, in conjunction with its many emergency services partners, has prepared a Local All-Hazards Mitigation Plan that sets strategies for coping with the natural and human-caused hazards faced by residents. The plan is a compilation of information from County departments correlated with known and projected hazards that face Southern California. The plan complies with, and has been approved by, the Federal Emergency Management Agency and the Governor's Office of Emergency Services. The plan has been formally adopted by the Los Angeles County Board of Supervisors for use in the development of specific hazard mitigation proposals that have a high cost-benefit ratio.

Furthermore, residential development sites within the County are not expected to transport, use, store, or dispose of substantial amounts of hazardous materials, with the exception of common residential-grade hazardous materials such as household cleaners and paint, among others. There are also a variety of existing and proposed regulatory processes that would serve to minimize these potential impacts through the review for hazardous material contamination in soil, soil vapor, or groundwater and an assessment for hazardous building materials which could, upon disturbance during construction, be released to the environment or, upon future occupation, cause a hazard to the public due to exposure to hazardous materials above the applicable regulatory exposure limits.

Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations and would not provide any goals, policies, or programs that would significantly increase the exposure of hazardous materials to the public and the environment. Therefore, impacts related to transport, use, and disposal of hazardous materials would be **less than significant**.

Threshold H-3 Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school?

There are several schools located within one-quarter mile of the Project Area, as further detailed in Section 4.15, Public Services.

As described in Threshold H-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

Numerous federal, state, and local regulations exist that require strict adherence to specific guidelines regarding the use, transportation, and disposal of hazardous materials. Regulations that would be required of those transporting, using or disposing of hazardous materials include RCRA, which provides the cradle to grave regulation of hazardous wastes; CERCLA, which regulates closed and abandoned hazardous waste sites; the Hazardous Materials Transportation Act, which governs hazardous materials transportation on U.S. roadways; IFC, which creates procedures and mechanisms to ensure the safe handling and storage of hazardous materials; Title 22, which regulates the generation, transportation, treatment, storage and disposal of hazardous waste; Title 27, which regulates the treatment, storage and disposal of solid wastes; and the County Consolidated Fire Code, which regulates hazardous materials and hazardous substance releases. For development within the State of California, Government Code Section 65850.2 requires that no final certificate of occupancy or its substantial equivalent be issued unless there is verification that the owner or authorized agent has met, or is meeting, the applicable requirements of the Health and Safety Code, Division 20, Chapter 6.95, Article 2, Sections 25500 through 25520.

LACoFD is the CUPA for the County, and is responsible for enforcing Chapter 6.95 of the Health and Safety Code. As the CUPA, LACoFD is required to regulate hazardous materials business plans and chemical inventory, hazardous waste and tiered permitting, underground storage tanks, and risk-management plans. The Hazardous Materials

Business Plan is required to contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of on development sites. The plan also contains an emergency-response plan, which describes the procedures for mitigating a hazardous release, procedures, and equipment for minimizing the potential damage of a hazardous materials release, and provisions for immediate notification the Office of Emergency Services, and other emergency-response personnel, such as the local fire agency having jurisdiction. Implementation of the emergency response plan facilitates rapid response in the event of an accidental spill or release, thereby reducing potential adverse impacts. Furthermore, the LAFCoD is required to conduct ongoing routine inspections to ensure compliance with existing laws and regulations, to identify safety hazards that could cause or contribute to an accidental spill or release, and to suggest preventative measures to minimize the risk of a spill or release of hazardous substances.

The County, in conjunction with its many emergency services partners, has prepared a Local All-Hazards Mitigation Plan that sets strategies for coping with the natural and human-made hazards faced by residents. The plan is a compilation of information from County departments correlated with known and projected hazards that face Southern California. The plan complies with, and has been approved by, the Federal Emergency Management Agency and the Governor's Office of Emergency Services. The plan has been formally adopted by the Los Angeles County Board of Supervisors for use in the development of specific hazard mitigation proposals that have a high cost-benefit ratio.

While the rezoning program would allow for greater intensities than previously permitted in the unincorporated areas of the County, the existing regulatory setting would ensure that the potential release of hazardous materials from the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would significantly increase the risk of the release of hazardous materials. Therefore, impacts would be **less than significant**.

Threshold H-4 Would the Project be located on a site which is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

As indicated above, there are multiple sites identified in the Project Area that have remaining contamination in either soil, groundwater, and/or soil vapor. These sites may include sites that are pursuant to Government Code 65962.5; burn dump sites; active, abandoned, or closed landfills; areas with historic or current agriculture; or areas with petroleum contamination.

As detailed in Threshold H-2, there are a variety of existing and proposed regulatory processes that would serve to minimize potential impacts through the review for hazardous material contamination in soil, soil vapor, or groundwater and an assessment for hazardous building materials which could, upon disturbance during construction, be released to the environment or, upon future occupation, cause a hazard to the public due to exposure to hazardous materials above the applicable regulatory exposure limits.

Under implementation of the Proposed Project, land uses and development may be located on a site such as those pursuant to Government Code 65962.5; burn dump sites; active, abandoned or closed landfills; areas with historic or current agriculture; or areas with petroleum contamination. However, the existing regulatory setting would ensure that the Proposed Project would not result in a significant hazard to the public or the environment from future development on existing hazardous materials sites. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that

would create a significant hazard to the public or the environment. Therefore, the Proposed Project would have a **less-than-significant impact** associated with existing hazardous materials sites.

Threshold H-5 **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project Area?**

Some land uses would be more likely to result in public airport safety hazards than others. For example, areas designated as residential and commercial would be likely to continually contain high concentrations of persons. If land uses containing high concentrations of persons are located in areas adjacent to public airport operations, public airport hazards would be considered potentially significant. In contrast, open space recreation or open space conservation land use designations would generally not accommodate high-density populations.

As described in Threshold H-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

As discussed above, during the planning of the rezoning program, the County excluded parcels within the 65 decibel community noise equivalent level and above within Airport Influence Areas. Although portions of the rezoning program overlap with the Los Angeles International Airport Influence Area and would allow development within 2 miles of a public airport, private airstrip, or heliport, there are existing federal, state, and county regulations and policies that would prevent hazards to the public and environment near public airports. These include Federal Aviation Administration regulations, which establish safety standards for civil aviation, and the State Aeronautics Act, which establishes air safety standards. In addition, the County requires that development projects near public airports comply with any applicable Airport Land Use Compatibility Plan.

The existing regulatory setting would ensure that potential impacts to related to public airports, private airstrips, and heliports that are associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would significantly increase the safety hazard for people residing or working within the Project Area. Therefore, potential impacts associated with public airports, private airstrips, and heliports are **less than significant**.

Threshold H-6 **For a project in the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project Area?**

See response to Threshold H-5. Existing Federal Aviation Administration regulations, County policies and regulations, and Proposed Project goals and policies are intended to identify and properly address potential airport hazards prior to implementation of specific projects within the Project Area. Therefore, potential impacts associated with public airports, private airstrips, and heliports are **less than significant.**

Threshold H-7 **Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The emergency response plan for the Project Area is the Operational Area Emergency Response Plan, which is prepared by Emergency Management Organization of Los Angeles County. The Operational Area Emergency Response Plan strengthens short- and long-term emergency response and recovery capability and identifies emergency procedures and emergency management routes in Los Angeles County.

LACoFD provides fire, safety, and emergency medical services to the Project Area. Additionally, many cities within the County utilize LACoFD services. LACoFD operates multiple divisions including Air and Wildland, Fire Prevention, and Forestry. In addition, the Health Hazardous Materials Division's mission is to "protect the public health and the environment from accidental releases and improper handling, storage, transportation, and disposal of hazardous materials and wastes through coordinated efforts of inspections, emergency response, enforcement, and site mitigation oversight." (LACoFD 2021)

The Los Angeles County Sheriff's Department (LASD) is the largest sheriff 's department in the country. In addition to specialized services, the LASD is divided into 10 divisions, including the Office of Homeland Security, which focuses on potential threats related to local homeland security issues, such as terrorism or bioterrorism. In addition to proactive enforcement of criminal laws, the LASD also provides investigative, traffic enforcement, accident investigation, and community education functions.

As described in Threshold H-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. However, the Proposed Project would coordinate rezoning with LACoFD, LASD operations, as well as various County departments to ensure adequate emergency response and service needs.

The existing regulatory setting, the goals and policies contained in the General Plan, and general location of the rezoning areas within urban areas would ensure that potential impacts to emergency response and/or emergency evacuation associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would significantly degrade emergency response. Furthermore, the Proposed Project includes goals and policies to enhance the safety of housing environments, such as Goal 4, Policy 4.2, Goal 8, and Policy 8.2. Compliance with applicable regulations and implementation of the Proposed Project goals and policies would ensure the risk of impaired implementation or physical interference with an adopted emergency response plan or emergency evacuation plan is **less than significant**.

Threshold H-8 Would the Project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to the urbanized areas or where residences are intermixed with wildlands?

Los Angeles County faces major wildland fire threats due to its hilly terrain, dry weather conditions, and the nature of its plant coverage. The at-risk areas are designated as fire hazard severity zones per Government Code Sections 51175–51189.

As described in Threshold H-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. However, as shown in Figure 4.20-1, none of the rezoning program areas are located in fire hazard severity zones (refer to Section 4.20, Wildfire, for additional details). The rezoning program would be located within urban and suburban areas, many of which will be located along commercial corridors, and would encourage infill development in areas with existing infrastructure. The rezoning program would not be located in wildland areas.

Additionally, compliance with applicable regulations, goals, and policies as described in Section 4.9.2 would minimize impacts related to wildland fires. Consequently, the overall associated impacts would be **less than significant**.

4.9.6 Cumulative Impacts

In general, cumulative impacts related to hazards and hazardous materials are more prevalent for commercial or industrial land uses. Hazardous material use or hazardous emissions would be cumulatively significant when the combined activities of individual industrial or commercial businesses that use, transport, or dispose of hazardous materials result in hazardous conditions. Cumulative impacts may also occur when multiple development projects disrupt existing hazardous materials sites in adjacent areas. Additionally, the transportation of hazardous materials may increase as a direct result of increased hazardous materials usage within the County. Continued growth and development in the County will significantly affect the LACoFD and LASD operations. Any future development would be required to comply with applicable federal, state, and local regulations related to hazardous materials, emergency response, wildland fires, and public airports, private airstrips, and heliports. Required compliance with these regulations would ensure impacts related to transport, use, and disposal of hazardous materials would be less than significant. Therefore, impacts related to hazards and hazardous materials **would not be cumulatively considerable**.

4.9.7 Mitigation Measures

No mitigation measures are required.

4.9.8 Level of Significance After Mitigation

No significant unavoidable adverse impacts relating to hazards and hazardous materials have been identified.

4.9.9 References

County of Los Angeles. 2015. *Los Angeles County General Plan*. Adopted October 6, 2015. https://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf.

County of Los Angeles. 2020. "Los Angeles County Fire Department – Emergency Operations." Accessed February 16, 2021. https://fire.lacounty.gov/emergency-operations/.

LACoFD. 2021. "Health Hazardous Materials Division". Accessed May 4, 2021. https://fire.lacounty.gov/health-hazardous-materials-division/.

4.10 Hydrology and Water Quality

This section evaluates the potential impacts to hydrology and water-quality conditions in the unincorporated areas of Los Angeles County (Project Area) from implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project). Hydrology deals with the distribution and circulation of water, both on land and underground. Water quality deals with the quality of surface water and groundwater. Surface water is aboveground and includes lakes, rivers, streams, and creeks. Groundwater is below the surface of the earth.

4.10.1 Environmental Setting

This section discusses the existing environmental setting relative to hydrology and water quality. As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analysis or studies.

In Los Angeles County, there are six major watershed areas with over 900 miles of major river systems, 3,600 miles of smaller streams, and 25 square miles of pond, lake, and reservoir surface. Also located within Los Angeles County are regional groundwater recharge areas called spreading grounds, which capture close to 80% of the runoff that flows from the mountains (County of Los Angeles 2014). Most spreading grounds are owned by the Los Angeles County Flood Control District. The total area of regional spreading grounds countywide is 3,361 acres. Los Angeles County also contains 21 groundwater basins in the coastal plain and valleys. Except during times of drought, groundwater extraction accounts for nearly 33% of the water usage in the unincorporated areas. In rural areas, hundreds of households depend solely on private wells that tap into local groundwater sources (County of Los Angeles 2014).

The County of Los Angeles (County) works with other stakeholders, including the Los Angeles County Flood Control District (LACFCD), in various ways to manage the function and health of its watersheds. In 1975, the Los Angeles Regional Water Quality Control Board (RWQCB) adopted two basin plans: one for the Santa Clara Basin and another for the Los Angeles Basin (County of Los Angeles 2014). The Basin Plans designate beneficial uses for inland and coastal surface waters, establish water quality objectives and implementation programs and policies to protect those uses.

The National Pollutant Discharge Elimination System (NPDES) is a permitting program that establishes a framework for regulating municipal, industrial, and construction stormwater discharges into surface water bodies, including stormwater channels (County of Los Angeles 2014). The Los Angeles RWQCB, Central Valley RWQCB, and Lahontan RWQCB are responsible for implementing the federally mandated NPDES program in Los Angeles County. Consequently, the County has a Stormwater Ordinance that requires that the discharge, deposit, or disposal of any stormwater and/or runoff to storm drains must be covered by an NPDES Stormwater Permit. As part of its NPDES Program, the Los Angeles RWQCB adopted a new Municipal Separate Storm Sewer Permit (MS4 Permit) in 2012. The MS4 Permit imposes basic programs in order to maintain a level of acceptable runoff conditions through the implementation of best management practices (BMPs) that mitigate stormwater quality problems (County of Los Angeles 2014).

Hydrologic Regions

California is divided into 10 hydrologic regions by the California Department of Conservation. A hydrologic region is the area drained by a river system or a segment of a river system, a closed basin(s), or a group of streams forming a coastal drainage area. Los Angeles County spans parts of three hydrologic regions: the South Coast Region, the South Lahontan Region, and the Tulare Lake Hydrologic Region.

The South Coast Region consists of the watersheds of coastal rivers and streams extending from Ventura County to the Mexican Border. The South Lahontan Region spans part of eastern California from San Bernardino County and northern Los Angeles County on the south to Mono County on the north. The South Lahontan Region consists of several desert and mountain watersheds that drain into desert basins and do not outlet to the ocean.

A small part of the northwest corner of Los Angeles County is in the Tulare Lake Hydrologic Region, which consists of the southern half of the San Joaquin Valley. The Tulare Lake Hydrologic Region is tributary to the San Joaquin River, which discharges into the Pacific Ocean via the Sacramento-San Joaquin Delta and San Francisco Bay.

Watersheds

A watershed is the area of land where water is underneath or drains off of it goes into the same place. The Proposed Project's rezoning program is generally located in seven Planning Areas. The watersheds for those areas are described below:

Los Angeles River Watershed

The Los Angeles River Watershed spans 830 square miles of western, central, and southern Los Angeles County and some small areas of eastern Ventura County (County of Los Angeles 2014). The watershed extends from the San Gabriel Mountains on the northeast, to the Santa Susana Mountains and Santa Monica Mountains on the northwest and west, respectively, and extending south to the mouth of the Los Angeles River in the City of Long Beach. The watershed includes all of the San Fernando Valley, much of central Los Angeles, and parts of south Los Angeles. The Los Angeles River, the primary stream in the watershed, extends 48 miles from the confluence of Bell Creek and the Arroyo Calabasas in the southwest San Fernando Valley to the Pacific Ocean at the City of Long Beach. The Los Angeles River Watershed includes the following planning areas, from north to south:

- Antelope Valley (southwest part)
- Santa Clarita Valley (small part of southern portion)
- San Fernando Valley
- Santa Monica Mountains (small part of northeastern portion)
- Metro (most of area)
- West San Gabriel (almost all)
- Gateway (west part)

Dominguez Channel and Los Angeles Harbor Watershed

The Dominguez Watershed spans 133 square miles of southwest Los Angeles County, extending from just north and east of Los Angeles International Airport at its north end to Los Angeles Harbor in the Community of Wilmington in the City of Los Angeles at its south end, where the Dominguez Channel ends (County of Los Angeles 2014). Most

of the watershed is in the Los Angeles Basin; the watershed also encompasses north-facing slopes of the Palos Verdes Hills. The Dominguez Channel, the primary drainage channel in the watershed, extends 15 miles from the City of Hawthorne to the Los Angeles Harbor.

The Dominguez Watershed includes parts of the following planning areas, from north to south:

- Westside (south end)
- South Bay (most)
- Gateway (southwest corner)

San Gabriel River Watershed

The San Gabriel River Watershed spans 905 square miles of east-central and southeast Los Angeles County and part of northwest Orange County (County of Los Angeles 2014). The watershed extends from the San Gabriel Mountains on the north; encompasses the east half of the San Gabriel Valley, the Puente Hills, and much of the southeast Los Angeles Basin; and extends south to the mouth of the San Gabriel River in the City of Seal Beach on the Orange County-Los Angeles County boundary. The Los Angeles River, the primary stream in the watershed, extends about 61 miles from the San Gabriel Mountains to the ocean. The San Gabriel River Watershed includes the following planning areas, from north to south:

- Antelope Valley (southeast part)
- East San Gabriel Valley
- West San Gabriel Valley (east end)
- Gateway (east part)

Santa Monica Bay Watershed (Malibu Creek and Ballona Creek)

The Santa Monica Bay Watershed spans 673 square miles, ranging from the west end of the Santa Monica Mountains in Ventura County to parts of the western Los Angeles Basin and south to the coastal side of the Palos Verdes Peninsula; the southeast corner of the watershed is in the San Pedro neighborhood in the City of Los Angeles (County of Los Angeles 2014). Many streams in the Santa Monica Mountains, Palos Verdes Hills, and Los Angeles Basin provide drainage in the watershed, and drainage in the watershed is not dominated by one stream as with the Los Angeles Watershed. Ballona Creek is the major drainage route for much of the part of the watershed in the Los Angeles Basin. The Santa Monica Bay Watershed includes parts of the following planning areas, from north to south:

- Santa Monica Mountains (nearly all)
- Westside (nearly all)
- Metro (west part)
- South Bay (narrow strip along Santa Monica Bay, and coastward side of Palos Verdes Hills)

Drainage Facilities

Los Angeles River Watershed

The Los Angeles River and the Rio Hondo are the primary drainage channels in the watershed; the Rio Hondo connects the San Gabriel River at Whittier Narrows Dam to the Los Angeles River in the City of South Gate. Major

flood control dams in the watershed include Pacoima Dam, Tujunga Dam, Devil's Gate Dam, Eaton Wash Dam, Santa Anita Dam, Sepulveda Dam, Hansen Dam, and several retention basins near the Sylmar neighborhood in the City of Los Angeles. These dams serve a vital role in flood protection and most of them also serve a vital water conservation role in the region.

San Gabriel River Watershed

The San Gabriel River is the principal drainage channel in the watershed. Major flood control dams in the watershed include Whittier Narrows Dam near the City of Pico Rivera, Santa Fe Dam in the City of Irwindale, and Morris and San Gabriel dams; the latter two are in the San Gabriel Mountains. Other important dams in this watershed include the Big Dalton Dam, San Dimas Dam, Live Oak Dam, Puddingstone Dam, Puddingstone Diversion Dam, and Thompson Creek Dam. These dams serve a vital role in flood protection and most of them also serve a vital water conservation role in the region.

Dominguez Watershed

Dominguez Channel is the main drainage channel in this watershed.

Santa Clara River Watershed

The Santa Clara River is the main drainage channel in this watershed. The two largest reservoirs in the part of the Santa Clara Watershed in Los Angeles County, Castaic Lake and Pyramid Lake, are water storage reservoirs rather than flood control dams. The two reservoirs are southern terminals for the California Aqueduct, which is a major component of the State Water Project.

Surface Water Quality

The 2010 Section 303(d) List of Water Quality Limited Segments lists 127 water bodies in Los Angeles County. Total maximum daily loads, that is, the maximum amount of a pollutant that a water body can receive and still safely meet water-quality standards, have either been completed, or are under preparation or are planned, for each of the listed water bodies. Coastal shorelines comprise 51 of the listed water bodies, 10 are bays, 40 are rivers or streams, 18 are lakes, three are tidal wetlands, and five are estuaries.

Groundwater Basins

Coastal Plain of Los Angeles Groundwater Basin

The Coastal Plain of Los Angeles Groundwater Basin underlies nearly all of the part of the Los Angeles Basin in Los Angeles County south of the Puente Hills and Repetto Hills. This groundwater basin spans about 491 square miles in the portions of the Westside, South Bay, Metro, and Gateway Planning Areas in the Los Angeles Basin. Most of this Basin is divided into two sub-basins: the Central Basin in the northeast half of the Basin, and the West Coast subbasin in the southwest half. The major groundwater recharge basins in the Central Basin are the Rio Hondo and San Gabriel Coastal Spreading Grounds along the Rio Hondo and San Gabriel Rivers, in the City of Montebello and City of Pico Rivera. Groundwater recharge in the West Coast Basin is done mostly through injection wells.

San Fernando Valley Groundwater Basin

The San Fernando Valley Groundwater Basin underlies 227 square miles—all of the San Fernando Valley—and all of the valley areas in the San Fernando Valley Planning Area.

Raymond Groundwater Basin

The Raymond Groundwater Basin extends about 41 square miles beneath the northwestern San Gabriel Valley, in the northwest part of the West San Gabriel Valley Planning Area.

Main San Gabriel Valley Groundwater Basin

The Main San Gabriel Valley Groundwater Basin, which is approximately 199 square miles in area, underlies most of the San Gabriel Valley and the Puente Valley, in much of the West San Gabriel Valley Planning Area, and in the northern and central parts of the East San Gabriel Valley Planning Area. The major groundwater recharge facilities for the Main San Gabriel Valley Groundwater Basin are reservoirs in and just upstream of the Basin: Cogswell Reservoir, San Gabriel Reservoir, Morris Reservoir, Santa Fe Reservoir, and Whittier Narrows Reservoir.

Upper Santa Ana Valley Groundwater Basin

The Upper Santa Ana River Valley Groundwater Basin underlies about 242 square miles of the Upper Santa Ana River Valley in southwest San Bernardino County, near the northwest edge of Riverside County, and near the east boundary of Los Angeles County. The portion of this Basin in Los Angeles County is in the East San Gabriel Valley Planning Area.

Groundwater Quality

Coastal Plain of Los Angeles Groundwater Basin

The Coastal Plain of Los Angeles Groundwater Basin is divided into several subbasins, the two largest of which are the West Coast subbasin and the Central Basin. Overall, the groundwater in the Central subbasin and West Coast subbasin continues to be of high quality, suitable for potable and nonpotable uses. Wellhead treatment is used in certain places in the Central subbasin to remove TCE, PCE, iron, manganese, arsenic, and carbon tetrachloride from groundwater.

A groundwater treatment facility, the Water Quality Protection Project, treats groundwater for volatile organic compound (VOC) contamination in the City of Pico Rivera in the Central subbasin; the contamination is a plume originating from the San Gabriel Valley to the north. The facility uses granular-activated carbon and has capacity of 2,000 gallons per minute.

A 2,400-acre-foot-per-year capacity desalination facility in the City of Torrance operated by the West Basin Municipal Water District removes chloride from groundwater impacted by seawater.

These groundwater basins include the numerous dams, reservoirs and spreading grounds of the LACFCD that are instrumental in capturing water and recharging the basins. The region's flood protection channels also play a key role in delivering water to spreading grounds. In addition, the seawater barriers play a replenishment role in the Central Basin.

San Fernando Valley Groundwater Basin

Half of the Los Angeles Department of Water and Power's 115 groundwater wells in the San Fernando Valley are inactive due to groundwater contamination. Major contaminants include VOCs (especially TCE [trichloroethylene], PCE [perchloroethylene], and carbon tetrachloride), nitrates, and perchlorate.

Groundwater treatment systems in the San Fernando Valley include the Tujunga Wellfield Joint Project, which uses liquid-phase granular activated carbon; the North Hollywood Operable Unit, which uses air to remove VOCs; and the Pollock Wells Treatment Plant, with four liquid-phase granular activated carbon units.

Main San Gabriel Valley Groundwater Basin

Groundwater delivered to customers continues to be of high quality and always meets state and federal drinking water standards. However, several contaminants include a variety of industrial solvents referred to as Volatile Organic Compounds, or VOCs, are present in areas of the Basin. Another common contaminant found in the basin is nitrate, primarily from fertilizers used during the Valley's agricultural period.

Since 1997, additional contaminants have been detected: perchlorate, a solid rocket fuel ingredient; N-nitroso dimethylamine (NDMA), associated with liquid rocket fuel; 1,2,3-trichloropropane (1,2,3-TCP), a degreasing agent; and 1,4-dioxane, a stabilizer for chlorinated solvents (County of Los Angeles 2014). Thirty groundwater treatment sites were operating in the service area of the Upper San Gabriel Valley Municipal Water District, whose service area spans more than half the Main San Gabriel Valley Groundwater Basin in the western part of the Valley, in 2008–2009.

Raymond Groundwater Basin

Portions of the Monk Hill Treatment System treats groundwater for perchlorate using ion exchange resin, for organic chemicals using liquid-phase granular activated carbon, and have a capacity of 7,000 gallons per minute.

Development of a perchlorate treatment system at the Sunset Treatment Plant is underway. A disinfection facility, scheduled for completion in December 2014, will have a capacity of 2,300 gallons per minute.

Flood Hazards

Designated Flood Zones

The following describes the general 100-year flood zones locations within the 7 Planning Areas where Proposed Project's rezoning program is generally located.

- **San Fernando Valley Planning Area**. One-hundred-year flood zones are in Encino Reservoir, and along Pacoima Creek, Kagel Canyon, Little Tujunga Canyon, and Tujunga Canyon.
- **West San Gabriel Valley Planning Area**. Part of a 100-year flood zone is mapped in the Whittier Narrows Flood Control Basin.
- **East San Gabriel Valley Planning Area**. A small area in Tonner Canyon in the Puente Hills, and a segment of the San Gabriel River, are mapped as 100-year flood zones.
- **Westside Planning Area**. A small area of a 100-year flood zone is mapped in the Baldwin Hills next to the east side of La Cienega Boulevard.

- **Metro Planning Area**. No 100-year flood zones are mapped in unincorporated areas of the Metro Planning Area.
- **South Bay Planning Area**. Two small areas in West Carson are mapped as 100-year flood zones.
- **Gateway Planning Area**. A segment of the Los Angeles River just south of its confluence with the Rio Hondo is mapped as a 100-year flood zone.

Figure 4.10-1, Flood Hazard Zones Policy Map, indicates that the areas affected by the Proposed Project's rezoning program are not located within any 100-year flood zones as determined by FEMA.

Seismically Induced Dam Inundation

Dam inundation areas are mapped by dam owners and submitted to the California Office of Emergency Services. Dams in Los Angeles County with dam inundation areas affecting unincorporated areas are listed in Table 4.10-1. Most of the dams in Table 4.10-1 are flood control dams that do not impound substantial reservoirs for most of the year. After flood flows on an affected stream, water is released from a flood control dam at a controlled rate to create flood control capacity for the next storm. Released water from several flood control dams is used downstream of the dams for groundwater recharge. All dams listed below must meet safety requirements and are inspected annually by the Division of Safety of Dams of the California Department of Water Resources.

Table 4.10-1. Dams with Inundation Areas within the Unincorporated Seven Planning Areas Affected by the Proposed Project's Rezoning Program

Planning Area	Watershed	Dam or Reservoir	Nearest City or Community
San Fernando Valley	Los Angeles River	Big Tujunga Reservoir	Lake View Terrace [Los Angeles]
		Hansen Dam	Pacoima [Los Angeles]
		Pacoima Reservoir	Sylmar [Los Angeles]
		Sepulveda Dam	Encino [Los Angeles] and Lake Balboa [Los Angeles]
West San Gabriel Valley	Los Angeles River	Morris S. Jones Reservoir	Pasadena
	San Gabriel River	San Gabriel Dam	San Gabriel Mountains: San Gabriel River, north of Azusa
		Morris Dam	San Gabriel Mountains: San Gabriel River, north of Azusa
		Santa Fe Dam	Irwindale
East San Gabriel Valley	San Gabriel River	Puddingstone Reservoir	San Dimas
		San Dimas Reservoir	San Dimas
		San Gabriel Dam	San Gabriel Mountains: San Gabriel River, north of Azusa
		Thompson Creek Reservoir	Claremont
Westside	Santa Monica Bay	Stone Canyon Reservoir	Bel Air [Los Angeles]
Metro	Los Angeles River	Sepulveda Dam	Encino [Los Angeles] and Lake Balboa [Los Angeles]
Gateway	Los Angeles River and San Gabriel River	Whittier Narrows Dam	Pico Rivera

Source: County of Los Angeles 2014, page 5.9-22.

Seiches

A seiche is a surface wave created when an inland water body is shaken, usually by an earthquake. Reservoirs and aboveground water storage tanks can generate seiches posing substantial flood hazards. Dams with dam inundation areas including unincorporated areas are listed above in Table 4.10-1.

There are numerous aboveground water storage tanks in Los Angeles County. Flooding can occur if strong ground shaking causes structural damage to aboveground water tanks. Sloshing water can lift a water tank off its foundation or break the pipes leading to the tank.

Standards for steel and reinforced concrete tank design are issued by the American Water Works Association and the California Department of Public Health. About 40 steel water tanks were rendered nonfunctional during the 1994 Northridge earthquake; one tank in the Santa Clarita area failed, flooding several houses below. New standards for steel water tank design adopted in 1994 include flexible joints at the inlet/outlet connections to accommodate movement in any direction.

Tsunamis

A tsunami is a sea wave caused by a sudden displacement of the ocean floor, most often due to earthquakes. The West Coast and Alaska Tsunami Warning Center, part of the National Oceanic and Atmospheric Administration issues tsunami warnings and tsunami watches for the Pacific. A Tsunami Warning Bulletin is a warning message issued throughout the Pacific based on confirmation that a tsunami has been generated that poses a threat to the population in part or all of the Pacific Coast regions. Tsunami Warnings are issued for a region when a tsunami is estimated to arrive within 0 to 3 hours; Tsunami Watches are issued for a region when a tsunami is estimated to arrive within 3 to 6 hours.

Tsunami inundation areas are mapped by the California Geological Survey in the following unincorporated areas relevant to the areas affected by the Proposed Project's rezoning program are:

- **Westside Planning Area**. The tsunami inundation area extends to just inland of the inland end of the marina in Marina del Rey, which is approximately 1.6 miles inland from the shoreline. No other unincorporated areas in the Westside Planning Area are within tsunami inundation areas. Existing land use designations in Marina del Rey, set forth in the Marina del Rey Land Use Plan certified by the California Coastal Commission in 1996, include residential (Residential III, IV, and V with maximum densities of 35, 45, and 75 units per acre, respectively); several categories of commercial land uses (hotel, office, marine commercial, and visitor serving-convenience commercial); boat storage, public facilities, parking, open space, and water.
- **South Bay and Gateway Cities Planning Areas**. There are no tsunami inundation areas in unincorporated areas in these two Planning Areas; the entire coastline in these Planning Areas consist of cities only.

Mudflows

Mudflow is a combination of water, rock, debris and soil resulting from surface erosion. LACFCD's reservoirs receive large volumes of sediment due to mudflows from their tributary watersheds, which impact the reservoirs' flood protection and water conservation capacities. LACFCD also has numerous debris basins and debris inlets above many foothill communities. Cleanouts of these facilities are necessary to allow them the serve their flood protection function. Cleanouts of the reservoirs are also needed to maintain their water conservation function, which is becoming more critical for the region's water supply.

Areas of Los Angeles County that are susceptible to mudflows include canyon areas and areas along the bases of mountain slopes. Mudflow hazard increases dramatically in burned areas after major wildfires. There are slopes that could generate mudflows in, or immediately upgrade from, all Planning Areas affected by the rezoning program except for the Gateway Planning Area.

4.10.2 Relevant Plans, Policies, and Ordinances

Federal

The following federal regulations pertaining to hydrology and water quality would apply to the Proposed Project.

Safe Drinking Water Act

The Federal Safe Drinking Water Act provides regulations on drinking water quality in San Bernardino. The Safe Drinking Water Act gives the U.S. Environmental Protection Agency (EPA) the authority to set drinking water standards, such as the National Primary Drinking Water regulations, which protect drinking water quality by limiting the levels of specific contaminants that are known to occur or have the potential to occur in water and can adversely affect public health. All public water systems that provide service to 25 or more individuals are required to satisfy these legally enforceable standards. Water purveyors must monitor for these contaminants on fixed schedules and report to the EPA when a Maximum Contaminant Level (MCL) has been exceeded. MCL is the maximum permissible level of a contaminant in water that is delivered to any user of a public water system. Drinking water supplies are tested for a variety of contaminants, including organic and inorganic chemicals (e.g., minerals), substances that are known to cause cancer (e.g., carcinogens), radionuclide (e.g., uranium and radon), and microbial contaminants (e.g., coliform and Escherichia coli). Changes to the MCL list are typically made every three years, as the EPA adds new contaminants or, based on new research or new case studies, revised MCLs for some contaminants are issued. The California Department of Health Services, Division of Drinking Water and Environmental Management, is responsible for implementation of the Safe Drinking Water Act in California.

Clean Water Act

Increasing public awareness and concern for controlling water pollution led to enactment of the Federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act (CWA) (33 USC 1251 et seq.). The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The CWA established basic guidelines for regulating discharges of pollutants into the waters of the United States. The CWA requires that states adopt water quality standards to protect public health, enhance the quality of water resources, and ensure implementation of the CWA.

Section 303 of the CWA (Beneficial Use and Water Quality Objectives)

The Santa Ana RWQCB is responsible for the protection of the beneficial uses of waters within the Project Area in Riverside and San Bernardino Counties. The RWQCB uses its planning, permitting, and enforcement authority to meet its responsibilities adopted in the Basin Plan to implement plans, policies, and provisions for water quality management.

In accordance with state policy for water quality control, the RWQCB employs a range of beneficial use definitions for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The Basin Plan for the Santa Ana Region has identified

existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction. Under CWA Section 303(d), the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. A Total Maximum Daily Load (TMDL) defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. The RWQCB has developed TMDLs for select reaches of water bodies.

Section 401 of the CWA (Water Quality Certification)

Section 401 of the CWA requires that an applicant for any federal permit (e.g., a U.S. Army Corps of Engineers Section 404 permit) obtain certification from the state, requiring that discharge to waters of the United States would comply with provisions of the CWA and with state water quality standards. For example, an applicant for a permit under Section 404 of the CWA must also obtain water quality certification per Section 401 of the CWA. Section 404 of the CWA requires a permit from the U.S. Army Corps of Engineers prior to discharging dredged or fill material into waters of the United States, unless such a discharge is exempt from CWA Section 404. For the Project Area, the Santa Ana RWQCB must provide the water quality certification required under Section 401 of the CWA.

Section 402 of the CWA (National Pollutant Discharge Elimination System)

The CWA was amended in 1972 to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. The NPDES permit program, as authorized by Section 402 of the CWA, was established to control water pollution by regulating point sources that discharge pollutants into waters of the United States (33 USC 1342). In the state of California, the EPA has authorized the State Water Resources Control Board (SWRCB) permitting authority to implement the NPDES program.

Regulations (Phase II Rule) that became final on December 8, 1999, expanded the existing NPDES Program to address stormwater discharges from construction sites that disturb land equal to or greater than 1.0 acre and less than 5.0 acres (small construction activity). The regulations also require that stormwater discharges from small MS4s be regulated by an NPDES General Permit for Storm Water Discharges Associated with Construction Activity, Order No. 99-08-DWQ. The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which describes BMPs the discharger would use to protect stormwater runoff. The SWPPP must contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment-monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. On September 2, 2009, the SWRCB issued a new NPDES General Permit for Storm Water Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), that became effective July 1, 2010.

Section 404 of the Clean Water Act

Section 404 of the CWA established a permitting program to regulate the discharge of dredged or filled material into waters of the United States, which include wetlands adjacent to national waters (33 USC 1344). This permitting program is administered by the U.S. Army Corps of Engineers and enforced by the EPA. For more information on Section 404 of the CWA, see Section 4.4, Biological Resources, of this Draft Program Environmental Impact Report (PEIR).

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. The Act also required the identification of all floodplain areas within the U.S. and the establishment of flood-risk zones within those areas. The Federal Emergency Management Agency (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 that delineate the areas of known special flood hazards and their risk applicable to the community. The program encourages the adoption and enforcement by local communities of floodplain management ordinances that reduce flood risks. In support of the program, FEMA identifies flood hazard areas throughout the United States on FEMA flood hazard boundary maps.

Federal Antidegradation Policy

The Federal Antidegradation Policy (Title 40 Code of Federal Regulations Section 131.12) requires states to develop statewide antidegradation policies and identify methods for implementing them. Pursuant to the Code of Federal Regulations, state antidegradation policies and implementation methods shall, at a minimum, protect and maintain: (1) existing in-stream water uses; (2) existing water quality where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource.

Federal Guidelines for Emergency Action, FEMA Publication No. 64

These guidelines provide guidance to help dam owners, in coordination with emergency management authorities, effectively develop and exercise Emergency Action Plans for dams. The guidelines encourage (1) the development of comprehensive and consistent emergency action planning to protect lives and reduce property damage and (2) the participation of emergency management authorities and dam owners in emergency action planning.

Federal Guidelines for Dam Safety Risk Management, FEMA Publication No. 1025

These guidelines enable federal agencies to use the general principles of risk management to make risk-informed decisions. The agencies work to develop and maintain consistent application of risk analysis, risk assessment, risk management, and risk communication, using equivalent procedures and tools. Risk estimates typically reflect the risk at a given dam at the snapshot in time when the risk analysis is performed. Risk management includes structural and nonstructural actions on a given dam, as well as activities such as routine and special inspections, instrumented monitoring, structural analyses, site investigations, development and testing of emergency action plans, and many other activities.

State

The following state regulations pertaining to hydrology and water quality would apply to the Proposed Project.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package—Assembly Bill 1739 (Dickinson), Senate Bill 1168 (Pavley), and Senate Bill 1319 (Pavley)—collectively known as SGMA, which requires governments and water agencies of high- and medium-priority basins to halt overdraft and bring groundwater basins

into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, sustainability should be achieved by 2040. For the remaining high- and medium-priority basins, 2042 is the deadline. Through SGMA, the California Department of Water Resources provides ongoing support to local agencies through guidance, financial assistance, and technical assistance. SGMA empowers local agencies to form Groundwater Sustainability Agencies to manage basins sustainably, and requires those Groundwater Sustainability Agencies to adopt Groundwater Sustainability Plans for crucial (i.e., medium to high priority) groundwater basins in California.

California Water Code, Division 3. Dams and Reservoirs, Sections 6101–6102

These regulations require dam owners to maintain records of, and to report on, maintenance, operation, staffing, and engineering and geologic investigations and to issue orders as necessary to secure maintenance and operations to safeguard life and property. The owner of a dam, or his agent, shall fully and promptly advise the Department of Water Resources of any sudden or unprecedented flood or unusual or alarming circumstance or occurrence affecting the dam or reservoir. These regulations require the Department of Water Resources to periodically inspect dams and reservoirs for the purpose of determining their safety. If required, the dam owner shall perform work necessary to secure maintenance and operation that will safeguard life and property.

Governor's Office of Emergency Services, California Code of Regulations, Title 19 - Public Safety, Division 2 – Office of Emergency Services, Chapter 2 – Emergencies and Major Disaster, Subchapter 4 – Dam Inundation Mapping Procedures

These regulations were adopted to implement the provisions of Government Code Section 8589.5, which provide the standards for producing and submitting an inundation map, acquiring a waiver from the inundation mapping requirement, and administering the program. These regulations are not applicable to those structures identified as Debris Basins in Department of Water Resources Division of Safety and Dams Bulletin 17-00, dated July 2000. However, these regulations are not intended to limit the authority of the Governor's Office of Emergency Services, or any appropriate public agency, to act under the police power of the state, when necessary, to protect life and property from a threatened or actual dam failure.

California Porter-Cologne Water Quality Control Act

Since 1973, the California SWRCB and its nine RWQCBs have been delegated the responsibility for administering permitted discharge into the waters of California. The Project Area falls within the jurisdiction of the Santa Ana RWCQB. The Porter-Cologne Water Quality Act (California Water Code Section 13000 et seq.; California Code of Regulations, Title 23, Chapter 3, Chapter 15) provides a comprehensive water-quality management system for the protection of California waters. Under the Act, "any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state" must file a report of the discharge with the appropriate RWQCB. Pursuant to the Act, the RWQCB may then prescribe "waste discharge requirements" that add conditions related to control of the discharge. Porter-Cologne defines "waste" broadly, and the term has been applied to a diverse array of materials, including non-point source pollution. When regulating discharges that are included in the Federal Clean Water Act, the state essentially treats Waste Discharge Requirements and NPDES as a single permitting vehicle. In April 1991, the State Water Resources Control Board and other state environmental agencies were incorporated into the California EPA.

The RWQCB regulates urban runoff discharges under the NPDES permit regulations. NPDES permitting requirements cover runoff discharged from point (e.g., industrial outfall discharges) and nonpoint (e.g., stormwater runoff) sources. The RWQCB implements the NPDES program by issuing construction and industrial discharge permits.

Under the NPDES permit regulations, BMPs are required as part of a SWPPP. The EPA defines BMPs as "schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of Waters of the United States." BMPs include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage" (Title 40 Code of Federal Regulations Section 122.2).

California Antidegradation Policy

The California Antidegradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High Quality Water in California, was adopted by the SWRCB (State Board Resolution No. 68-16) in 1968. Unlike the Federal Antidegradation Policy, the California Antidegradation Policy applies to all waters of the state (e.g., isolated wetlands and groundwater), not just surface waters. The policy states that whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high quality shall be maintained, and discharges to that water body shall not unreasonable affect present or anticipated beneficial use of such water resource.

California Toxics Rule

The EPA has established water quality criteria for certain toxic substances via the California Toxics Rule. The California Toxics Rule established acute (i.e., short-term) and chronic (i.e., long-term) standards for bodies of water, such as inland surface waters and enclosed bays and estuaries, that are designated by each RWQCB as having beneficial uses protective of aquatic life or human health.

California Water Code

The California Water Code includes 22 kinds of districts or local agencies with specific statutory provisions to manage surface water. Many of these agencies have statutory authority to exercise some forms of groundwater management. For example, a Water Replenishment District (California Water Code Section 60000 et seq.) is authorized to establish groundwater replenishment programs and collect fees for that service, while a Water Conservation District (California Water Code Section 75500 et seq.) can levy groundwater extraction fees. Through special acts of the Legislature, 13 local agencies have been granted greater authority to manage groundwater. Most of these agencies, formed since 1980, have the authority to limit export and control some in-basin extraction upon evidence of overdraft or the threat of an overdraft condition. These agencies can also generally levy fees for groundwater management activities and for water supply replenishment.

Assembly Bill 3030 - Groundwater Management Act

In 1992, Assembly Bill 3030 was passed, which increased the number of local agencies authorized to develop a groundwater management plan and set forth a common framework for management by local agencies throughout California. These agencies could possess the same authority as a water replenishment district to "fix and collect fees and assessments for groundwater management" (California Water Code Section 10754), provided they receive a majority of votes in favor of the proposal in a local election (California Water Code Section 10754.3).

Local

The following local/regional regulations pertaining to hydrology and water quality would apply to the Proposed Project.

Los Angeles County 2035 General Plan

The Conservation and Natural Resources Element of the Los Angeles County 2035 General Plan (General Plan) provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal C/NR 5 Protect any useable local surface water resources.

- **Policy C/NR 5.1** Support the LID philosophy, which seeks to plan and design public and private development with hydrologic sensitivity, including limits to straightening and channelizing natural flow paths, removal of vegetative cover, compaction of soils, and distribution of naturalistic BMPs at regional, neighborhood, and parcel-level scales.
- **Policy C/NR 5.2** Require compliance by all County departments with adopted Municipal Separate Storm Sewer System (MS4), General Construction, and point source NPDES permits.
- **Policy C/NR 5.3** Actively engage with stakeholders in the formulation and implementation of surface water preservation and restoration plans, including plans to improve impaired surface water bodies by retrofitting tributary watersheds with LID types of BMPs.
- **Policy C/NR 5.4** Actively engage in implementing all approved Enhanced Watershed Management Programs/Watershed Management Programs and Coordinated Integrated Monitoring Programs/Integrated Monitoring Programs or other County-involved TMDL implementation and monitoring plans.
- **Policy C/NR 5.5** Manage the placement and use of septic systems in order to protect nearby surface water bodies.
- **Policy C/NR 5.6** Minimize point and non-point source water pollution.
- **Policy C/NR 5.7** Actively support the design of new and retrofit of existing infrastructure to accommodate watershed protection goals, such as roadway, railway, bridge, and other— particularly—tributary street and greenway interface points with channelized waterways.

Goal C/NR 6: Protect any useable local groundwater resources.

- **Policy C/NR 6.1** Support the LID philosophy, which incorporates distributed, post-construction parcel-level stormwater infiltration as part of new development.
- **Policy C/NR 6.2** Protect natural groundwater recharge areas and regional spreading grounds.
- **Policy C/NR 6.3** Actively engage in stakeholder efforts to disperse rainwater and stormwater infiltration BMPs at regional, neighborhood, infrastructure, and parcel-level scales.

Policy C/NR 6.4 Manage the placement and use of septic systems in order to protect high groundwater.

Policy C/NR 6.5 Prevent stormwater infiltration where inappropriate and unsafe, such as in areas with high seasonal groundwater, on hazardous slopes, within 100 feet of drinking water wells, and in contaminated soils.

The Safety Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal S 2 An effective regulatory system that prevents or minimizes personal injury, loss of life, and property damage due to flood and inundation hazards.

Policy S 2.1 Discourage development in the County's Flood Hazard Zones.

Policy S 2.2 Discourage development from locating downslope from aqueducts.

Policy S 2.4 Ensure that developments located within the County's Flood Hazard Zones are sited and designed to avoid isolation from essential services and facilities in the event of flooding.

Policy S 2.5 Ensure that the mitigation of flood related property damage and loss limits impacts to biological and other resources.

Policy S 2.6 Work cooperatively with public agencies with responsibility for flood protection, and with stakeholders in planning for flood and inundation hazards.

The Public Services and Facilities Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal PS/F 3 Increased local water supplies through the use of new technologies.

Policy PS/F 3.1 Increase the supply of water though the development of new sources, such as recycled water, gray water, and rainwater harvesting.

Policy PS/F 3.2 Support the increased production, distribution and use of recycled water, gray water, and rainwater harvesting to provide for groundwater recharge, seawater intrusion barrier injection, irrigation, industrial processes and other beneficial uses.

Goal PS/F 4 Reliable sewer and urban runoff conveyance treatment systems

Policy PS/F 4.1 Encourage the planning and continued development of efficient countywide sewer conveyance treatment systems.

Policy PS/F 4.2 Support capital improvement plans to improve aging and deficient wastewater systems, particularly in areas where the General Plan encourages development, such as TODs.

Policy PS/F 4.3 Ensure the proper design of sewage treatment and disposal facilities, especially in landslide, hillside, and other hazard areas.

Policy PS/F 4.4 Evaluate the potential for treating stormwater runoff in wastewater management systems or through other similar systems and methods.

County of Los Angeles Grading Code

Requirements for erosion control and water quality for grading operations are set forth in Title 26 of the County Code. NPDES compliance is required for all projects within the Project Area. For small residential construction sites with a disturbed, graded area less than one acre, stormwater pollution control measures/BMPs must be incorporated on the site during construction.

For all new non-residential projects consisting of a disturbed, graded area less than one acre, an Erosion and Sediment Control Plan (ESCP), which should include specific best management practices to minimize the transport of sediment and protect public and private property from the effects of erosion, flooding, or the deposition of mud, debris, or construction-related pollutants, is required prior to issuance of a grading permit by the County.

In addition to an ESCP, for construction sites with a disturbed, graded area of one acre or greater, a State SWPPP must be prepared and a Notice of Intent filed with the State Water Resources Board. Filing of a Notice of Intent and attainment of a Waste Discharge Identification number from the state is necessary for projects of this magnitude prior to issuance of a grading permit by the County. State SWPPPs prepared in accordance with the Construction General Permit can be accepted as ESCPs.

All active grading projects with grading proposed within the rainy season, October 15 through April 15 of each calendar year, must update the ESCP on file with the County annually and have all BMPs installed prior to the beginning of the rainy season or as determined by the County's building official.

Los Angeles County Flood Control District Code

Chapter 21 of the County Flood Control District Code, Stormwater and Runoff Pollution Control, sets forth requirements regulating discharges to LACFCD storm drains. The following discharges to County storm drains are prohibited (County Flood Control District Code Sections 21.07 and 21.09):

- Discharges of stormwater containing pollutant concentrations that exceed or contribute to the exceedance of a water-quality standard.
- Non-stormwater discharges unless authorized by an NPDES Permit and by a permit issued by the Chief Engineer.
- Discharges of sanitary or septic waste or sewage from any property or residence, any type of recreational vehicle, camper, bus, boat, holding tank, portable toilet, vacuum truck or other mobile source, or any waste holding tank, container or device.
- Pollutants, leaves, dirt, or other landscape debris.

4.10.3 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project would normally have a significant effect on the environment with respect to hydrology and water quality if the project would:

HYD-1: Violate and water-quality standards or waste-discharge requirements.

HYD-2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted.

HYD-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.

HYD-4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

HYD-5: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

HYD-6: Otherwise substantially degrade water quality.

HYD-7: Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

HYD-8: Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

HYD-9: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

HYD-10: Be subject to inundation by seiche, tsunami, or mudflow.

4.10.4 Methodology

The hydrology and water quality analysis considers if implementation of the Proposed Project would result in significant impacts regarding water quality, flooding hazards, potential pollutant runoff, increased surface water runoff that could flood storm drains, and more. These impacts are considered when looking at the potential increase in housing unit development in the several parcels proposed for rezoning as a result of the Proposed Project. The location of the parcels proposed for rezoning relative to flood hazard zones is an important consideration in this analysis. Compliance with federal, state, and local water quality and standards would likely reduce potential impacts. If the Proposed Project has the potential to result in potential hydrology or water quality impacts, mitigation measures can be provided to reduce potential impacts.

As described in Chapter 3, the general areas included as part of the Proposed Project's rezoning program were evaluated in this PEIR at a programmatic level based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. Further analysis was not conducted because the County had no further information and it would be too speculative to analyze potential impacts resulting from future housing development per the Proposed Project. As such, potential changes beyond that are considered speculative or unlikely to occur and therefore, not reasonably foreseeable.

4.10.5 Environmental Impacts

Threshold HYD-1 Would the Project violate and water-quality standards or waste-discharge requirements?

The Proposed Project consists of a policy document update, and adoption of Proposed Project alone would not produce environmental impacts. The Proposed Project consists of updating the General Plan Housing Element, and

no actual development is proposed as part of the update. Implementation of the programs contained in the updated document would accommodate development required to meet the County's 2021–2029 Regional Housing Needs Assessment (RHNA) allocation. Under the RHNA allocation, the unincorporated County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It has been determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its RHNA gap; refer to Chapter 3 for further details. The rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

Construction

Implementation of the Proposed Project would adhere to local, state, and federal regulations pertaining to water quality standards. This includes compliance with the California Green Building Standards Code which requires the incorporation of BMPs for materials and waste storage, handling, equipment and vehicle maintenance, and fueling to reduce potential discharge of polluted runoff from construction sites, It would also include adherence to the Construction General Permit that requires future projects over an acre to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for construction activities. The SWPPP is required to identify BMPs that protect stormwater runoff and ensure avoidance of substantial degradation of water quality. A Notice of Intent would be filed with the RWQCB to comply with the requirements of the Construction General Permit. This process would include preparation of a SWPPP and incorporation of BMPs to control construction-related erosion and sedimentation in dry weather and stormwater runoff. Typical BMPs that could be incorporated into the SWPPP to protect water quality include the following:

- Diverting off-site runoff away from the construction site
- Vegetating landscaped/vegetated swale areas as soon as feasible following grading activities
- Placing perimeter straw wattles to prevent off-site transport of sediment
- Using drop inlet protection (filters and sand bags or straw wattles), with sandbag check dams within paved areas
- Regular watering of exposed soils to control dust during demolition and construction
- Implementing specifications for demolition/construction waste handling and disposal
- Using contained equipment wash-out and vehicle maintenance areas
- Maintaining erosion and sedimentation control measures throughout the construction period
- Stabilizing construction entrances to avoid trucks from imprinting soil and debris onto SPA and adjoining roadways
- Training, including for subcontractors, on general site housekeeping

Compliance with the federal, state and local regulations would ensure that potential impacts related to polluted runoff associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would significantly increase pollutant runoff. Compliance with existing regulations would prevent violation of water quality standards and minimize the potential for contributing sources of polluted runoff. Therefore, impacts would be **less than significant**.

Operation

Compliance with NPDES and MS4 Permits for future residential development, as applicable, as well as successful implementation of a site-specific SWPPP LID features would reduce the potential for pollution from incidental spills of vehicle oils and other chemicals that can be conveyed by storm and landscape irrigation flows. The impermeable surfaces would prevent polluted surface waters from absorbing into the ground surface. The NPDES permit sets limits on pollutants being discharged into waterways and requires all new development and significant redevelopment to incorporate low-impact design (LID) features to the maximum extent practicable to reduce the discharge of pollutants into receiving waters.

Implementation of BMPs would address water quality concerns, such as inadvertent release of pollutants (e.g., hydraulic fluids and petroleum); improper management of hazardous materials; trash and debris; and improper management of portable restroom facilities (e.g., regular service). Additionally, the California Green Building Standards Code requires source controls to for outdoor material storage areas, outdoor trash storage/waste handling areas, outdoor loading/unloading dock areas, and building materials areas to improve water quality. Source controls would also include storm drain messages and signage and beneficial landscape irrigation practices.

Compliance with NPDES and MS4 Permits, as applicable, as well as successful implementation of a site-specific SWPPP would ensure that degradation of water quality (surface and ground) would remain minimal and that the Proposed Project would meet all waste discharge requirements. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would significantly degrade water quality. Thus, the Proposed Project would not violate any water quality standards and impacts would be **less than significant**.

Threshold HYD-2 Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Groundwater Supplies

As described in Threshold HYD-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. However, the California Building Code (also present in the County's Municipal Code), regulates any development that requires grading to submit an engineering geology report, which would include information about existing groundwater supplies and potential impacts to groundwater supplies.

As discussed in Section 4.14, Population and Housing, the anticipated population and housing unit increase over time as a result of the rezoning program would be aligned with Southern California Association of Governments (SCAG's) population and housing forecasts. Impacts to groundwater supplies are anticipated to be minimal as the increase in population and housing that would potentially use these groundwater supplies does not exceed forecasts. Therefore, the Proposed Project itself would not interfere with groundwater supplies and impacts would be **less than significant.**

Groundwater Recharge

Developments in the unincorporated areas of the following Planning Areas--Coastal Islands, East San Gabriel Valley, Gateway, Metro, San Fernando Valley, South Bay, West San Gabriel Valley, and Westside–would be mostly limited to redevelopments and reuses of currently developed areas. Thus, the general location of the rezoning program would result in relatively minor increases in impervious areas. Therefore, impacts on groundwater recharge would be **less than significant**.

Threshold HYD-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, in a manner which would result in a substantial erosion or siltation on- or off-site.

As described in Threshold HYD-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. Implementation of the Proposed Project would not substantially change drainage patterns in the watersheds in the Los Angeles Water Board Region: the Los Angeles River, San Gabriel River, Santa Monica Bay, Santa Clara, and Calleguas watersheds.

Under the MS4 Permit certain categories of development and redevelopment projects are required to mimic predevelopment hydrology through infiltration, evapotranspiration, and rainfall harvest and use. Projects in the unincorporated areas within the Los Angeles RWQCB region and for which LID Plan are required must limit post-development peak stormwater runoff discharge rates to no greater than the estimated predevelopment rate for developments where the increased peak, stormwater discharge rate will result in increased potential for downstream erosion.

Construction projects in the Los Angeles Water Board Region of 1 acre or more in area must implement BMPs for erosion control and sediment control pursuant to the General Construction Permit. Therefore, the existing regulatory setting would ensure that potential impacts to existing drainage patterns would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would significantly degrade existing drainage patterns. Therefore, impacts would be **less than significant.**

Threshold HYD-4 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

As discussed in Threshold HYD-3, implementation of the Proposed Project would not substantially change drainage patterns in the Project Area or in parts of adjoining counties in watersheds extending from the Project Area. Further, there are a variety of existing regulatory processes that would serve to minimize these potential impacts. The MS4 Permits in the Los Angeles and Lahontan Water Board regions, requires certain categories of development and redevelopment projects to mimic predevelopment hydrology through infiltration, evapotranspiration, and rainfall harvest and use. Projects within the Los Angeles RWQCB region and subject to LID requirements must limit post-development peak stormwater runoff discharge rates to no greater than the estimated pre-development rate for developments where the increased peak stormwater discharge rate will result in increased potential for downstream erosion.

Considering these requirements, future housing development facilitated by the Proposed Project would not substantially alter the existing drainage pattern of the site or area. Impacts would be **less than significant**.

Threshold HYD-5 Would the Project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As described in Threshold HYD-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. As discussed in Threshold HYD-3, implementation of the Proposed Project would not change drainage patterns in the Project Area or in parts of adjoining counties in watersheds extending from the Project Area. Under the MS4 Permits in the Los Angeles and Lahontan Water Board regions, certain categories of development and redevelopment projects are required to mimic predevelopment hydrology through infiltration, evapotranspiration, and rainfall harvest and use. Projects within the Los Angeles RWQCB region and subject to LID requirements must limit post-development peak stormwater runoff discharge rates to no greater than the estimated pre-development rate for developments where the increased peak stormwater discharge rate will result in increased potential for downstream erosion.

Additionally, as discussed in Threshold HYD-2, any future housing as part of the rezoning program that would be located generally within the following Planning Areas--Coastal Islands, East San Gabriel Valley, Gateway, Metro, San Fernando Valley, South Bay, West San Gabriel Valley, and Westside–would be mostly limited to redevelopments and reuses of currently developed areas. Thus, the Proposed Project would result in relatively minor increases in impervious areas that could potentially create or contribute runoff water.

Therefore, the Proposed Project would not substantially increase runoff rates which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be **less than significant**.

Threshold HYD-6 Would the Project otherwise substantially degrade water quality?

As discussed in Threshold HYD-1, the Proposed Project would be subject to all relevant water quality standards. Therefore, the Proposed Project would not substantially degrade water quality and impacts would be **less than significant**.

Threshold HYD-7 Would the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

According to Figure 4.10-1, the general areas proposed as part of the Proposed Project's rezoning program are not located within any 100-year flood zones as determined by FEMA. Therefore, the Proposed Project would not place substantial numbers of people or structures at risk of flooding in 100-year flood zones, and there would be **no impact.**

Threshold HYD-8 Would the Project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

See response to Threshold HYD-7. According to Figure 4.10-1, the general areas proposed as part of the Proposed Project's rezoning program are not located within any 100-year flood zones as determined by FEMA. Therefore, the Proposed Project would not place any structures within 100-year flood hazard areas in a way that would potentially impede or redirect flood flows. There would be **no impact**.

Threshold HYD-9 Would the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Dam inundation areas span some unincorporated areas of all of the Planning Areas except the South Bay Planning Area; and parts of the Antelope – Fremont Valleys, Santa Clara, San Gabriel River, Santa Monica Bay, Los Angeles River, and San Pedro Channel Islands watersheds. Most of the dams listed above in Table 4.10-1 are flood control dams that do not impound substantial reservoirs for most of the year. After flood flows on an affected stream, water is released from a flood control dam at a controlled rate to create flood control capacity for the next storm.

As described in Threshold HYD-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. However, all dams in Table 4.10-1 must meet safety requirements of, and are inspected annually by, the Division of Safety of Dams of the California Department of Water Resources.

Although the Proposed Project is estimated to increase the population in the Project Area over time by 94,500 persons (see Section 4.14), the net increases in population and employment in the Project Area would be relatively minor compared to the total numbers and residents in unincorporated Los Angeles County. Considering the relatively small proportional net increases in numbers of residents and workers that would be put at potential risk from dam inundation; the majority of the dams operating as flood control; and existing safety requirements and inspections by the Division of Safety of Dams, impacts resulting from the Proposed Project would be **less than significant**

Threshold HYD-10 Would the Project be subject to inundation by seiche, tsunami, or mudflow?

Seiche

Compliance with County regulations would require risk assessments of flooding from failure of aboveground water storage tanks for any future residential developments downgrade from such storage tanks. If such assessments determine that a proposed building would be affected by such flooding, either the building pad for the proposed development would be required to be raised above the flood elevation; or improvements shall be made to the water tank to reduce the probability and/or consequence of tank failure, where the owner and/or manager of an aboveground storage tank is willing to allow such improvements. Therefore, impacts resulting from the implementation of the Proposed Project with respect to inundation by seiche would be **less than significant**.

Tsunami

As discussed in Section 4.10.1, Environmental Setting, the Westside Planning Area is the only Planning Area within the rezoning program that is affected by a tsunami inundation area. The tsunami inundation area is the inland end of the marine in Marina del Rey, which is approximately 1.6 miles inland from the Westside Planning Area shoreline. The areas within the Westside Planning Area that are generally within the rezoning program are located approximately 3.5 miles inland and therefore are not affected by the tsunami inundation area. Therefore, there would be **no impact**.

Mudflow

The general areas of the rezoning program are not located in canyons and are unlikely to be located immediately below the bases of mountain slopes. Therefore, implementation of the Proposed Project would not place substantial numbers of people at risk from mudflows. Impacts would be **less than significant.**

4.10.6 Cumulative Impacts

Cumulative projects are those that would be developed in cities in Los Angeles County, along with buildout resulting from the Proposed Project. Cumulative projects in Los Angeles County could cause significant cumulative impacts if they did any of the following:

- Substantially degrade water quality.
- Violate water-quality requirements of any of the four RWQCBs having jurisdiction in various parts of Los Angeles County.
- Substantially interfere with groundwater recharge.
- Substantially change drainage patterns.
- Result in erosion, siltation, or flooding
- Place housing, or structures changing flood flows, within 100-year flood zones.
- Result in flood hazards arising from dam inundation, seiche, tsunami, or mudflow.

As with projects in unincorporated areas, projects in cities in Los Angeles County would have the following environmental effects:

- Generate water pollutants.
- Increase impervious areas, thus decreasing groundwater recharge and increasing runoff rates and/or volumes.
- Some project sites would be in 100-year flood zones; there are approximately 109,971 acres (172 square miles) of 100-year flood zones in Los Angeles County, about 21% of which (36 square miles) is in cities.
- Some project sites would be in areas subject to flooding due to dam inundation, seiche, tsunami, and/or mudflow.

Projects in cities would be subject to similar requirements to those applicable to projects in unincorporated areas. As cumulative projects would be required to comply with the above-listed water-quality, drainage, and flood- safety requirements, significant cumulative impacts would not occur. Therefore, the Proposed Project would **not contribute to significant cumulative hydrology and water-quality impacts.**

4.10.7 Mitigation Measures

No mitigation measures are required.

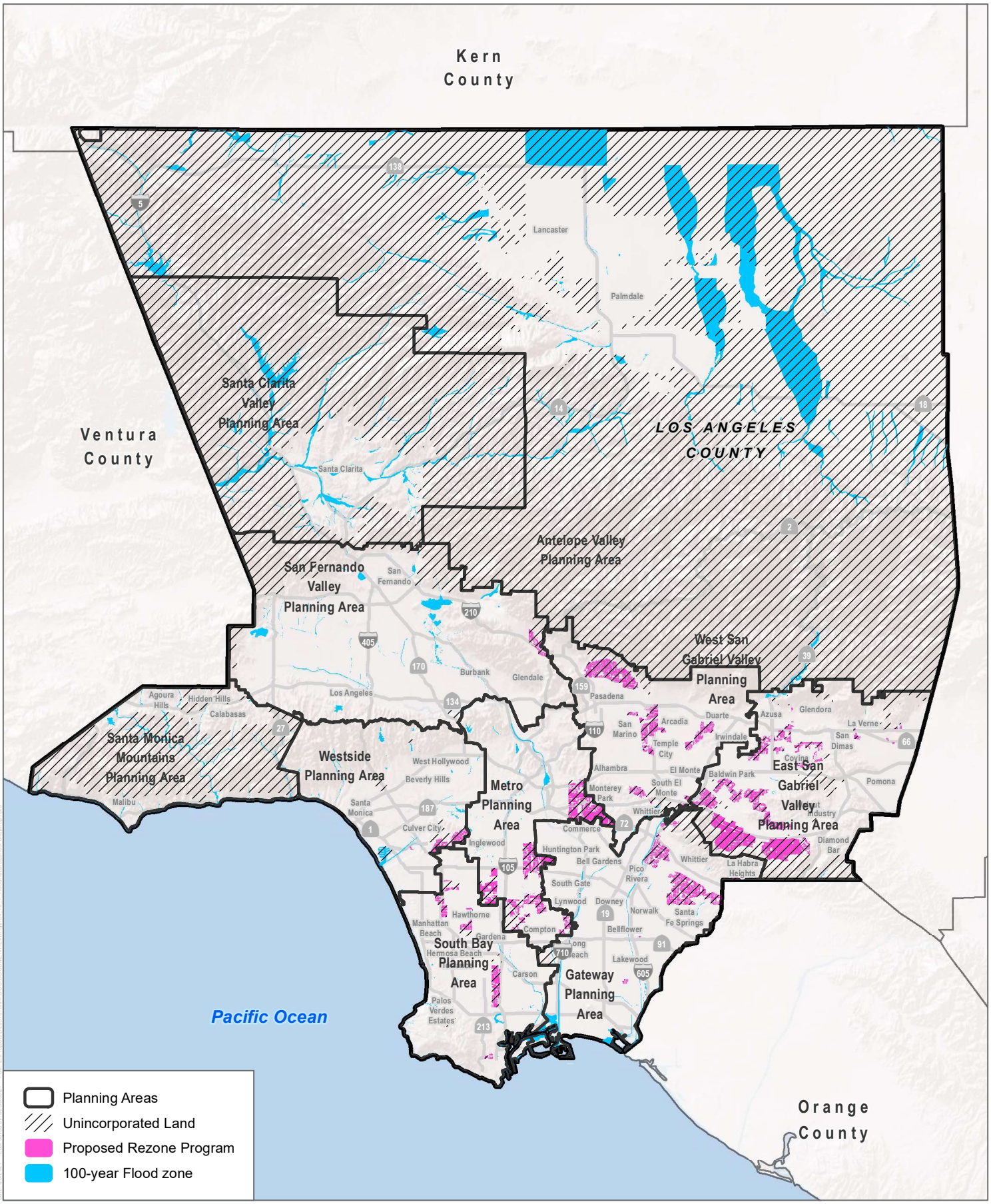
4.10.8 Level of Significance After Mitigation

Impacts relating to hydrology and water quality would be **less than significant**.

4.10.9 References

County of Los Angeles. 2014. *Los Angeles County General Plan Update Draft Environmental Impact Report*. State Clearinghouse No. 2011081042. June 2014. https://planning.lacounty.gov/assets/upl/project/gp_2035_deir.pdf.

County of Los Angeles. 2015. *Los Angeles County General Plan*. Adopted October 6, 2015. https://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf.



SOURCE: ESRI 2021; LA County 2021

DUDEK

0 5 10 Miles

FIGURE 4.10-1

Flood Hazard Zones Policy Map

Los Angeles County Housing Element Update

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4.11 Land Use and Planning

This section evaluates the potential impacts to land use in unincorporated areas of Los Angeles County (Project Area) from implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project). This section is based on the Proposed Project as described in detail in Chapter 3, Project Description. In addition, compatibility of proposed land use changes with existing land uses in the surrounding area is discussed in this section.

Land use impacts can be direct or indirect. Direct impacts result in land use incompatibilities, the division of neighborhoods or communities, or interference with other land use plans, including habitat and/or wildlife conservation plans. This section focuses on direct land use impacts. Indirect impacts are secondary effects resulting from land use policy implementation, such as an increase in demand for public utilities or services, or increased traffic on roadways. Indirect impacts are addressed in other topical sections of this Draft PEIR.

4.11.1 Environmental Setting

This section discusses the existing environmental setting relative to land use and planning. As described in Chapter 3, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analysis or studies. Mention of "islands" refers to areas within the Project Area that are surrounded, either partially or entirely, by a city or cities.

East San Gabriel Valley Planning Area

This Planning Area includes the eastern San Gabriel Valley, along with adjacent areas to the south in the Puente Hills and to the north at the southern edge of the San Gabriel Mountains. It borders San Bernardino County to the east and Orange County to the south. Most of the Planning Area consists of cities; however, it also includes large unincorporated islands. The largest of these are Hacienda Heights and Rowland Heights. Other major County unincorporated islands include those that surround the City of Covina.

The Eastern San Gabriel Valley Planning Area includes the following unincorporated islands:

- Avocado Heights
- Charter Oak
- Citrus/Covina Islands
- East Azusa Islands
- East Irwindale
- East San Dimas
- Glendora Islands
- Hacienda Heights
- North Claremont
- Northeast La Verne
- Northeast San Dimas Islands
- North Pomona
- Rowland Heights
- South Diamond Bar
- South San Jose Hills
- South Walnut
- Valinda
- Walnut Islands
- West Claremont
- West Puente Valley
- West San Dimas

Unincorporated areas contain a wide range of urban land uses. For example, Hacienda Heights and Rowland Heights are both dense, populous communities that, while largely suburban in character and dominated by single-family residential uses, also contain concentrations of multifamily, commercial, industrial, institutional, and landfill uses.

Unincorporated islands in the central portion of the Planning Area include 11 large groups of parcels. These predominantly feature single-family residential uses. Notable exceptions include major transportation corridors that feature commercial uses (Arrow Highway and Grand Avenue) or commercial and industrial uses (Valley Boulevard). Major institutional uses within unincorporated areas of the Planning Area include California Polytechnic State University, Pomona, Forest Lawn Memorial Park, and Rose Hills Memorial Park and Cemetery.

Unincorporated areas in the northern portion of the Planning Area are generally located adjacent to the San Gabriel Mountains in the Angeles National Forest and are primarily undeveloped.

Gateway Planning Area

This Planning Area lies in the southeastern portion of Los Angeles County and is almost entirely located within the Los Angeles Basin. The eastern border of the Planning Area is adjacent to Orange County. The region is almost entirely developed and has a large percentage of industrial land compared to other areas of Los Angeles County.

This Planning Area includes the following unincorporated islands:

- Bandini Islands
- Cerritos Islands
- La Habra Heights Islands
- Long Beach Island
- Lynwood Island
- Rancho Dominguez
- South Whittier-Sunshine Acres
- West Whittier-Los Nietos

Unincorporated areas in this Planning Area are located within three large clusters. Two communities, South Whittier-Sunshine Acres and West Whittier-Los Nietos, are large suburban communities with a wide range of land uses, including residential, commercial, industrial, and recreational uses. Their pattern of land uses is consistent with that of surrounding cities, which include the cities of Downey, La Mirada, Norwalk, Pico Rivera, and Whittier. Although these areas are predominantly composed of single-family residential neighborhoods, they also feature scattered multifamily and nonresidential uses. The community of Rancho Dominguez south of the City of Compton is the third major unincorporated area in this Planning Area. Rancho Dominguez is a heavily urbanized, built-out community that is predominantly industrial except for two large mobile-home communities. The Gateway Planning Area also contains a few small County islands that are either dominated by single-family residential uses (Cerritos Islands, La Habra Heights Islands, and Long Beach Island) or are mostly undeveloped (Lynwood Island).

Metro Planning Area

The Metro Planning Area lies in the geographic center of Los Angeles County. It contains Downtown Los Angeles, industrial areas, and many of the City of Los Angeles' most densely-populated neighborhoods.

Like the Gateway Planning Area, it is almost entirely developed. Most of the Planning Area is occupied by the City of Los Angeles.

Unincorporated islands in the Planning Area are as follows:

- East Los Angeles
- East Rancho Dominguez
- Florence-Firestone
- Walnut Park
- West Athens-Westmont
- West Rancho Dominguez- Victoria
- Willowbrook

The unincorporated areas in the Metro Planning Area consist of four large concentrations. The first large concentration is East Los Angeles, which is dominated by multifamily residential uses west of Interstate (I) 710 and by a mixture of single-family and multifamily residential uses east of I-710 The residential uses are divided by commercial corridors. Major streets in this community, including Atlantic Boulevard, Cesar E. Chavez Boulevard, Olympic Boulevard, and Whittier Boulevard are generally fronted by commercial uses on both sides.).

The other three large concentrations that are within the Metro Planning Area are located in the middle of the Los Angeles Basin.

The first of these unincorporated areas contains the Florence-Firestone and Walnut Park communities which are adjacent to each other along the eastern boundary of the Metro Planning Area The predominant land use within these two communities is multifamily residential land uses. However, they also include individual residential neighborhoods which are separated by major arterial street corridors that contain commercial and/or industrial uses. Corridors featuring commercial land uses include Central Avenue, Compton Avenue, Firestone Boulevard, Florence Avenue, Pacific Boulevard, and Sevilla Avenue. Industrial uses within these two communities are generally located adjacent to Alameda Street, Slauson Avenue, and the Metro Blue Line right-of-way, which traverses the community in a north/south direction. These communities also feature scattered park, public, and single-family residential uses.

The second unincorporated area is East Rancho Dominguez, which is located in the southeast corner of the Metro Planning Area and just east of the City of Compton. East Rancho Dominguez is developed and consists of single-family and multifamily residential neighborhoods that are bisected from east to west by Atlantic Avenue and from north to south by Compton Boulevard. Commercial uses are located along these two streets.

The third unincorporated area includes the adjacent West Rancho Dominguez-Victoria and Willowbrook communities that are adjacent to each other and are located south of I-105 and east of I-110 within the center of the Metro Planning Area. The City of Los Angeles neighborhood of Watts is to the north and the City of Compton is directly to the south and southeast. The southern and western portions of the West Rancho Dominguez-Victoria community consist mainly of industrial uses. The northern portion of the community is mainly single-family residential uses except for commercial uses at major intersections and scattered multifamily residential and public uses. Willowbrook is largely residential, with a mixture of single-family and multifamily residential uses. Notable exceptions include the Martin Luther King, Jr. Medical Center, retail commercial uses located diagonally across 119th Street and Wilmington Avenue from the medical center, and industrial uses oriented to Alameda Street and the adjacent railroad right-of-way.

The fourth unincorporated area within the Metro Planning Area is the West Athens-Westmont community, which is located along the western boundary of the Metro Planning Area. This community primarily consists of residential uses. The northeast quadrant consists almost entirely of multifamily residential land uses and the remainder of the community is dominated by single-family residential uses. Notable exceptions include the Chester Washington Golf Course south of I-105 and the campus of Los Angeles Southwest Community College north of I-105. The community also includes scattered parks and other public uses.

San Fernando Valley Planning Area

The San Fernando Valley Planning Area is south of the Santa Clarita Valley, north the Santa Monica Mountains, and west of the San Gabriel Mountains. The Ventura County line is the western border of the Planning Area. Most of the Planning Area consists of the cities of Burbank, Glendale, La Cañada Flintridge, Los Angeles, and San Fernando.

Only a small portion of the planning area is unincorporated, composed of areas located around the periphery of the San Fernando Valley Planning Area.

This Planning Area includes the following unincorporated areas:

- Kagel Canyon
- La Crescenta-Montrose
- Lopez Canyon
- Oat Mountain
- Sylmar Island
- Twin Lakes
- Universal City
- West Chatsworth
- West Hills

These communities are primarily low-density, single-family residential communities, with the exception of the Universal Studios Specific Plan area. In the western portion of the San Fernando Valley, the communities of Oat Mountain, Twin Lakes, West Chatsworth, and West Hills largely consist of rural residential uses and undeveloped open space. Oat Mountain also includes a large undeveloped area used for oil extraction and the Sunshine Canyon Landfill. On the northern edge of the valley, the Kagel Canyon, Lopez Island, and Sylmar Island communities are primarily undeveloped hillsides and canyons, but include scattered parcels currently used for residential, commercial, or public uses. The most developed unincorporated community in the Planning Area is La Crescenta-Montrose. It consists of primarily single-family residential uses, but also includes commercial uses along Foothill Boulevard and multifamily uses along Montrose Avenue.

South Bay Planning Area

The South Bay Planning Area covers the southwestern portion of the Los Angeles Basin, the Palos Verdes Peninsula, and the Port of Los Angeles. The Planning Area consists mostly of the cities of El Segundo, Gardena, Hermosa Beach, Inglewood, Lawndale, Lomita, Manhattan Beach, Palos Verdes Estates, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, and Torrance. The Planning Area also includes the San Pedro and Wilmington neighborhoods of the City of Los Angeles.

Unincorporated islands of this Planning Area are as follows:

- Alondra Park
- Del Aire
- Hawthorne Island
- La Rambla
- Lennox
- West Carson
- Westfield

In the northern portion of the Planning Area, the unincorporated areas are generally developed and dominated by residential uses. The Lennox community is primarily low-rise multifamily residential uses except for industrial uses adjacent to Los Angeles International Airport and commercial uses along Hawthorne Boulevard and Inglewood Avenue. Hawthorne Island is a similarly built-out neighborhood dominated by low-rise multifamily residential uses. Spanning both sides of I-405 southeast of the Los Angeles International Airport, the Del Aire community is primarily single-family residential uses. A notable exception is the Pacific Concourse commercial center directly southwest of the I-105/I-405 interchange, which includes commercial and multifamily residential uses.

In the middle portion of the Planning Area, Alondra Park has three distinct land use patterns. North of Marine Avenue, it consists primarily of multifamily apartment complexes. Between Marine Avenue and Manhattan Beach Boulevard, it consists almost entirely of single-family residential uses. South of Manhattan Beach Boulevard, it features recreational uses (Alondra Golf Course and Alondra Park) and public uses (El Camino Community College).

South of I-405 and west of I-110 is the largest unincorporated area in the South Bay Planning Area. West Carson contains a wide range of land uses, including single-family, multifamily, commercial, and industrial uses. Commercial and industrial uses are largely concentrated along major commercial corridors. A large concentration of medical uses, including Harbor-UCLA Medical Center, is located near the center of the community.

The two final unincorporated areas of the South Bay Planning Area are located on the Palos Verdes Peninsula. La Rambla is a built-out neighborhood adjacent to the San Pedro neighborhood of the City of Los Angeles. It contains a range of single-family, multifamily residential, commercial, and public uses. Westfield is located between the City of Rolling Hills and City of Rolling Hills Estates. It contains single-family residential uses, a private school campus (Chadwick School), the South Coast Botanic Garden, and a multifamily residential complex.

West San Gabriel Valley Planning Area

The West San Gabriel Valley Planning Area covers the western San Gabriel Valley. The Metro and San Fernando Valley Planning Areas are to the west and the East San Gabriel Valley Planning Area is located to the east. Like the latter, it is almost entirely developed and mostly comprised of cities. The Planning Area features four large concentrations of unincorporated parcels. The unincorporated islands are as follows:

- Altadena
- East Pasadena-East San Gabriel
- Kinneloa Mesa
- South Monrovia Islands
- South San Gabriel-San Pasqual
- Whittier Narrows

The first large unincorporated island in the Planning Area is Altadena, which is north of the City of Pasadena. It is an older suburban community of nearly 9 square miles. The community is predominantly comprised of single-family residential neighborhoods, but also includes vacant portions of the lower San Gabriel Mountains. Commercial uses are concentrated along Lake, Lincoln, and Fair Oaks Avenues. The community also features scattered parcels used for multifamily residential, commercial, and public uses. East of Altadena is Kinneloa Mesa, which features mostly single-family residential uses and vacant hillside open space.

In the central portion of the Planning Area are two, large unincorporated areas that are nearly developed. The South Monrovia Islands are comprised of single-family residential uses except for a commercial corridor along Live Oak Avenue. To the west is the community of East Pasadena-East San Gabriel. This area is largely single-family residential neighborhoods except for commercial corridors along Rosemead and Colorado Boulevards. Utility uses also traverse the community in the form of overhead electric lines.

Last are the adjacent communities of South San Gabriel and Whittier Narrows. South San Gabriel is dominated by single-family residential uses, but also features scattered multifamily residential, commercial, and utility uses. Whittier Narrows is primarily recreational and vacant open space areas. These include Whittier Narrows Golf Course, the Alhambra Wash, and Whittier Narrows Natural Area.

Westside Planning Area

The Westside Planning Area is located between Downtown Los Angeles and the Pacific Coast. It is heavily urbanized and includes many of Los Angeles' densest neighborhoods. It also includes the cities of Beverly Hills, Culver City, Santa Monica, and West Hollywood. The Westside Planning Area also includes Los Angeles International Airport.

This Planning Area includes the following unincorporated islands:

- Ballona Wetlands
- Franklin Canyon
- Gilmore Island
- Ladera Heights-Viewpark-Windsor Hills
- Marina del Rey
- West Fox Hills
- West Los Angeles (Sawtelle Veteran's Administration Center)

Although there are few unincorporated areas in the Westside Planning Area, they are widely dispersed and contain a diverse range of land uses. The largest unincorporated area in the Planning Area is located at the southern boundary, directly south of the City of Culver City. Commonly referred to as the Baldwin Hills, it is centered on the recreational uses of Kenneth Hahn State Recreational Area and includes the communities of Ladera Heights and Viewpark/Windsor Hills. Ladera Heights and Viewpark/Windsor Hills consist of primarily single-family residential uses. However, commercial and multifamily residential uses are oriented along Slauson Avenue and the major arterial connecting it and Downtown Inglewood to the south. Major institutional uses located in the northwest portion of the Baldwin Hills include Holy Cross Catholic Cemetery and West Los Angeles College. Approximately 1 mile to the west, a small unincorporated island includes single family and public uses.

The second largest unincorporated area in the Westside Planning Area consists of Marina del Rey and a portion of the adjacent Ballona Wetlands. Marina del Rey is one of the largest constructed small-boat harbors in the United States, with 19 marinas and room for roughly 5,300 boats. This area supports recreational, residential, and commercial uses.

Lastly, this Planning Area contains an unincorporated area bisected by I-405 and Wilshire Boulevard that is dominated by government uses. It contains the Veteran's Administration Medical Center, Los Angeles, and Los Angeles National Cemetery.

4.11.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal regulations related to land use and planning relevant to the Proposed Project.

State

The following state regulations pertaining to land use in unincorporated areas would apply to the Project.

State Planning Law and Complete Streets Act

State planning law (California Government Code Section 65300) requires every city and county in California to adopt a comprehensive, long-term general plan for the physical development of the jurisdiction and of any land outside its boundaries that, in the planning agency's judgment, bears relation to its planning (sphere of influence). A general plan should consist of an integrated and internally consistent set of goals and policies grouped by topic into a set of elements and guided by a jurisdiction-wide vision. State law requires that a general plan address seven elements or topics (land use, circulation, housing, conservation, open space, noise, and safety), but allows some discretion on the arrangement and content. Additionally, each of the specific and applicable requirements in the state planning law should be examined to determine if there are environmental issues within the community that the general plan should address, such as hazards or flooding.

The Housing Element is one of the required elements of the General Plan. This Sixth Revision to the Housing Element complies with the California Government Code, beginning at Section 65583.

Local

The following local/regional regulations pertaining to existing land uses would apply to the Project.

Southern California Association of Governments

The County of Los Angeles is a member of the Southern California Association of Governments (SCAG), which is the designated Metropolitan Planning Organization for the region. SCAG is required to update its Regional Transportation Plan/Sustainable Communities Strategy every 4 years, which puts all member jurisdictions on a schedule to update their Housing Elements every 8 years. SCAG is required to develop a final Regional Housing Needs Allocation (RHNA) methodology to distribute existing and projected housing need for the 6th cycle RHNA for each jurisdiction, which will cover the planning period October 2021 through October 2029. Following extensive feedback from stakeholders during the proposed methodology comment period and an extensive policy discussion, SCAG's Regional Council voted to approve the Draft RHNA Methodology on November 7, 2019, and provide it to the State Department of Housing and Community Development for their statutory review. On January 13, 2020, the State Department of Housing and Community Development completed its review of the draft methodology and found that it furthers the five statutory objectives of RHNA, and on March 5, 2020, SCAG's Regional Council voted to approve the Final RHNA Methodology (SCAG 2020). On March 4, 2021, SCAG's Regional Council adopted the Sixth Cycle Final RHNA Allocation Plan.

The Proposed Project includes an update to the Los Angeles County Housing Element and associated components to meet the RHNA requirements approved by SCAG.

Airport Land Use Plans

There are 11 public-use airports/airfields within the boundaries of the Los Angeles County Airport Land Use Commission's jurisdiction. Information for the 11 public-use airports/airfields, including applicable General Plan Planning Areas, is provided in Table 4.11-1. The 11 public-use airports/airfields are also shown in Figure 4.11-1, Airports/Airfields.

Table 4.11-1. Public-Use Airports/Airfields in Los Angeles County Planning Areas Affected by the Proposed Project

Airport/Airfield	IATA Airport Code	Type	Location	Planning Area
Bob Hope/ Burbank Airport	BUR	Commercial	Burbank, Los Angeles	San Fernando Valley
Brackett Field Airport	POC	General Aviation	La Verne (Influence Area also includes portions of Pomona and San Dimas)	East San Gabriel Valley
Compton/ Woodley Airport	CPM	General Aviation	Compton	Gateway
San Gabriel Valley Airport (formerly El Monte Airport)	EMT	General Aviation	El Monte	West San Gabriel Valley

Table 4.11-1. Public-Use Airports/Airfields in Los Angeles County Planning Areas Affected by the Proposed Project

Airport/Airfield	IATA Airport Code	Type	Location	Planning Area
Hawthorne Municipal/Jack Northrop Field Airport	HHR	General Aviation	Hawthorne	South Bay
Long Beach Municipal/ Daugherty Field Airport	LGB	Commercial	Long Beach, Lakewood	Gateway
Los Angeles International Airport	LAX	Commercial	Los Angeles (Influence Area includes portions of El Segundo, Hawthorne, Inglewood, and unincorporated areas)	Westside
Santa Monica Municipal Airport	SMO	General Aviation	Santa Monica, Los Angeles	Westside
Torrance/ Zamperini Field Airport	TOA	General Aviation	Torrance (Influence Area includes portion of Lomita)	South Bay
Van Nuys Airport	VNY	General Aviation	Los Angeles	San Fernando Valley
Whiteman Airport	WHP	General Aviation	Los Angeles	San Fernando Valley

Source: County of Los Angeles 2021.
Note: IATA = International Air Transport Association

An Airport Land Use Compatibility Plan (ALUCP) is a planning document that contains policies for promoting safety and compatibility between airports and the communities that surround them. In 1991, the Los Angeles County Airport Land Use Commission adopted a comprehensive Los Angeles County ALUCP that covers all airports within its jurisdiction except for General William J. Fox Airfield in Lancaster, which has its own ALUCP. The Airport Land Use Commission in in the process of developing individual ALUCPs for each airport in Los Angeles County.

The Los Angeles County ALUCP provides guidance related to the placement of land uses near the aforementioned airports. These recommendations are based on a variety of factors, including those related to noise, safety, and aircraft movement. In addition to the identification of land use compatibility issues, the ALUCP identifies notification/disclosure areas around each airport.

Habitat Conservation Plans

There are three habitat conservation plan areas within Los Angeles County: The Draft Desert Renewable Energy Conservation Plan Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP), the Palos Verdes Peninsula NCCP/HCP, and the West Mojave Plan HCP. The Proposed Project's rezoning program areas are not located within the vicinity of these plan areas. Further detail of these plans can be found in the General Plan Update EIR Section 5.10.1, Regulatory Setting, and Section 5.4, Biological Resources (County of Los Angeles 2014).

General Plan

The Land Use Element of the General Plan provides the following goals and policies potentially relevant to the Project (County of Los Angeles 2015):

Goal LU 1 A General Plan that serves as the constitution for development, and a Land Use Policy Map that implements the General Plan's Goals, Policies and Guiding Principles.

Policy LU 1.10 Require the intensity, density, and uses allowed in a new specific plan to be determined using the General Plan, including the Land Use Policy Map and Land Use Legend.

Policy LU 1.11 Require a General Plan amendment for any deviation from the intensities, densities, and uses allowed by the General Plan (to apply the appropriate designation from the General Plan Land Use Legend), unless allowances for flexibility are specified in the specific plan.

Policy LU 1.15 For existing specific plans, which are depicted with an "SP" land use designation, the General Plan Land Use Policy Map shall be amended as part of a comprehensive area planning effort, to identify existing specific plans using the Specific Plan Overlay.

Goal LU 3 A development pattern that discourages sprawl, and protects and conserves areas with natural resources and SEAs.

Policy LU 3.1 Encourage the protection and conservation of areas with natural resources, and SEAs.

Policy LU 3.2 Discourage development in areas with high environmental resources and/or severe safety hazards.

Policy LU 3.3 Discourage development in undeveloped areas where infrastructure and public services do not exist, or where no major infrastructure projects are planned, such as state and/or federal highways.

Goal LU 4 Infill development and redevelopment that strengthens and enhances communities.

Policy LU 4.1 Encourage infill development in urban and suburban areas on vacant, underutilized, and/or brownfield sites.

Policy LU 4.2 Encourage the adaptive reuse of underutilized structures and the revitalization of older, economically distressed neighborhoods.

Policy LU 4.3 Encourage transit-oriented development in urban and suburban areas with the appropriate residential density along transit corridors and within station areas.

Policy LU 4.4 Encourage mixed use development along major commercial corridors in urban and suburban areas.

Goal LU 6 Protected rural communities characterized by living in a non-urban or agricultural environment at low densities without typical urban services.

Policy LU 6.1 Protect rural communities from the encroachment of incompatible development that conflict with existing land use patterns and service standards.

Policy LU 6.2 Encourage land uses and developments that are compatible with the natural environment and landscape.

Policy LU 6.3 Encourage low density and low intensity development in rural areas that is compatible with rural community character, preserves open space, and conserves agricultural land.

4.11.3 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project would normally have a significant effect on the environment with respect to land use and planning if the project would:

LU-1: Physically divide an established community.

LU-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

LU-3: Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.11.4 Methodology

To evaluate the Proposed Project's impacts related to land use and planning, this analysis examines the Proposed Project's consistency with both regional and local plans, policies, and regulations that regulate uses within the Project Area.

CEQA Guidelines Section 15125(d) requires that an EIR include a discussion of any inconsistencies with applicable land use policies and ordinances that were adopted to mitigate or avoid an environmental effect. Additionally, 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.

Analysis of conflicts and consistency with applicable plans is included in this impact section. Under State Planning and Zoning law (Government Code Section 65000 et seq.) strict conformity with all aspects of a plan is not required. Generally, plans reflect a range of competing interests and agencies are given great deference to determine consistency with their own plans. A 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 according to the Office of Planning and Research, State of California General Plan Guidelines (OPR 2017). Generally, given that land use plans reflect a range of competing interests, a project should be compatible with a plan's overall goals and objectives but need not be in perfect conformity with every plan policy.

As stated, the following analysis examines the Proposed Project's consistency with both regional and local plans, policies, and regulations governing uses within the Project Area.

Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

4.11.5 Environmental Impacts

Threshold LU-1 Would the Project physically divide an established community?

The Proposed Project is a policy document. Adoption of the Proposed Project alone would not impact the environment. The Proposed Project consists of an updated Housing Element for which no actual development is proposed as part of the update. Implementation of the programs contained in the document would accommodate development required to meet County's 2021-2029 RHNA allocation. Under the RHNA allocation, the County is required to provide the zoned capacity within its unincorporated areas to accommodate the development of at least 90,052 units using various land use planning strategies. The County has determined that the existing inventory of residential sites would be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its RHNA gap; refer to Chapter 3, Project Description for further details. While the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

The rezoning program would promote and facilitate new residential development with greater densities than previously permitted in certain areas of the unincorporated areas of Los Angeles County. However, the Proposed Project would concentrate rezoning efforts within urban and suburban areas, many of which would be located along commercial corridors. The proposed rezoning areas for additional housing would encourage infill development in areas with existing infrastructure and access to transit, rather than continuing historical sprawling land use patterns. These changes would not introduce radically different land uses into neighborhoods, propose new street patterns, or otherwise divide these areas.

Approval of the Proposed Project, a policy document, would not provide any goals, policies, or programs that would divide a community. The Proposed Project encourages community connectivity, such as in Goal 2, Policy 2.1.Additionally, any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation. Therefore, implementation of the Proposed Project with respect to physically dividing an established community would be **less than significant**.

Threshold LU-2 Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The RHNA is mandated by State Housing Law as part of the periodic process of updating local housing elements of the General Plan (SCAG 2020). As noted above in Section 4.11.2, SCAG is required to develop a RHNA for existing and projected housing needs for each jurisdiction, which covers the planning period of October 2021 through

October 2029. The County is required to ensure the availability of residential sites at adequate densities and with appropriate development standards in the unincorporated areas to accommodate its fair share of the RHNA set forth by SCAG.

The Proposed Project is a policy document that would amend the General Plan to meet state Housing Element law. As described in Threshold LU-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County in order to accommodate the RHNA gap. As a result, the Proposed Project would be consistent and would meet the goals of the SCAG's Connect SoCal, the 2020–2045 RTP/SCS, which is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The rezoning program would encourage new development and redevelopment on parcels within the plan areas of adopted ALUCPs. However, it would exclude sites in the 65 decibel Community Noise Equivalent Level and above, within Airport Influence Areas. Additionally, the rezoning program would not be located within the coastal zone.

Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation. Therefore, impacts related to compatibility between the Proposed Project and applicable plans adopted for the purpose of avoiding or mitigating environmental effects would be **less than significant**.

Threshold LU-3 Would the Project conflict with any applicable habitat conservation plan or natural community conservation plan?

As described in Threshold LU-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

As shown in Figure 4.4-3, the Project Project's rezoning program areas do not overlap with any Significant Ecological Areas. Therefore, the Proposed Project would not affect any Significant Ecological Areas within the County. Although the County of Los Angeles currently has three HCPs, the proposed rezoning area would not be located within any HCP areas. The Los Angeles County Oak Woodlands Conservation Management Plan was adopted to encourage the preservation of oak woodlands throughout the County. Development that is encouraged by the rezoning program would be required to adhere to the Oak Woodlands Conservation Management Plan to avoid impacts to oak woodlands and would provide appropriate compensatory mitigation if impacts to oak woodland would occur. Refer to Section 4.4.5 for further details regarding the Oak Woodlands Conservation Management Plan.

The existing regulatory setting and general location of the rezoning areas within urban areas would ensure that potential impacts to HCPs or NCCPs from implementation of the Proposed Project would be less than significant. Approval of the Proposed Project itself, as a policy document would not provide any goals, policies, or programs that would conflict with an HCP or NCCP. Additionally, any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation. For these reasons, impacts regarding conflict with any applicable HCP or NCCP would be **less than significant**.

4.11.6 Cumulative Impacts

Multiple projects in the Los Angeles County region would have the potential to result in a cumulative impact if they would, in combination, conflict with existing land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental impact. Similar to the Proposed Project, cumulative projects in the Los Angeles County region would utilize regional planning documents during planning, and the general plans of cities would be consistent with the regional plans, to the extent that they are applicable. Cumulative projects in these jurisdictions would be required to comply with the applicable land use plan or they would not be approved without a general plan amendment.

As discussed above, implementation of the Proposed Project would not conflict with existing land use plans, policies, or regulations of agencies with jurisdiction over the Project Area. Therefore, the Proposed Project would not contribute to a significant cumulative impact.

4.11.7 Mitigation Measures

No mitigation is required.

4.11.8 Level of Significance After Mitigation

No significant unavoidable adverse impacts related to land use and planning have been identified. Land use and planning impacts would be less than significant.

4.11.9 References

County of Los Angeles. 2014. *Los Angeles County General Plan Update Draft Environmental Impact Report*. State Clearinghouse #2011081042. June 2014. https://planning.lacounty.gov/assets/upl/project/gp_2035_deir.pdf.

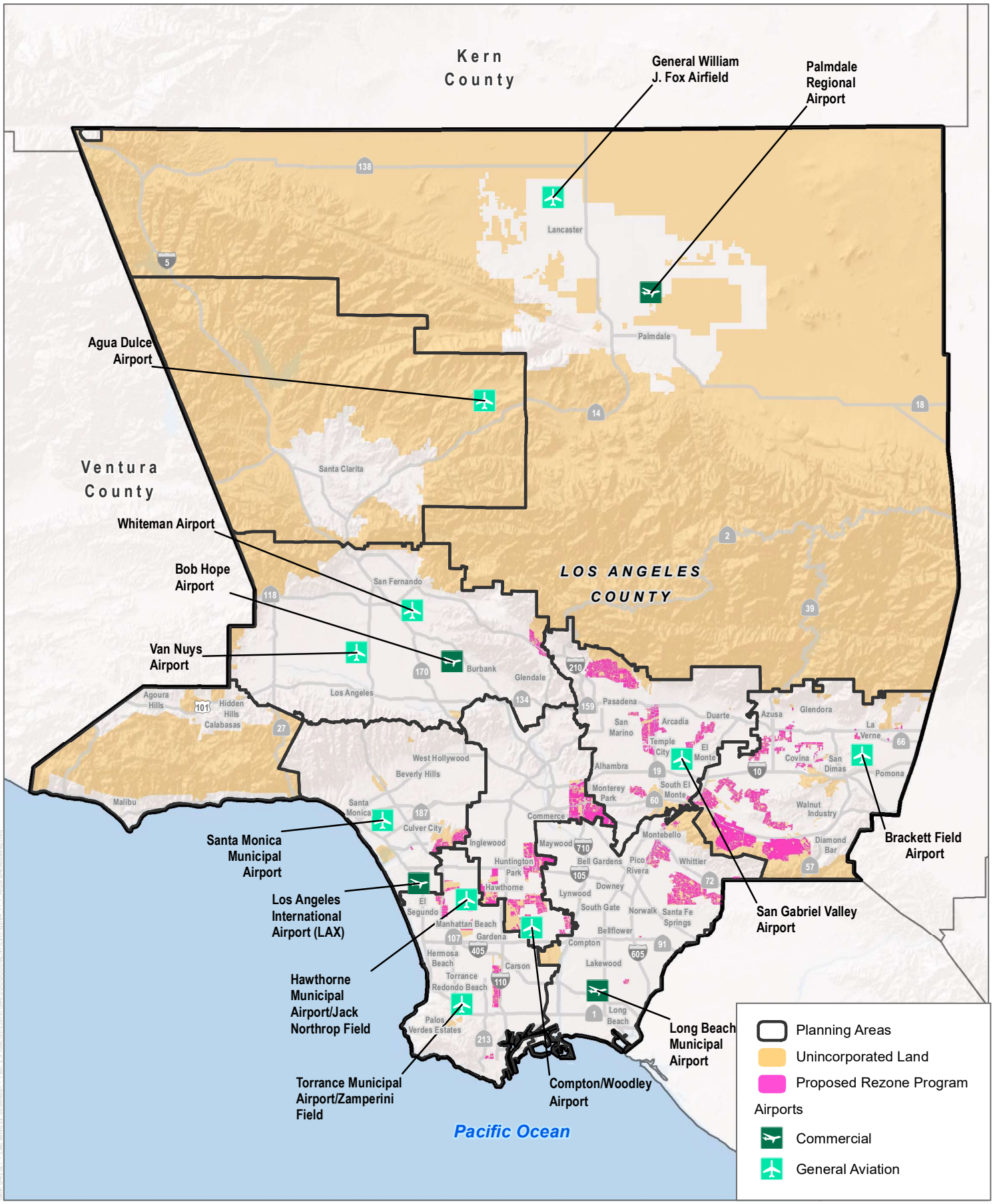
County of Los Angeles. 2015. *Los Angeles County General Plan*. Adopted October 6, 2015. https://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf.

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OPR (Governor's Office of Planning and Research). 2017. *State of California General Plan Guidelines*, Updated 2017. https://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf.

SCAG (Southern California of Associated Governments). 2020. Final FHNA Allocation Methodology. March 2020. https://scag.ca.gov/sites/main/files/file-attachments/scag-final-rhna-methodology-030520.pdf?1602189316.

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SOURCE: ESRI 2021; LA County 2021

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FIGURE 4.11-1

Airports/Airfields

Los Angeles County Housing Element Update

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4.12 Mineral Resources

This section evaluates the potential impacts to mineral resources in the Project Area from implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project). This section describes the existing mineral resources of the Project Area, identifies associated regulatory requirements, and evaluates potential impacts related to implementation of the Proposed Project. As part of the analysis, this section describes the potentially adverse impacts to loss of known mineral resources or locally important mineral resources recovery sites.

4.12.1 Environmental Setting

This section discusses the existing environmental setting relative to hydrology and water quality. As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analysis or studies.

Minerals are defined as any naturally occurring chemical elements or compounds formed from inorganic processes and organic substances. A minable mineral, or an "ore deposit," is defined as a deposit of ore or mineral having a value materially in excess of the cost of developing, mining, and processing the mineral and reclaiming the area.

The California Mineral Resources Project designates Production-Consumption (P-C) regions for the purpose of classifying mineral land resources. There are seven P-C regions entirely or partly within Los Angeles County (County):

- San Fernando Valley P-C Region
- San Gabriel Valley P-C Region
- Saugus-Newhall P-C Region
- Palmdale P-C Region
- Claremont-Upland P-C Region
- Orange County-Temescal Valley P-C Region
- Simi P-C Region

The San Fernando Valley, San Gabriel Valley, Saugus-Newhall, and Palmdale P-C regions are all entirely within the County and account for nearly all of its land. The majority of the lands covered by the Claremont-Upland, Orange County–Temescal Valley, and Simi P-C regions are within adjacent counties, but small portions of each are in Los Angeles County.

Mineral Resource Zones

Mineral resources areas are defined as one of the four Mineral Resources Zones (MRZs), Scientific Resource Zones, or Identified Resource Areas described below. For further details regarding mineral resources, refer to Section 4.12.2, Relevant Plan, Policies, and Ordinances.

- **MRZ-1:** An MRZ where adequate information indicates that no significant mineral deposits are present or likely to be present.
- **MRZ-2:** An MRZ where adequate information indicates that significant mineral deposits are present or a likelihood of their presence and development should be controlled.
- **MRZ-3:** An MRZ where the significance of mineral deposits cannot be determined from the available data.
- **MRZ-4:** An MRZ where there is insufficient data to assign any other MRZ designation.
- **Scientific Resource Zones:** Areas containing unique or rare occurrences of rocks, minerals, or fossils that are of outstanding scientific significance.
- **Identified Resource Areas:** County or State Division of Mines and Geology identified areas where adequate production and information indicates that significant minerals are present.

The following five planning areas contain major MRZ-2 areas, which are explained in greater detail below: San Gabriel Valley, East San Gabriel Valley, San Fernando Valley, Metro, and South Bay (refer to Figure 4.12-1, MRZ-2 Zone Areas).

Existing Conditions in MRZ-2 Areas

East San Gabriel Valley Planning Area

Nearly all of the MRZ-2 area in the East San Gabriel Valley Planning Area is in the communities of Avocado Heights, West Puente Valley, East Irwindale, and Charter Oak. There are small MRZ-2 areas in the communities of West Claremont and North Pomona. There are several proposed rezone parcels within the MRZ-2 area (refer to Figure 4.12-2A, East San Gabriel Valley Planning Area – MRZ-2 Zone Areas).

- **Avocado Heights**: South of Valley Boulevard: MRZ-2 area is developed with residential and some commercial land uses and San Angelo Park. North of Valley Boulevard: MRZ-2 area is built out with industrial uses.
- **West Puente Valley:** MRZ-2 area is developed with residential uses and two schools.
- **East Irwindale:** MRZ-2 area is developed with residential and some commercial land uses, schools, and a park.
- **Covina Islands:** MRZ-2 areas are developed with mostly residential areas and some commercial and industrial areas.
- **Charter Oak:** MRZ-2 area is developed with residential and some commercial uses.
- **West Claremont:** MRZ-2 area is developed with residential land uses.
- **North Pomona:** MRZ-2 area is developed with residential land uses

Metro Planning Area

The MRZ-2 area in the unincorporated areas of the Metro Planning Area is at the north end of the community of Florence–Firestone and is developed with residential, commercial, and industrial land uses. A portion of the proposed rezoning parcels is within the southernmost part of the MRZ-2 area (refer to Figure 4.12-2B, Metro Planning Area – MRZ-2 Zone Areas).

San Fernando Valley Planning Area

One portion of the unincorporated area in the northern center of the San Fernando Valley Planning Area is mapped MRZ-2. None of the proposed rezone parcels are within the MRZ-2 zone (refer to Figure 4.12-2C, San Fernando Valley Planning Area – MRZ-2 Zone Areas).

South Bay Planning Area

One portion south of Interstate 1 is mapped MRZ-2; however, it is not within unincorporated land. None of the proposed rezone parcels are within the MRZ-2 zone (refer to Figure 4.12-2D, South Bay Planning Area – MRZ-2 Zone Areas).

West San Gabriel Valley Planning Area

Four portions of unincorporated land in this Planning Area are mapped MRZ-2. One is in the communities of East Pasadena and East San Gabriel which is developed with residential, commercial, and industrial land uses and roadways. The second is mostly in the communities of Mayflower Village and South Monrovia, with a small part in the community of North El Monte, and is developed almost entirely with residential uses, although the south end of this area is developed as Arcadia Golf Course (see Figure 4.12-E, West San Gabriel Valley Planning Area – MRZ-2 Zone Areas).

The two other portions are identified in the existing Altadena Community Plan as MRZ-2. One of the portions is on the western boundary of the Community Plan Area boundary and is developed with single-family residential uses. The other portion is on the eastern boundary of the Community Plan Area straddling New York Avenue and is partly developed with single-family residential uses and partly vacant land. The vacant land spans about 4.5 acres and abuts the north side of New York Avenue.

Mineral Resource Sectors

Mineral Resource Sectors are areas where mineral resources of regional or statewide significance are considered to be present or likely to be present and that have current land uses deemed compatible with potential mining. Table 4.12-1 identifies the mineral resource sectors within the rezoning program areas.

Table 4.12-1. Mineral Resource Sectors

Planning Area	Production Consumption Region and Map Date	Mineral Resource Sectors		
		Number of Sectors and Locations	*Mapped as Urbanized, Urbanizing, or Zoned Urban*	*Active Mines Mapped*
East San Gabriel Valley and West San Gabriel Valley	San Gabriel Valley 2010	Nine sectors mostly in the cities of Azusa and Irwindale; a small part of one sector is in the City of Arcadia. None of the nine sectors are in unincorporated Los Angeles County.	Parts of five sectors (the five largest of the nine sectors) are mapped as lost to land uses incompatible with mining.	Active mines are mapped in four of the nine sectors.
		One sector in Eaton Wash in the City of Pasadena.	None	None

Table 4.12-1. Mineral Resource Sectors

Planning Area	Production Consumption Region and Map Date	Mineral Resource Sectors		
		Number of Sectors and Locations	*Mapped as Urbanized, Urbanizing, or Zoned Urban*	*Active Mines Mapped*
		One sector in Arroyo Seco in City of Pasadena. No areas mapped as lost to urbanization or as active mines.	None	None
South Bay	San Gabriel Valley 2010	One sector in cities of Rolling Hills Estates and Torrance.	Most mapped as lost to land uses incompatible with mining.	None
San Fernando Valley	San Fernando Valley 1994	Four sectors. Three sectors are in and near Tujunga Valley in the City of Los Angeles. One sector in Pacoima Wash mostly in the City of Los Angeles with the balance in unincorporated Los Angeles County.	Most of two sectors, and part of the third sector, in Tujunga Valley mapped as lost to urbanization.	None

Source: County of Los Angeles 2015a.

As shown in Table 4.12-1, the majority of the mineral resource sectors are not active mines. The one area with active mines within the East San Gabriel Valley and West San Gabriel Valley is not contained with unincorporated Los Angeles County.

Active and Inactive Mines

There are currently 46 mines operated by 32 companies within the County. Of these mines, 24 are currently active. Two additional mines are currently permitted but not yet active. Mines within unincorporated areas are not located within planning areas affected by the Proposed Project. For a list of active mines in the County, refer to Los Angeles General Plan Update EIR Table 5.11-4, Active Mines in Los Angeles County (County of Los Angeles 2015a).

Aggregate Mining Sites Identified in the Existing General Plan

Major sand and gravel extraction sites are found in the alluvial fans of the Tujunga Wash and the San Fernando Valley and in the San Gabriel River in and near Irwindale. Other sites are in the Santa Clara River and Little Rock and Big Rock washes in the north county (Antelope Valley); however, these Planning Areas are not affected by the areas of the rezoning program.

Aggregate Supplies and Demands

Aggregate reserves are aggregate that have been determined to be acceptable for commercial use that exist within properties owned or leased by aggregate producing companies and for which permits have been granted to allow

mining and processing of the material. Aggregate resources include reserves and all potentially usable aggregate materials that may be mined in the future but for which no permit allowing mining has been granted or for which marketability has not been established. Portland Cement Concrete-grade aggregate reserves and resources for each of the P-C regions in the County are shown in Los Angeles General Plan Update EIR Table 5.11-5, Aggregate Resources, Reserves, and Demands of Los Angeles County. Projections of aggregate demand for the County through the year 2044 were made based upon population projections and an average per capita consumption rate. These projections are compared to existing aggregate reserves and resources and are also shown in Los Angeles General Plan Update EIR Table 5.11-5 (County of Los Angeles 2015a).

The results of these projections show that an estimated two billion tons of aggregate will be needed to satisfy the future demand through the year 2044 in the area supplied by aggregate produced in the County. Of this total, 55%, or 1.1 billion tons, must be of Portland Cement Concrete grade. Existing Portland Cement Concrete-grade reserves total roughly 750 million tons and are expected to be depleted by 2016 (County of Los Angeles 2015a).

Aggregate Production

California is divided into 12 districts for the purpose of reporting minerals production statistics in the Minerals Yearbook published by the U.S. Geological Survey. The most recent yearbook available is for 2017, published in August 2020. District 11 comprises Los Angeles County, Ventura County, and Orange County. The most recent minerals production data in District 11 are from 2012–2013; however, the data are listed as withheld to avoid disclosing company proprietary data (USGS 2018).

Oil and Natural Gas Resources

Mineral resource areas also include oil and natural gas resources. Oil production still occurs in many parts of the County. Oil fields extend across broad areas of the southern and central Los Angeles Basin, from the City of Long Beach and unincorporated Rowland Heights in the east to the City of Torrance, unincorporated Marina del Rey, and West Los Angeles (City of Los Angeles) in the west. Oil and natural gas resource areas in the County are shown in Figure 4.12-3, Oil and Gas Fields. Portions of the proposed rezoning parcels are within the oil and gas fields.

Oil and Natural Gas Production

Oil production in the County in 2012 was about 24 million barrels (1 barrel = 42 U.S. gallons). Natural gas production in the County in 2012 was about 18.5 billion cubic feet. There were 1,687 active oil and gas wells in the County in 2015 (County of Los Angeles 2015b) as shown in Table 4.12-2.

Table 4.12-2. Oil and Gas Wells – Unincorporated Los Angeles County

Type	Number
Active	1,270
New	24
Idle	393
Total	**1,687**

Source: County of Los Angeles 2015b.

4.12.2 Relevant Plans, Policies, and Ordinances

Federal

There are no applicable federal policies or regulations related to mineral resources.

State

The following state regulations pertaining to mineral resources would apply to the Proposed Project.

Surface Mining and Reclamation Act: California Public Resources Code, Sections 2710 et seq.

The Surface Mining and Reclamation Act of 1975 (SMARA) is the primary regulator of onshore surface mining in the state. It delegates specific regulatory authority to local jurisdictions. The act requires the State Geologist (California Geological Survey) to identify all mineral deposits within the state and to classify them as (1) containing little or no mineral deposits; (2) containing significant deposits; or (3) deposits identified, but further evaluation is needed; (4) containing geologic information that does not rule out either the presence or absence of mineral deposits. Lands are designated MRZ-1, -2, -3, or -4, respectively. Local jurisdictions are required to enact specific procedures to guide mineral conservation and extraction at particular sites and to incorporate mineral resource management policies into their general plans. A particular concern of state legislators in enacting SMARA was the premature loss of minerals and protection of sites threatened by development practices that might preclude future mineral extraction.

Mineral Resource Classification

The California Geological Survey Mineral Resources Project provides information about California's nonfuel mineral resources. The Mineral Resources Project classifies lands throughout the state that contain regionally significant mineral resources as mandated by SMARA. Nonfuel mineral resources include metals such as gold, silver, iron, and copper; industrial metals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt, and dimension stone; and construction aggregate including sand, gravel, and crushed stone. Development generally results in a demand for minerals, especially construction aggregate. Urban preemption of prime deposits and conflicts between mining and other uses throughout California led to passage of SMARA, which requires all cities and counties to incorporate in their general plans the mapped designations approved by the State Mining and Geology Board.

The classification process involves the determination of P-C region boundaries based on identification of active aggregate operations (Production) and the market area served (Consumption). The P-C regional boundaries are modified to include only those portions of the region that are urbanized or urbanizing and are classified for their aggregate content. An aggregate appraisal further evaluates the presence or absence of significant sand, gravel, or stone deposits that are suitable sources of aggregate. As previously noted, the classification of these mineral resources is a joint effort of the state and local governments and requires that the State Geologist classify the mineral resources area as one of the four MRZs, a Scientific Resource Zone, or an Identified Resource Area.

As part of the classification process, an analysis of site-specific conditions is utilized to calculate the total volume of aggregates within individually identified Resource Sectors. Resource Sectors are those MRZ-2 areas identified as having regional or statewide significance. Anticipated aggregate demand in the P-C region for the next 50 years is then estimated and compared to the total volume of aggregate reserves identified within the P-C region.

California Geologic Energy Management Division

The California Geologic Energy Management Division (CalGEM), formerly the Division of Oil, Gas, and Geothermal Resources, oversees the drilling, operation, maintenance, and plugging and abandonment of oil, natural gas, and geothermal wells, while working to help California achieve its climate change and clean energy goals. CalGEM publishes regular geographic information system data that includes updates to well locations and status, oil field boundaries, lease boundaries, and district boundaries. CalGEM also regulates the drilling, operation, and permanent closure of energy resource wells (CDC 2019).

Local

The following local/regional regulations pertaining to mineral resources would apply to the Proposed Project.

Community Standards Districts

Community Standards Districts (CSDs) are established by the County as supplemental districts to implement special development standards. CSDs also provide a means of addressing issues that are unique to certain geographic areas within the Project Area. Chapter 22.44 of the County Code contains development standards for the Baldwin Hills CSD and West Rancho Dominguez-Victoria CSD related to regulation of oil and natural gas facilities. Provisions for the Baldwin Hills CSD specifically state that its associated standards are intended, in part, to ensure that oil field operations are "conducted in harmony with adjacent land uses."

Los Angeles County 2035 General Plan

The Conservation and Natural Resource Element of the Los Angeles County 2035 General Plan (General Plan) provides the following goals and policies potentially relevant to the Project (County of Los Angeles 2015c):

Goal C/NR 10 Locally available mineral resources to meet the needs of construction, transportation, and industry.

Policy C/NR 10.1 Protect MRZ-2s and access to MRZ-2s from development and discourage incompatible adjacent land uses.

Goal C/NR 11 Mineral extraction and production activities that are conducted in a manner that minimizes impacts to the environment.

Policy C/NR 11.1 Require mineral resource extraction and production activities and drilling for and production of oil and natural gas to comply with County regulations and state requirements, such as SMARA, and DOGGR regulations.

Policy C/NR 11.2 Require the reclamation of abandoned surface mines to productive second uses.

Policy C/NR 11.3 Require appropriate levels of remediation for all publicly-owned oil and natural gas production sites based on possible future uses.

Policy C/NR 11.4 Require that mineral resource extraction and production operations as well as activities related to the drilling for and production of oil and natural gas be conducted to protect other natural resources and prevent excessive grading in hillside areas.

Policy C/NR 11.5 Encourage and support efforts to increase the safety of oil and gas production and processing activities, including state regulations related to well stimulation techniques such as hydraulic fracturing or "fracking."

Goal C/NR 12 Sustainable management of renewable and non-renewable energy resources.

Policy C/NR 12.1 Encourage the production and use of renewable energy resources.

Policy C/NR 12.2 Encourage the effective management of energy resources, such as ensuring adequate reserves to meet peak demands.

4.12.3 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act Guidelines, a project would normally have a significant effect on the environment with respect to mineral resources if the project would:

M-1: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

M-2: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

4.12.4 Methodology

Information regarding the existing mineral resources within the Project Area is based on geographic information system data provided by the County, available data and reports from the California Department of Conservation, and the Los Angeles General Plan Update EIR (County of Los Angeles 2015a).

4.12.5 Environmental Impacts

Threshold M-1 Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The Proposed Project is a policy document and adoption of the Proposed Project alone would not produce environmental impacts. The Proposed Project consists of an updated housing program for which no actual development is proposed as part of the update. While the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County.

Although portions of the areas within the rezoning program would be located within the MRZ-2 areas, these areas are characterized as developed and urban. Thus, the change in land use on urbanized parcels would not result in the loss of availability of a known mineral resource. Therefore, the Proposed Project would be in conformance with General Plan Policy C/NR 10.1. Additionally, no mineral resources sectors are located in unincorporated areas.

The existing goals and policies contained in the General Plan and the general location of the rezoning areas within developed and unincorporated areas would ensure that potential impacts to mineral resources associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project

itself, as a policy document, would not change the existing General Plan policies and would not provide any goals, policies, or programs that would result in the loss of mineral resources within the County. Additionally, any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation. Therefore, impacts would be **less than significant**.

Threshold M-2 Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

As described in Threshold M-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

As shown in Figure 4.12-3, oil and natural gas fields lie beneath large swaths of the County. Specifically, oil and gas fields are located beneath substantial portions of the Los Angeles Basin, which spans parts of the Gateway, Metro, South Bay, and Westside Planning Areas. Additional oil and gas fields are located in the Chino Hills and Puente Hills, which traverse the East San Gabriel Valley, Gateway, and West San Gabriel Valley Planning Areas. However, the Proposed Project would not dramatically reduce the availability of oil reserves throughout the County. Furthermore, development of residential, commercial, and other urban uses does not preclude the continued use of nearby oil wells. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation. As such, impacts would be **less than significant**.

4.12.6 Cumulative Impacts

Cumulative projects could cause significant cumulative impacts if they caused a loss of availability of a known mineral resource valuable to the region and the state or caused a loss of availability of an important mining site delineated in a local general plan or other land use plan. Urbanization and growth in the jurisdictions adjacent to the unincorporated areas of the County would have the potential to result in land uses that are incompatible with mining and resource recovery and would result in a cumulative loss of available resources. Similar to portions of the Project Area, the California Geological Survey has classified land within cities of Los Angeles County into MRZs. Adjacent jurisdictions have included protections in their general plans or other planning documents to protect these and other mineral resources. It is noted that much of the areas designated at MRZ-2 within the County are developed with urban uses. Therefore, redevelopment or reuse of currently developed land in the cities in those planning areas would not affect the availability of mineral resources. Cumulative impacts would be **less than significant**.

4.12.7 Mitigation Measures

No mitigation is required.

4.12.8 Level of Significance After Mitigation

No significant unavoidable adverse impacts related to mineral resources have been identified. Impacts would be less than significant.

4.12.9 References

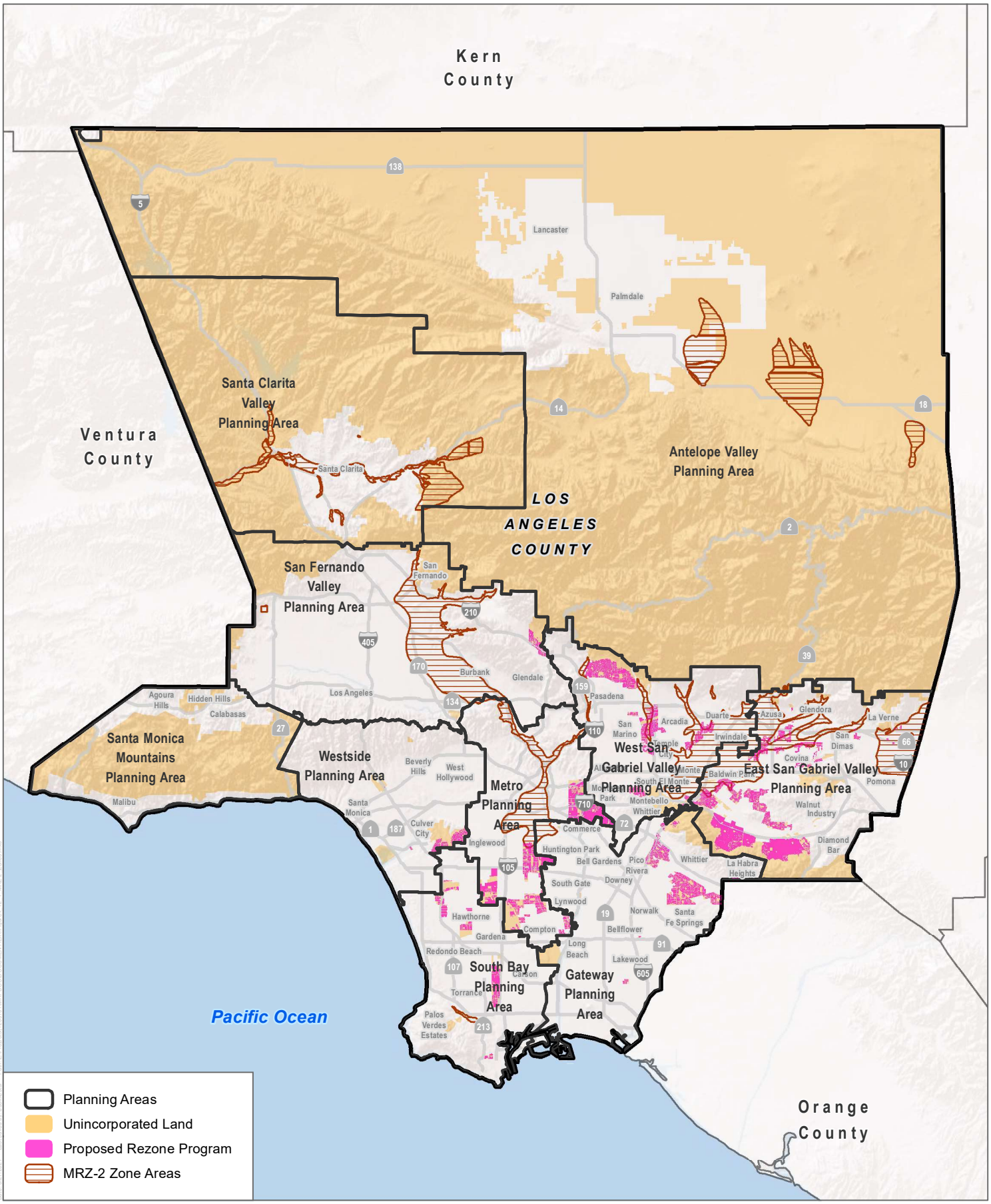
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SOURCE: ESRI 2021; LA County 2021; CA Dept. of Conservation 1982

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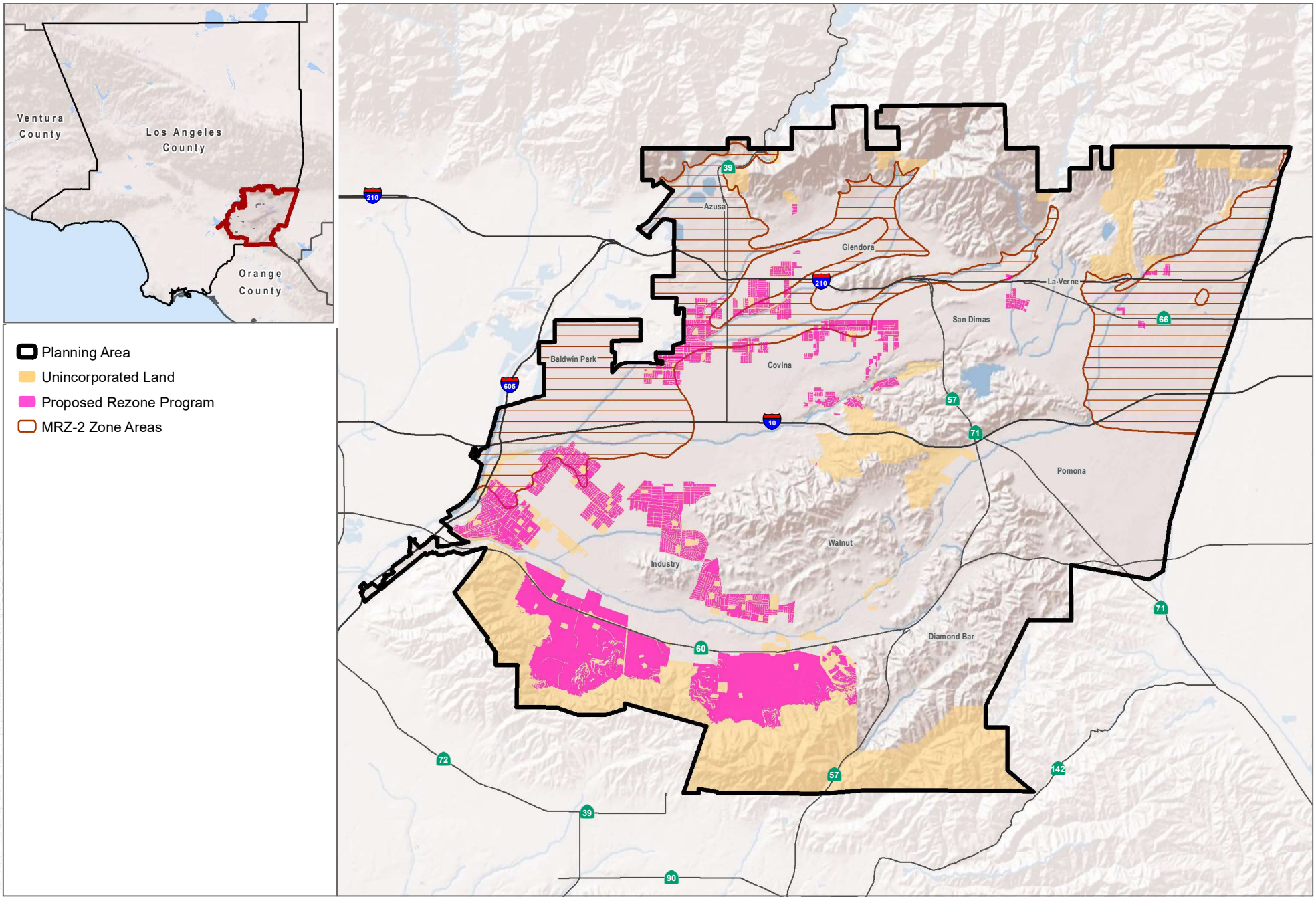
0 5 10 Miles

FIGURE 4.12-1

MRZ-2 Zone Areas

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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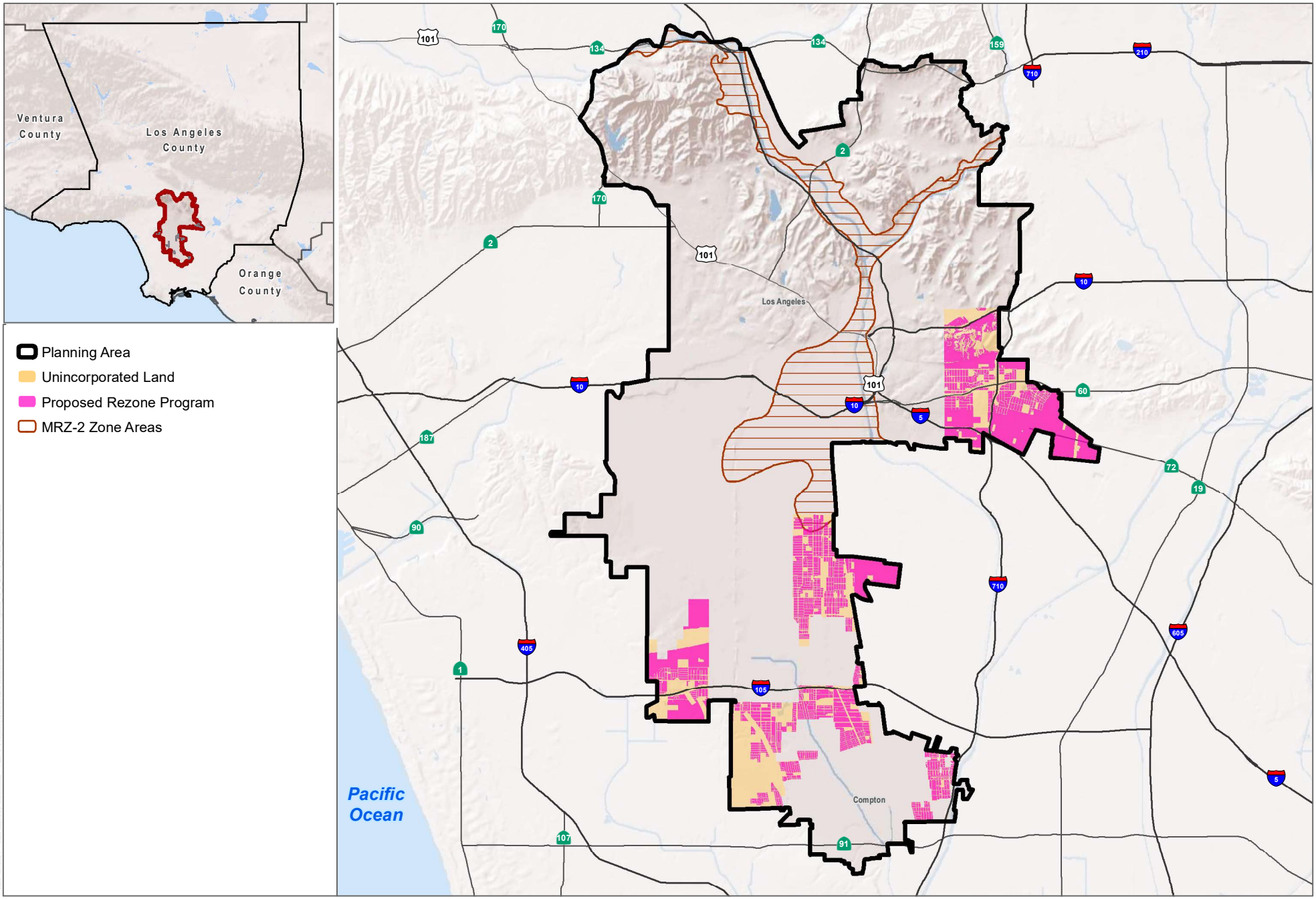
0 8,000 16,000 Feet

FIGURE 4.12-2A

East San Gabriel Valley Planning Area - MRZ-2 Zone Areas

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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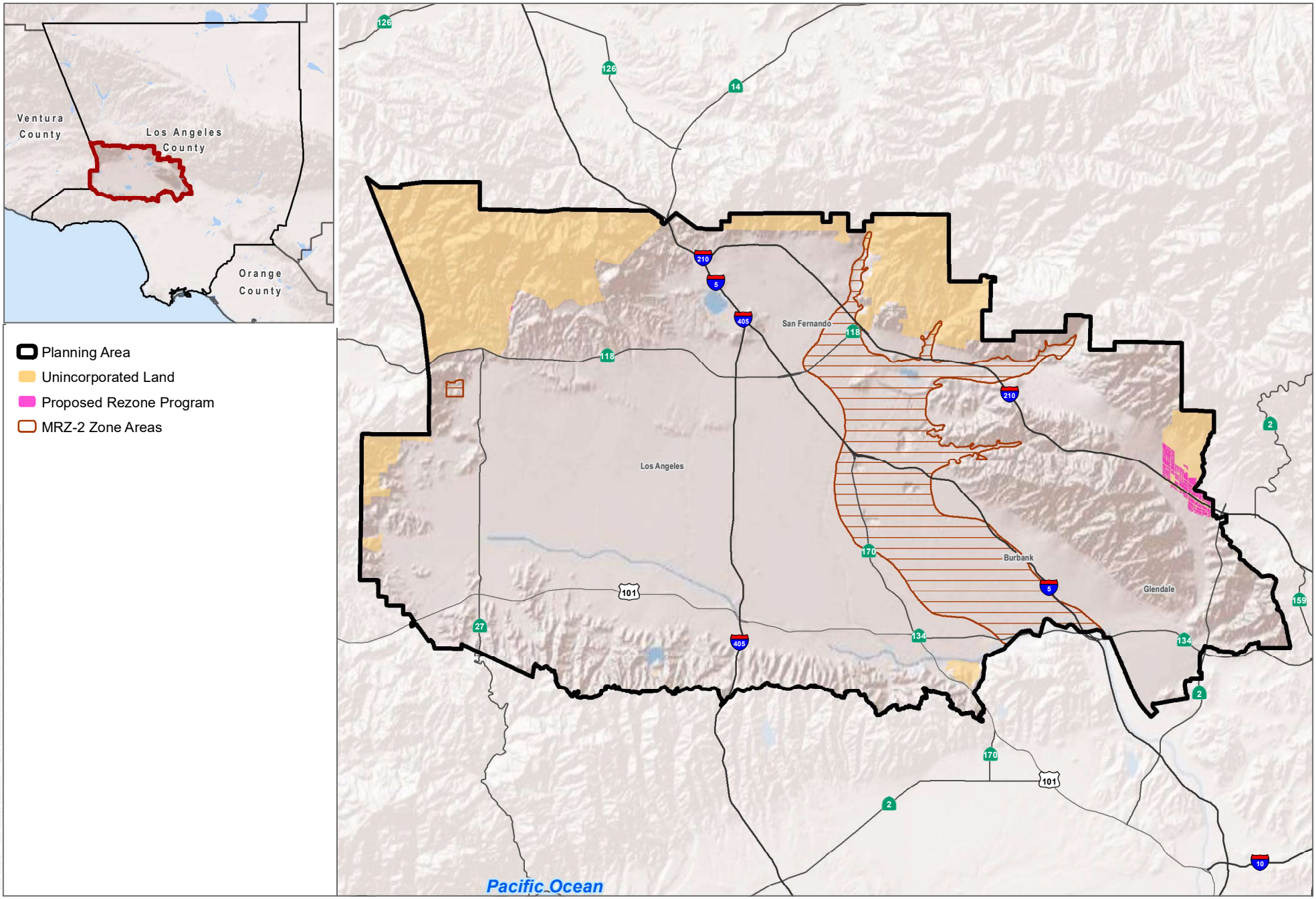
0 8,000 16,000 Feet

FIGURE 4.12-2B

Metro Planning Area - MRZ-2 Zone Areas

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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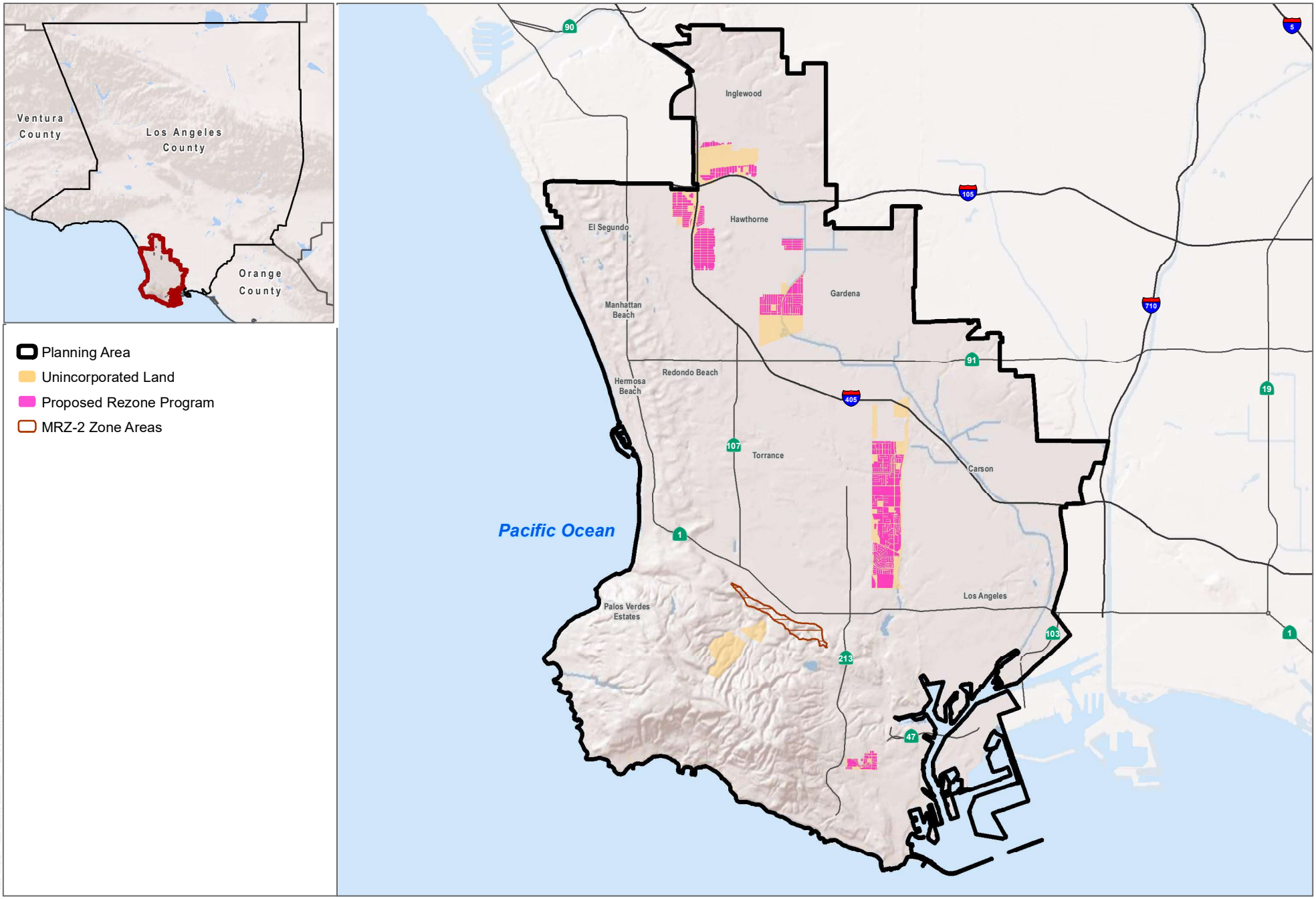
0 10,000 20,000 Feet

FIGURE 4.12-2C

San Fernando Valley Planning Area - MRZ-2 Zone Areas

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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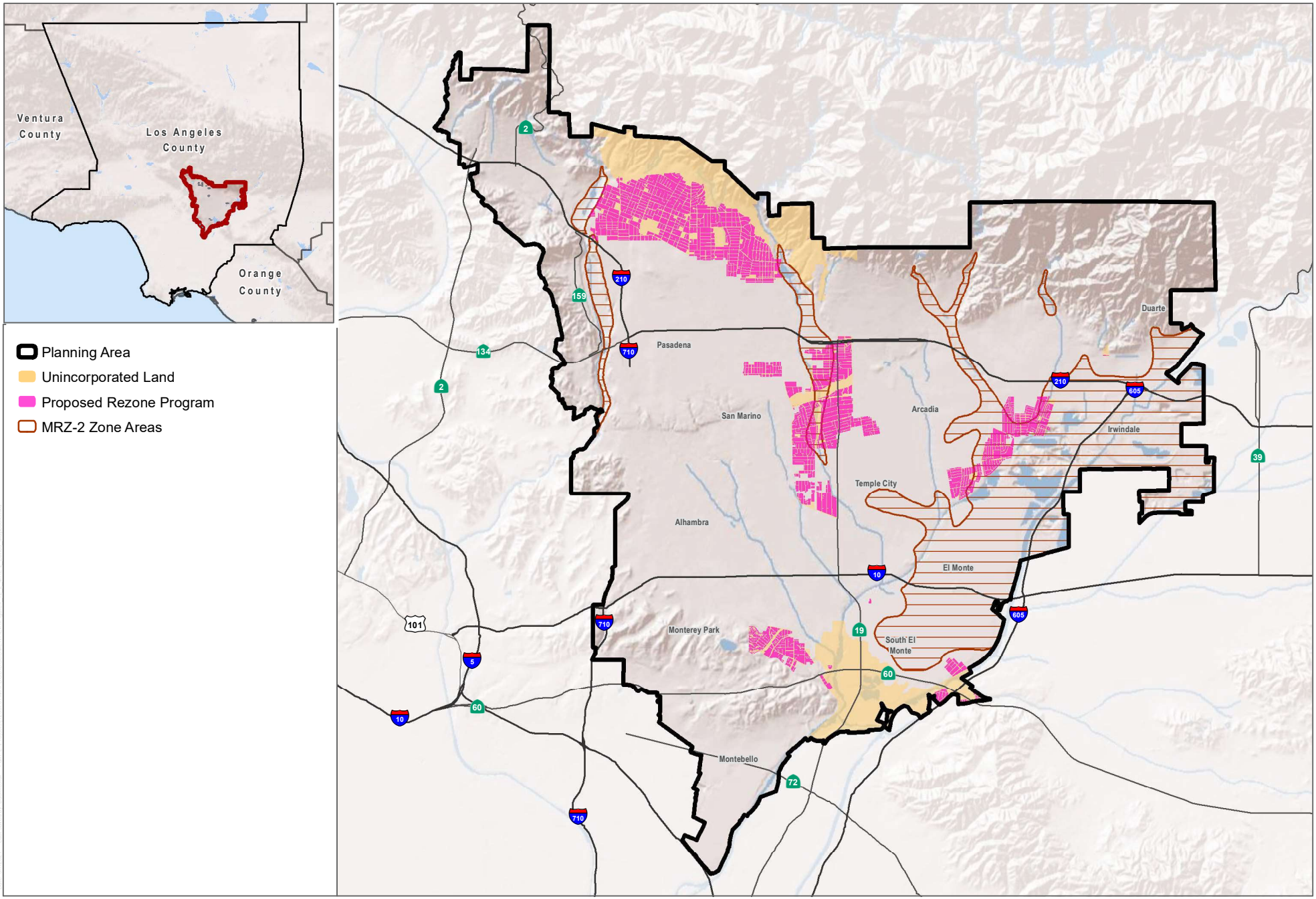
0 7,500 15,000 Feet

FIGURE 4.12-2D

South Bay Planning Area - MRZ-2 Zone Areas

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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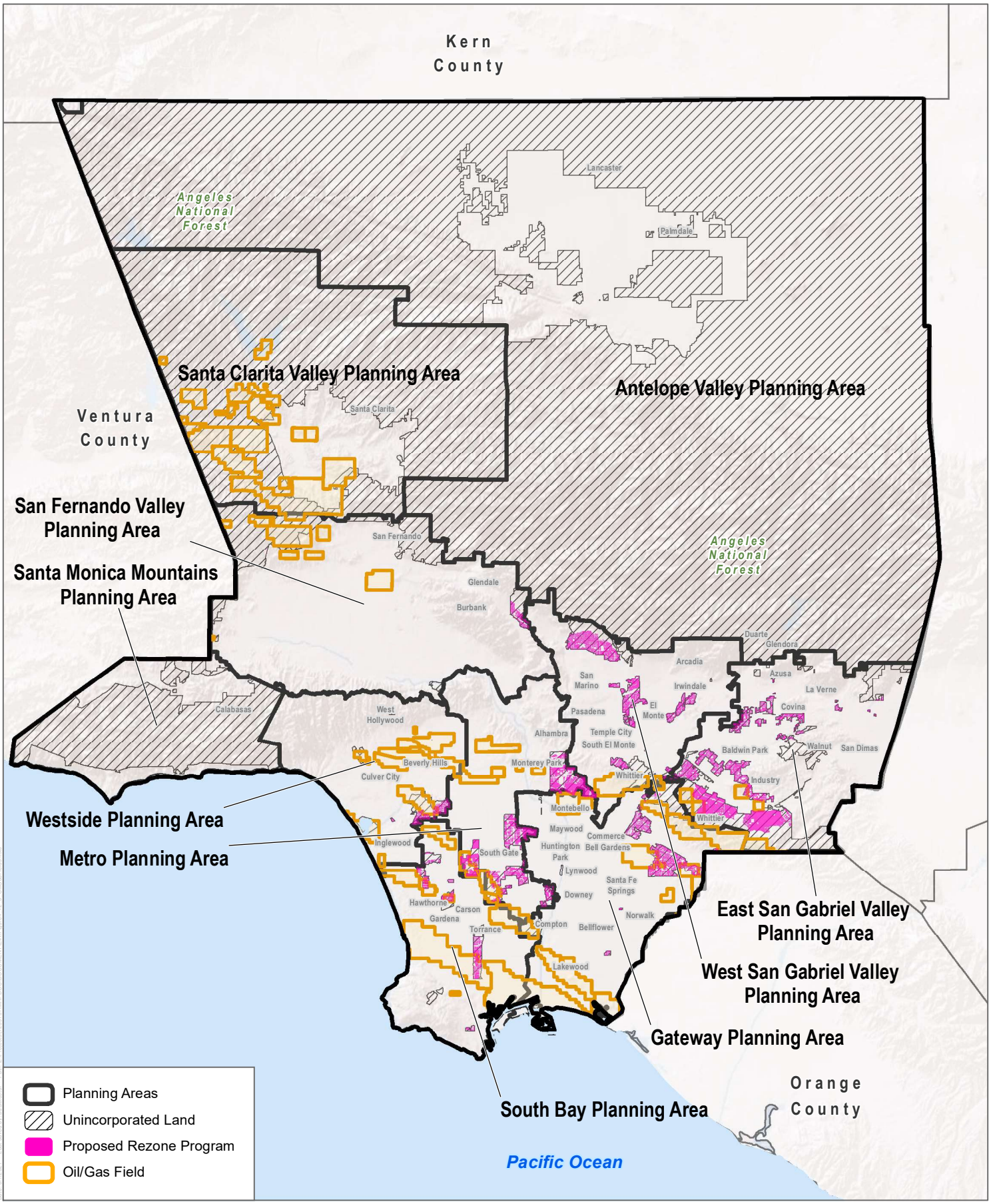
0 7,500 15,000 Feet

FIGURE 4.12-2E

West San Gabriel Valley Planning Area - MRZ-2 Zone Areas

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021, CALGEM/DOMS (Accessed 2021)

FIGURE 4.12-3

Oil and Gas Fields

Los Angeles County Housing Element Update

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4.13 Noise and Vibration

This section discusses the fundamentals of sound and vibration; estimates the existing sound environment; examines federal, state, and local noise guidelines, policies, and standards; reviews noise levels at existing receptor locations; evaluates potential noise impacts associated with the Proposed County of Los Angeles Housing Element Update (Proposed Project); and provides mitigation to reduce noise impacts at noise sensitive receiving land uses. This evaluation uses procedures and methodologies that include those as specified by or emulate those of Caltrans and the Federal Highway Administration (FHWA).

This section of the Draft Program Environmental Impact Report (PEIR) evaluates the potential for the Proposed Project to result in noise impacts in the unincorporated areas of Los Angeles County (Project Area).

Additional information related to this noise section is included in the technical appendices to this Draft PEIR (Appendix D).

4.13.1 Environmental Setting

This section discusses the existing environmental setting related to noise. As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section describes generally the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analysis or studies.

Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receptor, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the sound energy propagation path to the receptor determine the sound level and characteristics of the noise perceived by the receptor. The field of acoustics deals primarily with the propagation and control of sound.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 mPa.

Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a common receptor position the same distance to each source would be 3 dB higher than one source under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB—rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dB louder than one source.

A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz, and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Thus, what has been defined as an "A-weighted" sound level (expressed in units of dBA) can be computed based on this information.

The A-weighting network approximates the frequency response of the average healthy young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or evaluate sound with respect to industry or application-specific needs (e.g., B-, C-, D-, and G-scales), but these scales are rarely used in conjunction with highway-traffic noise or general community noise assessment. Noise levels for traffic noise reports are typically reported in terms of A-weighted decibels or dBA. Table 4.13-1 describes typical A-weighted noise levels for various noise sources.

Table 4.13-1. Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1000 feet		

Table 4.13-1. Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 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.

Human Response to Changes in Noise Levels

As discussed above, doubling sound energy results in a 3 dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1 dB changes in sound levels, when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000 Hz–8,000 Hz) range (Caltrans 2013). In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3 dB increase in sound, would generally be perceived as barely detectable.

Noise Descriptors

Noise in our daily environment fluctuates over time at varying rates. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors are utilized in this analysis.

- **Equivalent Sound Level (L_{eq}):** L_{eq} represents an energy average of the sound level occurring over a specified period. The 1-hour A-weighted equivalent sound level ($L_{eq}[h]$) is the energy average of A-weighted sound levels occurring during a one-hour period, and is the basis for noise abatement criteria (NAC) used by Caltrans and the Federal Highway Administration (FHWA). Note that L_{eq} is not an arithmetic average of varying dB levels over a period of time, it accounts for greater sound energy represented by higher decibel contributions.
- **Percentile-Exceeded Sound Level (L_{xx}):** L_{xx} represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10% of the time, and L_{90} is the sound level exceeded 90% of the time).
- **Maximum Sound Level (L_{max}):** L_{max} is the highest instantaneous sound level measured during a specified period.
- **Day-Night Level (L_{dn}):** L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10:00 p.m. and 7:00 a.m.
- **Community Noise Equivalent Level (CNEL):** Similar to L_{dn}, CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10:00 p.m. and 7:00 a.m., and a 5 dB penalty applied to the A-weighted sound levels occurring during evening hours between 7:00 p.m. and 10:00 p.m.

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors:

- **Geometric Spreading** – Sound from a localized source (i.e., an ideal point source) propagates uniformly outward in a spherical pattern (or hemispherical when near a surface). In a free field,[1] the sound level attenuates (or decreases) at a rate of 6 decibels for each doubling of distance from a point source. Roadways consist of several localized noise sources on a defined path, and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 decibels for each doubling of distance from a line source.
- **Ground Absorption** – The propagation path of noise from a sound emission source to a receptor is usually horizontal and proximate to the ground. Under these conditions, noise attenuation from ground absorption and reflective-wave canceling can add to the attenuation associated with geometric spreading. For acoustically "hard" paths over which sound may traverse (i.e., sites with a reflective surface between the source and the receptor, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or "soft" sites (i.e., those sites with an absorptive ground surface between the source and the receptor, such as fresh-fallen snow, soft dirt, or dense vegetative ground cover), an additional ground-attenuation value of +1.5 decibels per doubling of distance is normally assumed. When added to cylindrical spreading for line source sound propagation, the excess ground attenuation results in an overall drop-off rate of 4.5 decibels per doubling of distance.
- **Atmospheric Effects** – Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound pressure levels can also be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e.,

[1] i.e., in the absence of reflecting surfaces or intervening barriers.

increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects when distances between a source and receptor are large.

- **Shielding by Natural or Human-Made Features** – A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receptor specifically to reduce noise. A barrier that breaks the line of sight between a source and a receptor will typically result in at least 5 dB of noise reduction. Taller barriers provide increased noise reduction. While a line of trees may visually occlude the direct line between a source and a receptor, its actual noise-reducing effect is usually negligible because it does not create a solid barrier. Deep expanses of dense wooded areas, on the other hand, can offer noise reduction under the right conditions. In contrast, water reservoirs, lakes or other expansive bodies of water between the source and the receptor can have the perceived effect of reinforcing sound (i.e., reducing the rate of attenuation) because they have surfaces that are not considered acoustically absorptive and are instead acoustically reflective.

Vibration Characteristics

Vibration is oscillatory movement of mass (typically a solid) over time. It is described in terms of frequency and amplitude and, unlike sound, can be expressed as displacement, velocity, or acceleration. For environmental studies, vibration is often studied as a velocity that, akin to the discussion of sound pressure levels, can also be expressed in dB as a way to cast a large range of quantities into a more convenient scale. Vibration impacts to buildings are generally discussed in terms of inches per second (ips) peak particle velocity (PPV), which will be used herein to discuss vibration levels for ease of reading and comparison with relevant standards. Vibration can also be annoying and thereby impact occupants of structures, and vibration of sufficient amplitude can disrupt sensitive equipment and processes (Caltrans 2020), such as those involving the use of electron microscopes and lithography equipment. Common sources of vibration within communities include construction activities and railroads. Groundborne vibration generated by construction projects is usually highest during pile driving, rock blasting, soil compacting, jack hammering, and demolition-related activities where sudden releases of subterranean energy or powerful impacts of tools on hard materials occur. Depending on their distances to a sensitive receptor, operation of large bulldozers, graders, loaded dump trucks, or other heavy construction equipment and vehicles on a construction site also have the potential to cause high vibration amplitudes. The maximum vibration level standard used by the California Department of Transportation (Caltrans) for the prevention of structural damage to typical residential buildings is 0.3 ips PPV (Caltrans 2020). For human annoyance, Caltrans guidance indicates that a more stringent threshold of 0.2 ips PPV due to continuous vibration (e.g., nearby roadway traffic) would be “annoying”. Vibration velocity limits for transient or single events tend to be less stringent than those for continuous or “steady-state” vibration sources.

Sensitive Receptors

Noise- and vibration-sensitive land uses are typically locations where people reside or where the presence of unwanted sound or groundborne vibration could adversely affect the use of the land. Residences, schools, hospitals, libraries, and some passive recreation areas would—depending on definitions per the County—be considered noise- and vibration-sensitive and would be subject to applicable quantified thresholds for allowable exposures and consequently warrant measures for adequate protection. Generally, residences are the nearest land uses with the potential to be impacted by construction and operation of future projects implemented under the

Proposed Project, including noise levels associated with the addition of project-related traffic on the local roadway network. Additional sensitive receptors are located farther from the rezoning program areas in the surrounding community and would be less impacted by noise and vibration levels than the above-listed sensitive receptors. In addition to the off-site receptors listed above, the residential uses to be constructed as part of the Proposed Project are considered sensitive receptors.

Existing Conditions

Section 12.08.390.B of the Los Angeles County Code (LACC) noise ordinance allows an upward adjustment of its default exterior noise level standards for each of four defined receiving "noise zones" (I, II, III, and IV) if the existing outdoor ambient sound level at a receiving land use already exceeds the standard. This means that the existing outdoor ambient noise level in the vicinity of a residential property development implemented under the Proposed Project can influence the assessment stationary source noise impacts. While LACC Section 12.08.390.D indicates the ambient sound levels at a studied receptor should be measured, and could be done so for individual site-specific developments implemented under the Proposed Project, for purposes of this program-level impact assessment the existing outdoor ambient sound level at a location in the County of Los Angeles can be coarsely estimated with guidance from the Federal Transit Administration (FTA), which offers two techniques in its *Transit Noise and Vibration Impact Assessment* manual: 1) proximity to surface transportation routes (roadways or rail), and 2) population density (FTA 2018). Table 4.13-2 provides an estimated day-night sound level (L_{dn}) value matrix from a combination of these techniques.

Table 4.13-2. Existing Outdoor Ambient Day-Night Sound Level Estimated from Roadway Proximity and Population Density

Population Density (people per square mile) in Vicinity of Site-Specific Development Implemented under Proposed Project	Estimated Day-Night Sound Level (Ldn) per Population Density Category			
	300–1,000	*1,000–3,000*	*3,000–10,000*	*10,000–30,000*
Distance to Interstate Highway[1,2]				
= 10–50 feet	75	75	75	75
= 50–100 feet	70	70	70	70
= 100–200 feet	65	65	65	65
= 200–400 feet	60	60	60	60
= 400–800 feet	55	55	55	60
= 800 or more feet	50	50	55	60
Distance to Parkway (55 mph) or City Streets (30 mph)[1,3]				
= 10–50 feet	70	70	70	70
= 50–100 feet	65	65	65	65
= 100–200 feet	60	60	60	60
= 200–400 feet	55	55	55	60
= 400 or more feet	50	50	55	60
Distance to Railway[1,4]				
= 10–30 feet	75	75	75	75
= 30–60 feet	70	70	70	70
= 60–120 feet	65	65	65	65
= 120–240 feet	60	60	60	60
= 240–500 feet	55	55	55	60

Table 4.13-2. Existing Outdoor Ambient Day-Night Sound Level Estimated from Roadway Proximity and Population Density

Population Density (people per square mile) in Vicinity of Site-Specific Development Implemented under Proposed Project	Estimated Day-Night Sound Level (Ldn) per Population Density Category			
	300–1,000	*1,000–3,000*	*3,000–10,000*	*10,000–30,000*
= 500–800 feet	50	50	55	60
= 800 or more	45	50	55	60

Source: FTA 2018
Notes:
1 Distances do not include shielding from intervening rows of buildings.
2 Roadways with 4 or more lanes that permit trucks, with traffic at 60 mph.
3 Parkways with traffic at 55 mph, but without trucks, and city streets with the equivalent of 75 or more heavy trucks per hour and 300 or more medium trucks per hour at 30 mph.
4 Main line railroad corridors typically carrying 5-10 trains per day at speeds of 30-40 mph.

Table 4.13-2 indicates that a noise-receiving land use within 30 feet of an Interstate highway will likely be exposed to 75 dBA L_{dn} regardless of the population density. In other words, the receiving land use could be in a very rural or very urban region of the County but the highway traffic noise is dominant at such proximity. On the other hand, Table 4.13-2 also shows that an urban setting where the localized population density exceeds 10,000 people per square mile would be expected to have an outdoor ambient sound level of 60 dBA even when roadway and rail routes are very far from the studied receiving land use.

Proximity to aviation transportation routes, which is studied separately herein, or sufficient proximity to noisy industrial facilities would likely introduce additional acoustical contributors and may thus yield an outdoor ambient sound level that is actually higher than the estimated value presented in Table 4.13-2. For this reason, and consistent with LACC Section 12.08.390.D, this program-level noise assessment recommends that actual existing outdoor ambient sound levels should be measured (and thus accurately quantified) for each site-specific development implemented under Proposed Project. As noted in Chapter 3, future housing development facilitated by the Proposed Project will be subject to discretionary permits and future analysis that will determine on a project-by-project basis the appropriate mitigation measures.

4.13.2 Relevant Plans, Policies, and Ordinances

Federal

The following federal regulations pertaining to noise and vibration would apply to the Proposed Project.

Federal Aviation Administration

The Federal Aviation Administration's (FAA) Office of Environment and Energy (AEE) issued a document titled Aircraft Noise. The document states, in part, that federal agencies have certain guidelines for compatible land uses and environmental sound levels. Land use is normally determined by property meaning, such as residential, industrial, or commercial. Noise levels that are unacceptable for homes may be acceptable for stores or factories. The FAA has issued these guidelines as part of its Airport Noise Compatibility Program, found in Part 150 of the Federal Aviation Regulations.

Federal Aviation Regulation, Part 150, Airport Noise Compatibility Planning, is the primary federal regulation guiding and controlling planning for aviation noise compatibility on and around airports. Part 150 was issued as an interim

regulation (46 FR 8316; January 19, 1981) under the authority of the Aviation Safety and Noise Abatement Act of 1979 (49 USC 2104[c]) (ASNA Act). Implementation of noise compatibility planning under the ASNA Act was delegated to the FAA. Part 150 established procedures, standards, and methodologies to be used by airport operators for the preparation of Airport Noise Exposure Maps (NEM's) and Airport Noise Compatibility Programs (NCP's) which they may submit to the FAA under Part 150 and the ASNA Act. The final rule was issued on January 18, 1985 (49 FR 49260) and, on March 16, 1988, was amended to include freestanding heliports (53 FR 8722).

Most land uses (including residences) are considered to be compatible with airport noise that does not exceed 65 decibels (dB) DNL, although Part 150 declares that "acceptable" sound levels should be subject to local conditions and community decisions. Nevertheless, 65 dB DNL is generally identified as the threshold level of aviation noise which is "significant." In addition, the FAA has determined that a significant impact occurs if a proposed action would result in an increase of 1.5 DNL or more on any noise-sensitive area within the 65 DNL exposure justify.

While DNL is the primary metric FAA uses to determine noise impacts, the FAA accepts the Community Noise Equivalent Level (CNEL) in California as California adopted the use of CNEL prior to FAA adopting DNL. While CNEL, like DNL, adds a ten times weighting (equivalent to a 10 dBA "penalty") to each aircraft operation between 10:00 p.m. and 7:00 a.m., CNEL also adds a three times weighting (equivalent to a 4.77 dBA penalty) for each aircraft operation during evening hours (7:00 p.m. to 10:00 p.m.).

Federal Transit Administration

In its *Transit Noise and Vibration Impact Assessment* guidance manual, the FTA recommends a daytime construction noise level threshold of 80 dBA L_{eq} over an 8-hour period (FTA 2018) when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project. Although this FTA guidance is not a regulation, it can serve as a quantified standard in the absence of such noise limits at the state and local jurisdictional levels. In this case, the County does enumerate noise and vibration level limits; thus, FTA guidance is merely informative with respect to noise assessment for purposes of the Proposed Project.

State

Government Code Section 65302(g)

California Government Code Section 65302(g) requires the preparation of a Noise Element in a General Plan, which shall identify and appraise the noise problems in the community. The Noise Element shall recognize the guidelines adopted by the Office of Noise Control in the State Department of Health Services and shall quantify, to the extent practicable, current and projected noise levels for the following sources:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems
- Aviation and airport-related operations
- Local industrial plants
- Other ground stationary noise sources contributing to the community noise environment

California General Plan Guidelines

The California General Plan Guidelines, published by the Governor's Office of Planning and Research (OPR), provides guidance for the acceptability of specific land use types within areas of specific noise exposure. Table

4.13-3 presents guidelines for determining acceptable and unacceptable community noise exposure limits for various land use categories. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. OPR guidelines are advisory in nature. Local jurisdictions, including the County of Los Angeles, have the responsibility to set specific noise standards based on local conditions.

Table 4.13-3. Land Use Compatibility for Community Noise Environments

	Community Noise Exposure (CNEL)			
	Normally Acceptable[1]	*Conditionally Acceptable*[2]	*Normally Unacceptable*[3]	*Clearly Unacceptable*[4]
Residential-low density, single-family, duplex, mobile homes	50–60	55–70	70–75	75–85
Residential – multiple-family	50–65	60–70	70–75	70–85
Transit lodging – motel, hotels	50–65	60–70	70–80	80–85
Schools, libraries, churches, hospitals, nursing homes	50–70	60–70	70–80	80–85
Auditoriums, concert halls, amphitheatres	NA	50–70	NA	65–85
Sports arenas, outdoor spectator sports	NA	50–75	NA	70–85
Playgrounds, neighborhood parks	50–70	NA	67.5–77.5	72.5–85
Golf courses, riding stables, water recreation, cemeteries	50–70	NA	70–80	80–85
Office buildings, business commercial and professional	50–70	67.5–77.5	75–85	NA
Industrial, manufacturing, utilities, agriculture	50–75	70–80	75–85	NA

Source: OPR 2017.

Notes: CNEL = community noise equivalent level; NA = not applicable

1 Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

2 Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

3 Normally Unacceptable: New construction or development should be discouraged. If new construction of development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design.

4 Clearly Unacceptable: New construction or development should generally not be undertaken.

California Code of Regulations Title 24

The State of California has adopted noise standards in areas of regulation not preempted by the federal government. State standards regulate noise levels of motor vehicles, sound transmission through buildings, occupational noise control, and noise insulation. State regulations governing noise levels generated by individual motor vehicles and occupational noise control are not applicable to planning efforts, nor are these areas typically subject to CEQA analysis. State noise regulations and policies applicable to the Proposed Project include Title 24 requirements and noise exposure limits for various land use categories.

The 2019 California Building Code (CBC, Part 2, Title 24, Section 1204.6, California Code of Regulations) stipulates "interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (L_{dn}) or the community noise equivalent level (CNEL)" (ICC 2019).

Local

County of Los Angeles Code of Ordinances and Los Angeles County 2035 General Plan

Section 1207.11.1 of the Los Angeles County Code requires that all structures identified in Section 1207.1 (e.g., apartment houses and dwellings) located in noise critical areas, such as proximity to highways, county roads, city streets, railroads, rapid transit lines, airports or industrial areas, shall be designed to prevent the intrusion of exterior noises beyond prescribed levels. Proper design shall include, but shall not be limited to, orientation of the structure, setbacks, shielding, and sound insulation of the building itself.

Section 12.08.440 of the County of Los Angeles Code of Ordinances addresses construction noise restrictions. Construction activity is prohibited between the hours of 7:00 p.m. and 7:00 a.m. Monday through Saturday and all day on Sundays, where the noise would create a disturbance across a residential property line. For single-family residences, that disturbance noise level overnight is defined as greater than 50 dBA (for construction with a duration greater than 10 days). For construction lasting longer than 10 days, the daytime limit for noise exposure at any residential property affected by the construction noise is 60 dBA (County of Los Angeles 1978).

Section 12.08.390 of the County of Los Angeles Code of Ordinances establishes the maximum exterior noise level that may be generated within each of five designated noise zones. The noise zone descriptions and allowable exterior noise limits from LA County Code 12.08.390 are translated into the County Noise Element as Table 11.2 (reproduced as Table 4.13-4).

Section 12.08.440 of the County of Los Angeles Code of Ordinances addresses vibration restrictions. Operating or permitting the operation of any device that creates vibration that is above the vibration perception threshold of any individual at or beyond the property boundary of the source is prohibited. The perception threshold is defined to be a motion velocity of 0.01 inches per second over the range of 1 to 100 Hertz.

The Los Angeles County 2035 General Plan (General Plan) was adopted by the Board of Supervisors on October 6, 2015. The Noise Element establishes noise generation limits for each land use type and provides noise management policies to protect residents from excessive noise exposure. As previously discussed, the County did not adopt the ONC Land Use Compatibility for Community Noise Environments Matrix, but instead adapted this matrix to develop the County's exterior noise standards, as seen in Table 4.13-4. By controlling the noise generation from individual properties within a given land use designation (or zone district), all uses should be afforded protection against excessive noise exposure.

Table 4.13-4. Los Angeles County Community Noise Criteria

Noise Zone	Land Use of Receptor Property	Time	Std 1 L_{50} (30 min/hr)	Std 2 L_{25} (15 min/hr)	Std 3 $L_{8.3}$ (5 min/hr)	Std 4 $L_{1.7}$ (1 min/hr)	Std 5 L_0 (at no time)
I	Noise Sensitive[a]	Anytime	45	50	55	60	65
II	Residential[b]	10:00 p.m.–7:00 a.m.	45	50	55	60	65

Table 4.13-4. Los Angeles County Community Noise Criteria

Noise Zone	Land Use of Receptor Property	Time	Std 1 L_{50} (30 min/hr)	Std 2 L_{25} (15 min/hr)	Std 3 $L_{8.3}$ (5 min/hr)	Std 4 $L_{1.7}$ (1 min/hr)	Std 5 L_0 (at no time)
		7:00 a.m.–10:00 p.m.	50	55	60	65	70
III	Commercial	10:00 p.m.–7:00 a.m.	55	60	65	70	75
		7:00 a.m.–10:00 p.m.	60	65	70	75	80
IV	Industrial	Anytime	70	75	80	85	90

Source: County of Los Angeles 1978b.
Notes: Std = Standard; min = minutes; hr = hour
[a] Noise sensitive zones are designated by the County Health Officer and are required to be clearly identified with posted signs, such as hospital facilities.
[b] Residential includes single family and multiple family dwellings, but excludes transient lodging.

Section 12.08.390 of the County of Los Angeles Code of Ordinances stipulates that if the ambient noise level (as defined by the L_{50} value from an ambient noise measurement) exceeds the Standard 1 noise level allowance, the measured L_{50} becomes the Standard 1 allowance.

The following policies from the County's General Plan Noise Element (Chapter 11) may be applicable to the Proposed Project (County of Los Angeles 2015):

Policy N 1.1 Utilize land uses to buffer noise-sensitive uses from sources of adverse noise impacts.

Policy N 1.2 Reduce exposure to noise impacts by promoting land use compatibility.

Policy N 1.3 Minimize impacts to noise-sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies (BAT).

Policy N 1.4 Enhance and promote noise abatement programs in an effort to maintain acceptable levels of noise as defined by the Los Angeles County Exterior Noise Standards and other applicable noise standards.

Policy N 1.5 Ensure compliance with the jurisdictions of State Noise Insulation Standards (Title 24, California Code of Regulations and Chapter 35 of the Uniform Building Code), such as noise insulation of new multifamily dwellings constructed within the 60 dB (CNEL or L_{dn}) noise exposure contours.

Policy N 1.6 Ensure cumulative impacts related to noise do not exceed health-based safety margins.

Policy N 1.7 Utilize traffic management and noise suppression techniques to minimize noise from traffic and transportation systems.

Policy N 1.9 Require construction of suitable noise attenuation barriers on noise sensitive uses that would be exposed to exterior noise levels of 65 dBA CNEL and above, when unavoidable impacts are identified.

Policy N 1.10 Orient residential units away from major noise sources (in conjunction with applicable building codes).

Policy N 1.11 Maximize buffer distances and design and orient sensitive receptor structures (hospitals, residential, etc.) to prevent noise and vibration transfer from commercial/light industrial uses.

Policy N 1.12 Decisions on land adjacent to transportation facilities, such as the airports, freeways and other major highways, must consider both existing and future noise levels of these transportation facilities to assure the compatibility of proposed uses.

Chapter 16 of the County's General Plan features implementation programs, which includes N-3, Noise Abatement Program, and its two components as follows:

- Create guidelines to mitigate noise issues in development projects and at a countywide level.
- Plan transportation/parking features to have minimal noise impacts to natural resources.

Los Angeles World Airports (LAWA) Noise Abatement Requirements

Los Angeles International Airport (LAX) is owned and operated by Los Angeles World Airports (LAWA), a proprietary department of the City of Los Angeles that works closely with the FAA and has developed and implemented noise abatement procedures and requirements (LAWA 2021) aimed to reduce aviation traffic noise impacts in residential communities surrounding LAX that include portions of the County. Primarily, these requirements include that "all aircraft operations shall comply with FAA regulations and procedures for noise abatement and noise emission standards and with all rules, policies, procedures, resolutions, and ordinances established by the City of Los Angeles, LAWA, and LAWA's Board of Airport Commissioners (BOAC) related to noise abatement.

4.13.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment with respect to noise and vibration if the project would:

N-1: Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

- For noise compatibility, noise levels at noise-sensitive exterior areas exceed 65 dBA CNEL.
- For noise compatibility, interior noise levels in habitable noise-sensitive areas exceed 45 dBA CNEL.

N-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

N-3: A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

- Project-related traffic noise increase the ambient noise level at noise-sensitive locations by 3 dBA or more and the ambient noise levels under with-project conditions fall within the "Normally Unacceptable" or "Clearly Unacceptable" categories; OR

- Project-related traffic noise increases the ambient noise level at noise-sensitive locations by 5 dBA or more.

N-4: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

N-5: For a project located within an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project Area to excessive noise levels.

N-6: For a project within the vicinity of a private airstrip, expose people residing or working the Project Area to excessive noise levels.

4.13.4 Methodology

This analysis considers the Appendix G thresholds of the State CEQA Guidelines as described above in determining whether the Proposed Project, including future housing development it facilitates, would result in a substantial temporary or permanent increase in noise or vibration, or if the rezoning program area is within the vicinity of a private airport or airport land use plan.

The evaluation of potential noise and vibration impacts herein was based on a review of regulations and determining their applicability to the Proposed Project. The extents of the Rezoning Program within the Proposed Project area provided by the County represents the study area for which "substantial" temporary or permanent noise increases, or excess above acknowledged standards, has been predicted in this PEIR at a programmatic level with methodology as discussed in the following subsections.

As described in Chapter 3, the general areas included as part of the Proposed Project's rezoning program were evaluated in this PEIR at a programmatic level based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. Further analysis was not conducted because the County had no further information and it would be too speculative to analyze potential impacts resulting from future housing development per the Proposed Project. As such, potential changes beyond that are considered speculative or unlikely to occur and therefore, not reasonably foreseeable.

Construction Noise

Since precise descriptions of activities involving construction approved for site-specific projects implemented under the Proposed Project are not known at this time, construction noise impact predictions were based on CalEEMod default rosters of conventional heavy construction equipment for each of six typical phases of construction activity. Using a technique comparable to the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM), screening distances were iteratively predicted for a total of six impact criteria and under the following assumptions: (1) that only one of each type of mobile or stationary equipment per phase would be operating concurrently and located near the property line of the nearest noise sensitive receiver, and (2) operation noise generated by each equipment type would reflect energy-equivalent sound level values (L_{eq}) based on maximum sound levels (L_{max}) but adjusted temporally (i.e., what percentage of time the equipment is actually operating at full power) by default "acoustical usage factors" (AUF) as presented in Table 1 of the RCNM User's Guide (FHWA 2006). The six criteria represent the County daytime residential receptor limits, per Section 12.08.440 of the County of Los Angeles Code of Ordinances, for construction noise with respect to potential projects lasting 10 days or less in total duration, or greater than 10 days in total duration.

Roadway Traffic Noise

Implementation of the Proposed Project is expected to increase housing development and thereby increase the quantity of residential units in the study area, which may have a localized effect on roadway traffic volumes. Hence, this analysis studies existing and future average daily traffic volumes and estimated Project-attributed trip generation for the set of roadway segments adjoining many of the rezoning program areas that are also studied in the County General Plan Update 2035 EIR (County of Los Angeles 2014). Consistent with acoustical principles and assuming other factors such as roadway vehicle speeds and vehicle type proportions remain essentially unchanged, the change in traffic noise emanating from a roadway segment is related to the change in traffic volumes with the following expression:

$$\text{Change in roadway segment traffic noise (dB)} = 10*\text{LOG}(V_2/V_1)$$

In the above relationship, "V_2" is the roadway volume for the post-change condition and "V_1" is the pre-change condition. For purposes of assessing traffic noise herein, two change scenarios are studied:

- Existing vs. Existing plus Project, where Existing is quantified average daily traffic (ADT) for the studied roadway segment as appearing in the County General Plan Update 2035 EIR, and Existing plus Project is the Existing ADT plus the estimated ADT (quantified as trip generation) attributed to build-out implemented under the Proposed Project.
- Cumulative vs. Cumulative plus Project, where Cumulative is quantified average daily traffic (ADT) for the studied roadway segment as appearing in the County General Plan Update 2035 EIR for the year 2035 scenario, and Cumulative plus Project is the Cumulative ADT plus the estimated ADT (quantified as trip generation) attributed to build-out implemented under the Proposed Project.

The ADT volumes for the representative studied roadway segments are provided in Appendix D. The County General Plan Noise Element establishes a policy for exterior sensitive areas to be protected from high noise levels. For the purposes of this noise analysis, such impacts are considered significant when they cause an increase of 3 dB from existing noise levels. An increase or decrease in noise level of at least 3 dB is required before any noticeable change in community response would be expected (Caltrans 2013). Per the above mathematical expression, the Proposed Project would have to roughly double the traffic volumes on local roadways to increase traffic by 3 dBA and hence cause a potentially significant impact.

Stationary Noise

Newly created residential units facilitated by the Proposed Project would largely generate noise from intermittent and short-duration landscaping and maintenance activities, and (for purposes of this analysis) continuously operating air-conditioning and related heating and ventilation systems (HVAC). Noise from landscaping and maintenance activities, along with other stationary (i.e., non-transportation) sources of noise that may occur and not be exempted by Los Angeles County Code 12.08.570, would be subject to County exterior noise limits per Section 12.08.390 that appear in Table 4.13-4.

Residential air-conditioning and refrigeration equipment noise, however, is one of the stated exemptions from 12.08.390 per 12.08.570.D.5 and subject to a separate set of quantified thresholds per Los Angeles County Code 12.08.530 that are summarized as follows:

- 55 dBA at any point on neighboring property line, 5 feet above grade level, no closer than 3 feet from any wall;
- 50 dBA at the center of a neighboring patio, 5 feet above grade level, no closer than 3 feet from any wall; and,

- 50 dBA outside the neighboring living area window nearest the equipment location, not more than 3 feet from the window opening, but at least 3 feet from any other surface.

For purposes of this noise assessment, noise from HVAC systems associated with newly renovated or built housing units implemented under the Proposed Project were assumed to be largely caused by operation of rooftop or otherwise outdoor-exposed air-cooled condensers (ACC) that comprise multiple ventilation fans and refrigeration compressors. Utilizing a CalEEMod default assumption of 1,000 square feet per average housing unit requiring air-conditioning, and an approximate indoor air cooling load of one ton of refrigeration per 500 feet of residential-type occupied space per the Loren Cook "Engineering Cookbook" (Loren Cook Company 1999), this means—on average—each new housing unit would require two (2) tons of refrigeration. This refrigeration tonnage to housing unit ratio was used to estimate a quantity of rooftop ACC units, for which manufacturer sound data on a 2-ton unit is readily available from multiple suppliers, and thereby allow a means to estimate aggregate stationary source noise emission level from the following expression:

$$\text{Site-specific project stationary source sound power dBA} = PWL_{ACC} + 10*LOG(2*N)$$

In the above relationship, "PWL_{ACC}" is the A-weighted sound power level (PWL) for a single 2-ton refrigeration capacity ACC unit, and "N" is quantity of anticipated maximum housing units for the site-specific development potentially implemented under the Proposed Project. Standard point-source sound propagation algorithms consistent with International Organization for Standardization (ISO) 9613-2 (ISO 1996) were used in a model to enable iterative prediction of source-to-receptor distances for each of the County's three above-bulleted receiving residential locations at and within which a significant impact (i.e., exceedance of the 55 dBA or 50 dBA noise limit) would be anticipated.

Construction Vibration

Because the County does have quantified groundborne vibration velocity criteria as described in Section 4.13.2, these values were used to iteratively predict impact screening distances for site-specific construction-attributed vibration (associated with developments implemented under the Proposed Project) with expressions found in FTA and Caltrans guidance per the equation as follows (FTA 2018):

$$PPV_{rcvr} = PPV_{ref} * (25/D)^{1.5}$$

In the above expression, PPV_{rcvr} is the predicted vibration velocity at the receiver position, PPV_{ref} is the reference value at 25 feet from the vibration source and D is the actual horizontal distance to the receiver.

Aviation Noise Exposure

Some of the rezoning program areas may be located within 2 miles of an airport; however, the rezoning program areas all remain outside the 65 dBA CNEL aviation noise contour; therefore, potentially significant impacts with respect to significance criterion N-5 (i.e., aviation noise exposure to workers and future residents) within the rezoning program areas are not expected.

4.13.5 Environmental Impacts

Threshold N-1 **Would the Project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies:**

For noise compatibility, would noise levels at noise-sensitive exterior areas exceed 65 dBA CNEL?

For noise compatibility, would interior noise levels in habitable noise-sensitive areas exceed 45 dBA CNEL?

Operational Noise

Threshold N-1 is applicable to operational noise due to potential future residential development facilitated by Proposed Project from roadway traffic and other non-transportation noise sources. Potential impacts from other Project-related sources are addressed in Thresholds N-2 through N-4.

Traffic Noise

For the purposes of assessing the compatibility of new development with the anticipated ambient noise, the County utilizes the state's Community Noise and Land Use Compatibility standards, previously summarized in Table 4.13-3. Newly generated noise-sensitive land uses occurring as a result of future residential development facilitated by the Proposed Project would have to demonstrate compatibility with the ambient noise levels. Per significance criterion N-1, a potentially significant impact could occur if the Proposed Project designates noise-sensitive exterior land uses in areas where the ambient noise level exceeds 65 dBA CNEL. Additionally, existing off-site noise-sensitive land uses in the Project vicinity could experience noise levels above significance thresholds as a result of the Proposed Project.

To assess where these exceedances of 65 dBA CNEL may occur, Table 4.13-5 shows the 60, 65, and 70 dBA CNEL noise contours of representative roadways with and without the Proposed Project. The right-most column in Table 4.13-5 presents the change in horizontal perpendicular distance between the studied roadway segment and the threshold for impact: the 65 dBA CNEL noise contour. As shown in Table 4.13-5, the Proposed Project would result in either an estimated decreased distance (by as much as 40 feet) or an increased distance (by as much as 50 feet) between the studied roadway segment centerline and the 65 dBA CNEL noise contour. Generally, these predicted changes in the 65 dBA CNEL traffic-attributed noise contour distances would be small relative to the original distances (for example, the distance to the 65 dBA CNEL contour along East Florence Avenue west of Santa Fe Avenue would increase from 270 feet without the Proposed Project to 295 feet with the Proposed Project. However, in some instances the increases could result in noise standard exceedances which would otherwise not have occurred.

Where the traffic noise analysis herein predicts an increase in the distance between the roadway segment centerline and the 65 dBA CNEL contour, there may be existing off-site noise-sensitive receptors (e.g., residences) that would become newly exposed to a higher traffic noise level and thus become potentially impacted. Where the distance to the contour shrinks or decreases, implementation of the Proposed Project is expected to reduce traffic noise; however, the indicated distance in Table 4.13-5 for the 65 dBA CNEL contour associated with traffic changes attributed to the Proposed Project still indicates a region or zone within which outdoor noise levels would not be "normally acceptable" with respect to newly created residential land uses resulting from the Proposed Project.

Section 4.13.2 listed several policies from the Noise Element of the Los Angeles County General Plan that relate to minimizing noise land use compatibility impacts. Implementation of the relevant General Plan Noise Element policies would reduce impacts to the extent feasible. However, additional measures would be required during specific, project-level assessments to ensure that future land uses are compatible to their noise environment. Such measures could include requiring closed windows and provision of mechanical ventilation and air-conditioning, so that the resulting exterior-to-interior intrusion of traffic noise into a habitable indoor space would result in interior background sound level that is compatible with 45 dBA L_{dn} or CNEL and thus consistent with General Plan Noise Element Policy N-1.5. Future housing development facilitated by the Proposed Project will be subject to discretionary permits and future analysis that will determine on a project-by-project basis the appropriate mitigation measures. Impacts related to noise land use compatibility are considered **potentially significant**

Non-Traffic (Stationary Source) Noise

Implementation of the Proposed Project would entail future rezoning and development of housing sites. Any new housing units require mechanical ventilation and air-conditioning, which is assumed to be an ACC for each, with 2 tons of refrigeration capacity and the corresponding noise emission from compressors and ventilation fans. A site-specific development resulting in installation of multiple outdoor ACC equipment would therefore result in an aggregate noise emission level from such stationary sources being greater than that of one.

To illustrate how this representative aggregate stationary source noise level changes with the size of a parcel-specific development implemented under the Proposed Project at a programmatic level, Table 4.13-6 indicates screening distances within which exceedances of the County noise level standard (55 dBA or 50 dBA, per Los Angeles County Code 12.08.530) may occur. The nine categories of predicted distances are associated with new housing unit quantity ranges, and the indicated distance is conservatively estimated using the larger value of the unit quantity range. Table 4.13-6 presumes that the existing outdoor ambient sound levels, if measured and expressed as statistical L_{50} values (i.e., median sound levels), are less than or equal to the default hourly exterior noise thresholds appearing in LACC 12.08.530. Where an off-site receiving home within the indicated distance from an operating site-specific housing development shown in Table 4.13-6 may thus be potentially exposed to excessive stationary source noise, the site-specific development parcel would need project design features or noise mitigation measures compatible with General Plan Noise Element Policy N-1.3 to yield noise levels considered compliant with the County's noise standards as appearing in the column headings of Table 4.13-6.

By way of illustration, a new residential development scenario facilitated by the Proposed Project that would create 16 new residential units would correspondingly create an estimated need of 32 tons of refrigeration that could be provided by multiple ACC units or a single ACC with the capacity to deliver that cooling load. Table 4.13-6 shows that an off-site receiving residential living area window or patio could be as far away as 87 feet from the ACC and still see a County-compliant noise exposure level of 50 dBA. But if the receiving living area window or patio was closer, the new ACC or the sound path between the equipment and the off-site receptor would need to feature proper BAT noise control or sound abatement. Future housing development facilitated by the Proposed Project's rezoning program will be subject to discretionary permits and future analysis that will determine on a project-by-project basis the appropriate mitigation measures. Therefore, impacts related to noise land use compatibility are considered **potentially significant.**

Table 4.13-5. Buildout Year (2035) Traffic Noise Levels and Contours

Road	Segment	Buildout Year without Proposed Project				Buildout Year with Proposed Project				Change in distance to 65 (dBA) CNEL (Feet from Centerline): with Project versus without Project
			Distance to CNEL Contour (Feet from Centerline)				*Distance to CNEL Contour (Feet from Centerline)*			
		CNEL (dBA) at 100'	*60 (dBA) CNEL*	*65 (dBA) CNEL*	*70 (dBA) CNEL*	*CNEL (dBA) at 100'*	*60 (dBA) CNEL*	*65 (dBA) CNEL*	*70 (dBA) CNEL*	
Lennox Blvd	West of Hawthorne Blvd	66.3	315	120	55	66.7	330	130	60	10
Lennox Blvd	East of Hawthorne Blvd	65.1	215	100	45	65.5	230	95	45	-5
Avalon Blvd	South of El Segundo Blvd	68.4	360	170	75	66.8	285	130	60	-40
Avalon Blvd	North of El Segundo Blvd	69.6	435	200	95	68.8	385	180	85	-20
El Segundo Blvd	Between S Main Street/San Pedro Street	69.2	410	190	90	68.1	350	160	75	-30
El Segundo Blvd	Between San Pedro Street/Avalon	70	450	210	100	69.0	400	185	85	-25
El Segundo Blvd	Between Avalon Blvd/central	69.6	435	200	95	68.7	380	175	80	-25
E Alondra Blvd	West of S Atlantic Ave	66.3	260	120	55	65.9	250	115	55	-5
W Century Blvd	West of S Normandie Ave	70.7	515	240	110	70.6	500	235	110	-5
Compton Ave	Between E Santa Fe Ave/Nadeau St	68.6	375	175	80	69.5	430	200	90	25
Compton Ave	Between E Santa Fe Ave/E Gage Ave	68.8	385	175	80	70.3	490	225	105	50
E Gage Ave	West of Compton Blvd	70.6	505	235	110	71.0	540	250	120	15
E Florence Ave	East of Alameda St	70.8	530	245	115	71.5	590	275	125	30
Santa Fe Ave	South of Broadway	68.9	390	180	85	69.0	400	185	85	5
Santa Fe Ave	Between Broadway /E Florence Ave	69.4	425	195	90	69.9	455	210	100	15
E Florence Ave	West of Santa Fe Ave	71.5	590	270	125	72.0	630	295	135	25
E Florence Ave	East of Santa Fe Ave	71.5	585	270	125	72.0	630	295	135	25
E Florence Ave	East of Pacific Blvd	70.7	515	235	110	71.0	540	250	115	15
E Florence Ave	East of Seville Ave	70.3	485	225	105	70.6	510	240	110	15
Telegraph Rd	West of Leffingwell Rd	70.0	465	215	100	69.6	440	200	95	-15
Hacienda Blvd	Between Halliburton/Las Lomitas	73.1	750	350	160	72.6	690	320	150	-30
Whittier Blvd	Between Garfield Ave/S Atlantic Blvd	69.3	415	190	90	68.0	350	160	75	-30
Whittier Blvd	Between S Atlantic Blvd/S Arizona Ave	70.6	510	235	110	69.9	455	210	100	-25

Table 4.13-5. Buildout Year (2035) Traffic Noise Levels and Contours

Road	Segment	Buildout Year without Proposed Project				Buildout Year with Proposed Project				Change in distance to 65 (dBA) CNEL (Feet from Centerline): with Project versus without Project
			Distance to CNEL Contour (Feet from Centerline)				*Distance to CNEL Contour (Feet from Centerline)*			
		CNEL (dBA) at 100'	*60 (dBA) CNEL*	*65 (dBA) CNEL*	*70 (dBA) CNEL*	*CNEL (dBA) at 100'*	*60 (dBA) CNEL*	*65 (dBA) CNEL*	*70 (dBA) CNEL*	
S Atlantic Ave	North of Whittier Blvd	70.2	485	225	100	69.9	455	210	100	-15
E Amar Rd	Between Valinda Ave/S Hacienda Blvd	68.5	370	170	80	67.8	330	155	70	-15
E Arrow Hwy	Between N Glendora Ave/Bonnie Cove Ave	68.4	360	165	75	68.0	345	160	75	-5
E Arrow Hwy	Between Bonnie Cove Ave/N Sunflower Ave	68.4	360	155	75	67.9	335	155	75	0
E Arrow Hwy	Between N Sunflower Ave/Valley Center Ave	69.1	405	185	85	68.7	380	175	80	-10
Allen Avenue	North of New York Drive	65.0	215	100	45	65.1	220	100	45	0
Allen Avenue	South of New York Drive	65.6	240	110	50	65.7	240	110	50	0
N Lake Ave	Between New York Drive/E Altadena Dr	67.5	315	145	65	67.7	325	150	70	5
E Woodbury Rd	East of Fair Oaks Ave	70.3	485	225	105	70.4	500	230	105	5
Fair Oaks Ave	North of E Woodbury Rd	56.1	55	25	10	55.8	50	25	10	0

Source: Appendix D.

Table 4.13-6. Screening Distances for Stationary Noise Source (Residential Air-Conditioning) Compliance

Proposed Project Parcel-Specific Development Size (number of residential units)	Outside a Neighboring Living Area Window nearest the Equipment Location[1] or At Center of a Neighboring Patio:[2] 50 dBA (in feet)	On Neighboring Property Line:[2] 55 dBA (in feet)
1-2	36	20
3-4	50	30
5-8	70	42
9-16	87	59
17-32	110	74
33-64	143	94
65-128	190	120
129-256	256	158
257-512	348	210

Notes:
1 not more than 3 feet from the window opening, but at least 3 feet from any other surface
2 at any point 5 feet above grade level, no closer than 3 feet from any wall

Threshold N-2 Would the Project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Residential uses typically do not generate excessive groundborne vibration or groundborne noise levels. However, demolition and construction associated with new housing could result in impacts related to groundborne vibration or groundborne noise levels. For example, demolition and construction activities could generate vibration through the use of drills, jackhammers, pile drivers, operation of compressors and generators, cement mixing, and general truck idling.

Construction Vibration

Groundborne vibration from construction equipment and activities can generate varying degrees of ground vibration. Vibration from construction activities rarely reaches the levels that can damage structures but can achieve the perceptible ranges in occupied buildings close to the construction site. Table 4.13-7 lists vibration levels for various types of construction equipment.

Table 4.13-7. Vibration Source Levels for Construction Equipment

Construction Equipment Type		Peak Particle Velocity (PPV) at 25 ft (in/sec)	Approximate L_v† at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87

Table 4.13-7. Vibration Source Levels for Construction Equipment

Construction Equipment Type	Peak Particle Velocity (PPV) at 25 ft (in/sec)	Approximate L_v† at 25 ft
Large bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: FTA 2018.
Notes:
† RMS velocity in decibels (VdB) re 1 micro-inch/second, and presumes crest factor of 4.

Generally, heavy construction equipment used for most projects (small bulldozers, loaded trucks, caisson drilling etc.) would have peak particle velocity (PPV) vibration levels of approximately 0.089 inches per second or less at a distance of 25 feet. Vibratory rollers, used during the paving phases of some projects, would have vibration levels of approximately 0.210 inches per second. Should impact pile driving be necessary during the building foundations phase, typical PPV levels at 25 feet of 0.644 inches per second would be anticipated, with upper range levels of approximately 1.518 inches per second; thus, it is seen that vibration levels could vary widely depending upon the equipment types used.

Based upon several types of construction equipment (a large bulldozer, a vibratory roller, and an impact pile driver), a range of distances from 1 to 500 feet were analyzed (provided in Appendix D). The resulting distance required for these various equipment types to not exceed the County of Los Angeles standard (i.e., the threshold of perception of 0.01 inches per second) is provided in Table 4.13-8. As shown, substantial distances (ranging from 104 feet to 389 feet) are necessary to not exceed County thresholds of significance for groundborne vibration. Thus, **potential impacts from construction vibration are considered significant**.

Table 4.13-8. Distance Required for County Groundborne Vibration Significance Threshold Compliance

Screening Distance (feet) to Adjoining Receptor for 0.01 in/sec from 1-100 Hz		
Dozer	Roller	Impact Pile Driver
104	185	389

Source: Appendix D.

Roadway Traffic Vibration

Caltrans has studied the effects of propagation of vehicle vibration on sensitive land uses and notes that "heavy trucks, and quite frequently buses, generate the highest earthborn vibrations of normal traffic." Caltrans further notes that the highest traffic-generated vibrations are along freeways and state routes. Their study finds that "vibrations measured on freeway shoulders (five meters from the centerline of the nearest lane) have never exceeded 0.08 inches per second, with the worst combinations of heavy trucks. This level coincides with the maximum recommended safe level for ruins and ancient monuments (and historic buildings)." Typically, trucks do not generate high levels of vibration because they travel on rubber wheels and do not have vertical movement, which generates ground vibration. Thus, roadway traffic is not expected to generate excessive vibration; associated **impacts would be less than significant**.

Railroad Vibration

Vibration levels in Los Angeles County from trains are dependent on site-specific conditions such as geology and the condition of the railroad track and train wheels. Although it is not proposed at this time, if modifications of existing rail tracks are planned, vibration would be addressed in the environmental review for each individual rail improvement project. As groundborne vibration is associated with any given train pass-by, but then subsides once the train has passed, any increases in number of train movements would only create additional occurrences of pass-by vibration, but not increased amplitudes of vibration levels. Thus, any potential increase in rail traffic would not increase the maximum vibration levels at nearby uses and such potential increases in the frequency of daily rail trips would not result in the generation of excessive vibration.

Implementation of the Proposed Project may add new sensitive uses in areas adjacent to existing and future railroad lines. These developments may result in placing residential or other sensitive uses near the railroad lines which could result in excessive groundborne vibration from train operations. The extent of the exposure to vibration depends on site-specific conditions, location of buildings, and size and design of the proposed buildings. Further specific, project-level review would be required as future developments are proposed. Potential exposure to groundborne vibration could be, under certain conditions, a **potentially significant impact**.

Industrial Vibration

The use of heavy equipment associated with industrial operations can create elevated vibration levels in its immediate proximity. Soil conditions have a strong influence on the levels of groundborne vibration and, as a result, vibration typically dissipates rapidly with distance away from the source. Further specific, project-level review would be required as any future rezoning and housing development as part of the Proposed Project's rezoning program are proposed. Potential exposure to groundborne vibration could be, under certain conditions, a **potentially significant impact**.

Threshold N-3 Would the Project result in substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project:

> ***Project-related traffic noise increase the ambient noise level at noise-sensitive locations by 3 dBA or more and the ambient noise levels under with-project conditions fall within the "Normally Unacceptable" or "Clearly Unacceptable" categories? OR***
>
> ***Project-related traffic noise increases the ambient noise level at noise-sensitive locations by 5 dBA or more?***

Operational Noise

Traffic Noise

Future residential development facilitated by the Proposed Project would result in increases in traffic along some roadways. For the purpose of assessing the compatibility of new development with the anticipated ambient noise, the County utilizes the state's Community Noise and Land Use Compatibility standards; previously summarized in Table 4.13-3. Noise-sensitive land uses include residential, schools, libraries, churches, nursing homes, hospitals, and open space/recreation areas. Commercial and industrial areas are not considered noise sensitive and have much higher tolerances for exterior noise levels. The "normally unacceptable" minimum noise level for considered noise-sensitive land uses is 70 dBA CNEL. For purposes of this analysis, a significant impact would occur if project-

related traffic increases the ambient noise environment of noise-sensitive locations by 3 dB or more and the ambient noise level under with-project conditions is 70 dBA CNEL or higher (i.e., those with-project conditions that fall within the "Normally Unacceptable" or "Clearly Unacceptable" land use categories). Additionally, a significant impact would also occur if project-related traffic increases the ambient noise environment of noise-sensitive locations by 5 dB or more regardless of the ambient noise level under with-project conditions.

As shown in Table 4.13-9, of the 33 representative roadway segments studied herein and potentially impacted by the Proposed Project, none would experience Project-related noise increases greater than 1.7 decibels. In most cases, traffic noise levels would either decrease slightly or would experience an increase of less than 1 decibel. In the context of community noise (i.e., outside of a listening lab or other controlled environment), a change in noise level of less than 3 decibels is typically not an audible change. Because the Proposed Project would not increase the ambient noise environment by either 3 dB or more when with-project conditions are 70 dBA CNEL or higher or by 5 dB or more when with-project conditions are lower, the changes in traffic noise would be **less than significant**.

Table 4.13-9. Project-Related Changes in Traffic Noise

Road	Segment	General Plan plus Project ADT Volume	Existing plus Project ADT	Resulting Noise Increase / Decrease (dBA)
Lennox Blvd	West of Hawthorne Blvd	10091	10951	0.4
Lennox Blvd	East of Hawthorne Blvd	7832	8692	0.5
Avalon Blvd	South of El Segundo Blvd	16074	10680	-1.8
Avalon Blvd	North of El Segundo Blvd	18604	15045	-0.9
El Segundo Blvd	Between S main Street/San Pedro Street	19010	14300	-1.2
El Segundo Blvd	Between San Pedro Street/Avalon	21180	16883	-1.0
El Segundo Blvd	Between Avalon Blvd/central	21701	17404	-1.0
E Alondra Blvd	West of S Atlantic Ave	10098	9867	-0.1
W Century Blvd	West of S Normandie Ave	25660	25055	-0.1
Compton Ave	Between E Florence Ave/Nadeau St	16640	20983	1.0
Compton Ave	Between E Florence Ave/E Gage Ave	16998	25336	1.7
E Gage Ave	West of Compton Blvd	26630	29845	0.5
E Florence Ave	East of Alameda St	31325	36479	0.7
Santa Fe Ave	South of Broadway	16386	16821	0.1
Santa Fe Ave	Between Broadway /E Florence Ave	22465	24652	0.4
E Florence Ave	West of Santa Fe Ave	34175	38488	0.5
E Florence Ave	East of Santa Fe Ave	35396	39709	0.5
E Florence Ave	East of Pacific Blvd	27460	29589	0.3
E Florence Ave	East of Seville Ave	25260	27389	0.4
Telegraph Rd	West of Leffingwell Rd	30890	28478	-0.4
Hacienda Blvd	Between Halliburton/Las Lomitas	48866	42573	-0.6
Whittier Blvd	Between Garfield Ave/S Atlantic Blvd	21745	16546	-1.2
Whittier Blvd	Between S Atlantic Blvd/S Arizona Ave	26362	21831	-0.8
S Atlantic Ave	North of Whittier Blvd	25177	22979	-0.4
E Amar Rd	Between Valinda Ave/S Hacienda Blvd	17614	15109	-0.7
E Arrow Hwy	Between N Glendora Ave/Bonnie Cove Ave	19340	18038	-0.3

Table 4.13-9. Project-Related Changes in Traffic Noise

Road	Segment	General Plan plus Project ADT Volume	Existing plus Project ADT	Resulting Noise Increase / Decrease (dBA)
E Arrow Hwy	Between Bonnie Cove Ave/ N Sunflower Ave	19030	17009	-0.5
E Arrow Hwy	Between N Sunflower Ave/ Valley Center Ave	22550	20718	-0.4
Allen Avenue	North of New York Drive	7201	7344	0.1
Allen Avenue	South of New York Drive	8436	8579	0.1
N Lake Ave	Between New York Drive/E Altadena Dr	10244	11005	0.3
E Woodbury Rd	East of Fair Oaks Ave	22483	23580	0.2
Fair Oaks Ave	North of E Woodbury Rd	854	798	-0.3

Source: Appendix D.

Non-Traffic (Stationary Source) Noise

Table 4.13-6 presented programmatic-level screening distances within which aggregate stationary source noise level from a newly developed housing unit buildout implemented under the Proposed Project would likely exceed the County's exterior noise standards from non-transportation sound sources (i.e., LACC 12.08.390).

Estimated day-night sound levels for the general areas of the Proposed Project's rezoning program, based on localized population density and proximity to major roadways and rail routes, as shown in Table 4.13-2 are not lower than 45 dBA L_{dn} but could include nighttime hourly levels that are quieter. This is because the L_{dn} value is derived from a calculation that applies a 10 dB "penalty" or upward adjustment to hourly sound levels during the nighttime period (10:00 p.m. to 7:00 a.m.). By way of illustration, 45 dBA L_{dn} could represent steady outdoor daytime (7:00 a.m. to 10:00 p.m.) sound level of 45 dBA, with only 35 dBA at night—a drop in ambient sound level typically attributed to diurnal changes in traffic patterns (FTA 2018). Consequently, even though aggregate stationary source noise emission from a site-specific development implemented under the Proposed Project may comply with the exterior noise level standard of 45 dBA at a neighboring Noise Zone I property, there is the potential for that 45 dBA hourly L_{eq} to exceed the existing outdoor ambient sound level at night. If the outdoor sound level of the neighboring off-site Noise Zone I property or land use was measured prior to development and indeed reported as 35 dBA L_{eq} during nighttime hours, then the LACC-compliant 45 dBA L_{eq} during such hours would still be a 10 dB increase and easily perceived as a change in the outdoor sound environment that could be considered potentially significant—on the basis that a 10 dB increase would be perceived as a "doubling" of loudness and thus an unwanted change to the pre-existing environment. Hence, under certain conditions, aggregate stationary source noise emission from a site-specific development implemented under the Proposed Project could be a **significant and potentially unavoidable impact** if customary project design features or noise mitigation cannot feasibly reduce the anticipated change in outdoor noise level to an increase that is less perceptible and annoying, such as only 5 dB. Future housing development facilitated by the Proposed Project's rezoning program will be subject to discretionary permits and future analysis that will determine on a project-by-project basis the appropriate mitigation measures.

Threshold N-4 **Would the Project result in substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?**

Construction Noise

Table 4.13-10 and Table 4.13-11 present screening distances for six typical phases of construction (and an additional line item for pile-driving) expected of site-specific developments implemented under the Proposed Project for construction activity durations that are less than ten days or greater than ten days, respectively. Depending on the type of residential receiver, and assuming daytime construction only, the screening distances describe a buffer within which a threshold would be exceeded and thus generate a **potentially significant impact**. Future housing development facilitated by the Proposed Project's rezoning program will be subject to discretionary permits and future analysis that will determine on a project-by-project basis the appropriate mitigation measures.

Table 4.13-10. Construction Noise: Screening Distance to Adjoining Receptor Within Which Significant Impact Occurs - Duration Less Than 10 Days

Construction Phase	Daytime (7:00 a.m. to 8:00 p.m., except Sundays and legal holidays) Screening Distance (feet)		
	Single-family residential (75 dBA)	*Multi-family residential (80 dBA)*	*Semi-residential commercial (85 dBA)*
Demolition	157	90	50
Site Preparation /Grading	114	65	36
Grading	170	96	54
Building Construction	71	40	23
Paving	90	50	29
Architectural Coating	45	25	15
Pile Driving	223	126	71

Table 4.13-11. Construction Noise: Screening Distance to Adjoining Receptor Within Which Significant Impact Occurs - Duration More Than 10 Days

Construction Phase	Daytime (7:00 a.m. to 8:00 p.m., except Sundays and legal holidays) Screening Distance (feet)		
	Single-family residential (60 dBA)	*Multi-family residential (65 dBA)*	*Semi-residential commercial (70 dBA)*
Demolition	900	500	280
Site Preparation /Grading	650	360	115
Grading	952	535	303
Building Construction	405	225	126
Paving	505	285	160
Architectural Coating	250	142	79
Pile Driving	1255	705	398

The screening distance values appearing in Table 4.13-11 are much greater than those of Table 4.13-10 due to the County thresholds being substantially lower and therefore more stringent. The construction phase duration distinction between less than ten days and more than ten days is consistent with LACC 12.08.440.B.1a for "mobile equipment" stated as "Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment" and LACC 12.08.440.B.1.b for "stationary equipment" that is defined as "Maximum noise level for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment." Because actual construction phases associated with the site-specific developments implemented under the Proposed Project are likely to involve both mobile and stationary equipment on site, the predicted screening distances presented in Table 4.13-10 and Table 4.13-11 conservatively disregard mobile/stationary distinction and instead focus on phase or activity duration as the important parameter for which County construction noise threshold to apply. The nighttime (i.e., 8:00 p.m. to 7:00 a.m.) construction activity screening distances for site-specific projects less than 10 days in duration would be virtually identical to the values appearing in Table 4.13-11, since the underlying dBA thresholds are the same—with the exception of multi-family residential, for which 64 dBA instead of 65 dBA would apply at night. The nighttime thresholds for construction projects lasting longer than 10 days are more stringent than those appearing in Table 4.13-11; thus, the corresponding screening distances would be even greater than the presented values for each phase.

Where construction of a site-specific residential development facilitated by the Proposed Project would be within the identified relevant screening distance, and thus sufficiently close to an off-site sensitive receptor to cause an exceedance of the County construction noise threshold, mitigation would be needed to avoid a significant impact. Application of typical administrative and engineering noise controls, in addition to sound abatement correctly placed between noise sources and the off-site receptors of interest, could normally be expected to reduce aggregate construction equipment noise to levels that would be compliant with the applicable County standard and render the potential noise impact less than significant. Such determination of impact and the corresponding mitigation need would depend on the site-specific conditions of the parcel to be developed under the Proposed Project. However, there is the potential for an off-site residence to be so close to a construction site that the resulting noise impact—even with incorporation of practical, feasible, and reasonable mitigation measures—would be considered unavoidable. In addition, even if the applicable LACC 12.08.440.B.1 (residential structures) or LACC 12.08.440.B.2 (business structures) are satisfied, there is the potential for a temporary but significant increase in outdoor ambient sound level.

Estimated day-night sound levels for the general areas of the Proposed Project's rezoning program, based on localized population density and proximity to major roadways and rail routes, as shown in Table 4.13-2 are not lower than 45 dBA L_{dn} but could include nighttime hourly levels that are quieter. This is because the L_{dn} value is derived from a calculation that applies a 10 dB "penalty" or upward adjustment to hourly sound levels during the nighttime period (10:00 p.m. to 7:00 a.m.). By way of illustration, 45 dBA L_{dn} could represent steady outdoor daytime (7:00 a.m. to 10:00 p.m.) sound level of 45 dBA, with only 35 dBA at night—a drop in ambient sound level typically attributed to diurnal changes in traffic patterns (FTA 2018). Consequently, even though construction phase noise emission lasting longer than ten days from a site-specific development implemented under the Proposed Project may comply with the applicable standard of 50 dBA at a neighboring single-family residence, there is the potential for that 50 dBA hourly L_{eq} to exceed the existing outdoor ambient sound level at night. If the outdoor sound level of the neighboring single-family residence was measured prior to construction and indeed reported as 35 dBA L_{eq} during nighttime hours, then the LACC-compliant 50 dBA L_{eq} during such hours would still be as much as—albeit temporary—a 15 dB increase and easily perceived as a change in the outdoor sound environment that could be considered potentially significant—on the basis that greater than a 10 dB increase would be perceived as more than a "doubling" of loudness and thus an unwanted change to the pre-existing environment. Hence, under certain

conditions, construction noise emission from a site-specific development implemented under the Proposed Project could be a **potentially significant impact** if customary construction noise mitigation cannot feasibly reduce the anticipated change in outdoor noise level to an increase that is less perceptible and annoying, such as only 5 dB. Future housing development facilitated by the Proposed Project's rezoning program will be subject to discretionary permits and future analysis that will determine on a project-by-project basis the appropriate mitigation measures.

Threshold N-5 **For a project located within an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project Area to excessive noise levels?**

The rezoning program areas associated with the Proposed Project that are located within 2 miles of any public airport or public use airport include the following proximities: within two miles of Los Angeles Airport (LAX), Hawthorne Municipal Airport, and San Gabriel Valley Airport. However, none of the rezoning program areas are within the 65 dBA CNEL aviation noise contours for these and other public airport facilities in the Proposed Project area (i.e., unincorporated Los Angeles County).

As applicable, the Proposed Project would involve new development and redevelopment on areas within the plan areas of adopted Airport Land Use Compatibility Plans (ALUCPs), including the comprehensive Los Angeles County ALUCP and the ALUCP for the General William J. Fox Airfield. However, future development under the Proposed Project would be required to be consistent with any applicable ALUCP constraints pertaining to nearby developments. Furthermore, compliance with policies included in the Land Use Element and Noise Element of the Proposed General Plan Update related to land use compatibility would ensure that development would not conflict with airport land use plans. In particular, Policy LU 7.6 explicitly requires consistency that airport land use plans address conflicts between airport operations and surrounding land uses. Policy N 1.12 requires that land use decisions on parcels adjacent to transportation facilities, including those adjacent to airports, consider existing and future noise levels of the adjacent transportation facilities. Therefore, with the application of Policy LU 7.6 and Policy N 1.12 and review by the Los Angeles County ALUC, future development under the Proposed Project would be consistent with adopted ALUCPs and there would be no significant noise exposure impacts related to airport or airstrip noise levels. Impacts would be **less than significant**.

Threshold N-6 **For a project within the vicinity of a private airstrip, would the Project expose people residing or working the Project Area to excessive noise levels?**

There are no private airstrips located in the Project vicinity (AirNav 2021). Therefore, there would be **no impact** related to noise associated with private airstrips.

4.13.6 Cumulative Impacts

Noise in Excess of Standards

The Proposed Project and related development projects within or adjoining its area would all be subject to applicable noise standards, depending upon the local jurisdiction—either the County of Los Angeles, for which applicable standards have been summarized in Section 4.13.2, or local municipalities. On this basis, and because noise impacts with respect to relevant standards are predicted to be less than significant, the Proposed Project would not contribute to cumulative exceedances of noise standards, and its incremental effect is considered a **less-than-significant impact**. No mitigation is required.

Temporary/Periodic Increases in Ambient Noise Levels

The Proposed Project would result in temporary noise increases during construction of future developments arising from its implementation, as discussed under Threshold N-4 in Section 4.13.5. The construction period of future developments under the Proposed Project has the potential to overlap with the construction of other projects in the County and proximate municipalities. Due to the decrease in noise levels with distance and the presence of physical barriers (i.e., intervening buildings and topography), noise due to construction of other projects would not meaningfully combine with future development under the Proposed Project to produce a cumulative noise effect during construction. By way of illustration, if there are two concurrent construction projects of comparable sound emission intensity, and the activity nearest to the studied noise-sensitive receptor is compliant with the County's applicable noise threshold, the other activity could be no closer than three times the distance of the receptor to the nearest activity and not make a cumulatively measurable contribution to the total and still County-compliant noise exposure level. If two concurrent projects were close to a receptor, the cumulative noise would be one of the following:

- the louder (in dBA) of the two concurrent activities; or,
- a logarithmic sum of the two activity noise levels that, per acoustic principles, cannot be more than 3 dBA greater than the louder of the two individual noise-producing activities.

In sum, cumulative construction noise is likely to be dominated by the closest or loudest activity to the receptor, and the combination will be no more than a barely perceptible difference (i.e., up to a 3 dBA change).

Hence, for the above reasons, cumulative impacts due to cumulative construction noise could be considered significant under certain conditions of multiple project proximity to a common noise-sensitive receiving land use. Mitigation of such cumulative construction noise impact would require each individual project to comply with the County's construction noise standard and involve measures as appearing in **Mitigation Measure (MM) N-4**. Thus, cumulative impacts associated with temporary increases in ambient noise levels would be considered **less than significant with mitigation.**

Vibration Impacts

Construction-related vibration from future development under the Proposed Project was addressed under Section 4.13.5, Threshold N-2. Other foreseeable projects within the vicinity of the Proposed Project area would not be close enough to create a combined excessive generation of groundborne vibration. Like airborne sound, and as previously discussed, groundborne vibration attenuates rapidly with increasing distance from the source. Thus, cumulative impacts associated with excessive groundborne vibration would be considered **less than significant**. No mitigation is required.

Permanent Increase in Ambient Noise Levels

Stationary Sources

Long-term operational noise would result from operation of future residential development facilitated by the Proposed Project, such as permanent on-site noise sources (e.g., HVAC equipment), as addressed under Threshold N-1 in Section 4.13.5. A cumulative impact could result if noise produced resulting from implementation of the Proposed Project were to combine with noise produced from the operation of other related projects in the vicinity to create a cumulatively significant permanent increase in ambient noise levels. However, the operation of future projects

implemented under the Proposed Project, along with the operation of other related projects, would be subject to applicable requirements from the County's noise ordinance or similar regulations from neighboring municipalities, which would also limit the exterior noise levels at residences. However, despite compliance with these noise regulations that are based on fixed standards (or are adjusted upwards to match the pre-existing outdoor ambient sound level if measured to be higher), there is a potential risk of creating a durable increase in outdoor ambient sound due to the combination of concurrent stationary noise sources in proximity to a common noise-sensitive receptor.

As previously discussed in the preceding paragraphs with respect to temporary increases in the outdoor ambient sound level due to concurrent construction noise, the combination of two potential nearby operating facilities would generate one of the following outcomes in the absence of a dominant traffic-related acoustical contribution:

- the louder (in dBA) of the two concurrent operating facilities; or,
- a logarithmic sum of the two aggregate stationary source noise levels that, per acoustic principles, cannot be more than 3 dBA greater than the louder of the two individual noise-emitting facilities.

In sum, cumulative stationary operation noise is likely to be dominated by the closest or loudest facility to the receptor, and the combination will be no more than a barely perceptible difference (i.e., up to a 3 dBA change). Hence, for the above reasons, cumulative impacts to outdoor ambient noise levels resulting from Proposed Project stationary sources combining with another unrelated project are considered **less than significant** because the cumulatively considerable change would be no greater than 3 dBA—a barely perceptible difference. No mitigation is required.

Off-Site Traffic Noise

Future residential development facilitated by the Proposed Project along with other related projects would generate off-site traffic noise. When calculating future traffic impacts, the traffic study included traffic from related projects in the traffic model. Thus, future traffic results with and without the Proposed Project already account for the cumulative impacts from related projects contributing to traffic increases. Since the noise impacts are generated directly from the traffic analysis results, the Existing and Year 2035 traffic with and without Proposed Project predicted increases in traffic noise levels described herein already reflect cumulative impacts. As described herein, the noise level increases associated with both of these scenarios would generate a noise level increase of less than 3 dBA along the studied sample roadways in the vicinity of the Proposed Project. As such, anticipated increases would be below the significance threshold of 3 dBA; hence, the incremental effect of the Proposed Project on off-site traffic noise is not cumulatively considerable. Cumulative off-site traffic noise impacts are, thus, considered **less than significant**. No mitigation is required.

4.13.7 Mitigation Measures

The following mitigation measures would reduce potential noise impacts.

MM N-1 Prior to the issuance of building permits for any project that involves a noise-sensitive use within the 65 dBA CNEL contour (i.e., areas in or above 65 dBA CNEL) along major roadways, freeways, and rail transit routes, the project property owner/developers shall retain an acoustical engineer to conduct an acoustic analysis and identify, where appropriate, site design features (e.g., setbacks, berms, or sound walls), and/or required building acoustical improvements (e.g., sound transmission class rated windows, doors, and attic baffling) to ensure compliance with the County's Noise Compatibility Criteria and the California State Building Code and California Noise Insulation Standards (Title 24 of the California Code of Regulations).

MM N-2 Individual projects that use vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers near sensitive receptors shall be evaluated for potential vibration impacts. If construction-related vibration is determined to be perceptible at vibration-sensitive uses (i.e., exceed the County's standard of 0.01 inches per second vibration velocity [within the range of 1 to 100 Hz frequency]), additional requirements, such as use of less-vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., drilled piles to eliminate use of vibration-intensive pile driver).

MM N-3 New development that occurs within 200 feet of a railroad track (according to the FTA's vibration screening distances) shall be evaluated for potential vibration impacts. The project property owner/developers shall retain an acoustical engineer to conduct an acoustic analysis and identify, where appropriate, site design features and/or required building construction improvements to ensure that vibration impacts would remain below acceptable levels of 0.08 root mean square (RMS) inches/second vibration velocity for residential uses.

MM N-4 Construction activities associated with new development that occurs near sensitive receptors shall be evaluated for potential noise impacts. Mitigation measures such as installation of temporary sound barriers for construction activities that occur adjacent to occupied noise-sensitive structures, equipping construction equipment with more effective mufflers, sound-insulating hoods or enclosures, vibration dampers, and other Best Available Control Technology (BACT), and reducing non-essential idling of construction equipment to no more than five minutes shall be incorporated into the construction operations to reduce construction-related noise to the extent feasible.

4.13.8 Level of Significance After Mitigation

Implementation of the noise-related policies contained within the General Plan in addition to **MM N-1** would reduce exterior noise compatibility impacts. While interior noise levels are required to achieve the 45 dBA CNEL interior noise limit of Title 24 and Title 25, exterior noise levels may still exceed the County noise land use compatibility criteria, despite exterior noise attenuation (i.e., walls and/or berms). Therefore, impacts related to exterior noise compatibility would remain significant and unavoidable.

Implementation of the County's General Plan Noise Element policies would reduce traffic noise impacts to existing noise sensitive uses to the extent feasible. These policies include N 1.1, N 1.4, N 1.6 and N 1.7. However, no additional feasible mitigation measures are available to further reduce impacts. Residential land uses comprise the majority of existing sensitive uses within Los Angeles County that would be impacted by the increase in traffic generated noise levels. Construction of sound barriers would be inappropriate for residential land uses that face the roadway as it would create aesthetic and access concerns. Furthermore, for individual development projects, the cost to mitigate off-site traffic noise impacts to existing uses (such as through the construction of sound walls and/or berms) may often be out of proportion with the level of impact. Thus, Proposed Project traffic noise impacts to existing noise sensitive receptors would remain significant and unavoidable.

MM N-2 (construction-related vibration) would reduce vibration impacts associated with construction activities to the extent feasible. However, due to the potential for proximity of construction activities to sensitive uses and potential longevity of construction activities, their potential would remain potentially significant and unavoidable.

MM N-3 (train-related vibration) would reduce potential train-related vibration impacts to new residential uses below the thresholds (i.e., below 0.08 RMS in/sec for residential uses). Nonetheless, proximity

and operation of existing railroads to these newly created receptors may still exceed relevant thresholds and despite application of feasible mitigation measures may remain potential impacts there are significant and unavoidable.

MM N-4 (construction-related noise) would reduce impacts associated with construction activities to the extent feasible. However, due to the potential for proximity of construction activities to sensitive uses and potential longevity of construction activities, their impact would be significant and unavoidable.

Summary

Despite the application of mitigation measures, noise impacts due to the Proposed Project were determined to remain **significant and unavoidable**.

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4.14 Population and Housing

This section examines the existing population, housing, and employment conditions in portions of the unincorporated areas of Los Angeles County that would be affected by the Proposed Los Angeles County Housing Element Update (Proposed Project). The following section assesses the differences between forecasts based on the Los Angeles County 2035 General Plan (General Plan) (County of Los Angeles 2015), the Proposed Project, and regional growth projections. According to Section 15382 of the California Environmental Quality Act (CEQA) Guidelines, "An economic or social change by itself shall not be considered a significant impact on the environment."

The Project Area demographics are examined in the context of comparing existing and projected data for the Project Area and Los Angeles County as a whole. The discussion of population, housing, and employment provided below is based on information from the Southern California Association of Governments (SCAG) Local Profile of Unincorporated Los Angeles County and for Los Angeles County in total (SCAG 2019a, 2019b), SCAG's Connect SoCal, the 2020–2045 Regional Transportation Plan (RTP)/Sustainable Communities Strategies (SCS) of the Southern California Association of Governments – Demographics and Growth Forecast Appendix (SCAG 2020), the Los Angeles County General Plan Draft Environmental Impact Report, and the Regional Housing Needs Allocation (SCAG 2012, 2021a). The 6th Cycle Housing Element planning period for the Proposed Project extends from 2021-2029 (SCAG 2021b).

4.14.1 Environmental Setting

As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to Los Angeles County (County) where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analyses or studies.

Population

The County estimates that the 2018 population in unincorporated Los Angeles County is 1,057,162 persons, representing approximately 10.3% of Los Angeles County's total population (SCAG 2019a). The total population of Los Angeles County was approximately 10,283,729 persons (SCAG 2019b). There were 986,050 residents in unincorporated Los Angeles County in 2010, representing 10.3% of Los Angeles County's total population in 2010. Between 2000 to 2018, the population of unincorporated Los Angeles County increased by 71,112 persons (SCAG 2019a).

This period significantly outpaced growth in the previous decade–only 1.6% growth between 1990 and 2000. The rapid increase in residents between 2000 and 2010 is the result of the housing construction boom and increasing household sizes experienced throughout Southern California in the early 2000s. Since the softening of the housing market, beginning in 2006, the pace of population growth and residential development has slowed. According to SCAG's Connect SoCal, the 2020–2045 RTP/SCS population forecasts, the unincorporated Los Angeles County is estimated to reach a population of 1,258,000 by 2045 (SCAG 2020). Table 4.14-1, Estimated and Forecasted Population in Los Angeles County, provides population figures for unincorporated Los Angeles County in 2018, 2000, percentage change, and SCAG projections for 2040.

Table 4.14-1. Estimated and Forecasted Population in Los Angeles County

	2018 Population	2000 Population	Percentage Change	2045 Forecasted Population
Unincorporated Los Angeles County	1,057,162	986,050	7.21	1,258,000

Sources: SCAG 2019a, 2019b, 2020.

Housing

There were 294,730 housing units within unincorporated Los Angeles County in 2018, comprising approximately 8.8% of all housing units within Los Angeles County (SCAG 2019a). According to the SCAG 2019 Local Profile of unincorporated Los Angeles County, there were an estimated 279,781 units in 2010. The average household size was approximately 3.5 persons per household unit in 2018, higher than the total Los Angeles County average of 3.0 persons per unit. By 2040, unincorporated Los Angeles County is projected to reach a housing unit stock of 392,400, and Los Angeles County as a whole is forecasted to reach a housing unit stock of 3,946,600. Table 4.14-2, Summary of Housing Units in Los Angeles County, summarizes the housing unit stock in unincorporated Los Angeles County and all of Los Angeles County.

Table 4.14-2. Summary of Housing Units in Los Angeles County

	Average Household Size (2018)	2018 Housing units	2000 Housing Units	Percentage Change	2040 Forecasted Housing Units
Unincorporated Los Angeles County	3.5	294,730	279,781	5.3	392,400

Sources: SCAG 2019a, 2019b, 2020.

The majority of homes in unincorporated Los Angeles County are single-family detached units; however, there are housing opportunities in mobile homes, apartments of varying scales, and single-family attached units, such as townhomes. The high percentage of single-family detached and attached housing units reflects the current suburban nature of several unincorporated areas. Table 4.14-3, Composition of Housing Stock by Percentage Unit Type (2018), summarizes the different types of housing units by percentage in unincorporated Los Angeles County.

Table 4.14-3. Composition of Housing Stock by Percentage Unit Type (2018)

Jurisdiction	Single-Family Detached	Single-Family Attached	Multifamily: Two to Four Units	Multifamily: Five Units Plus	Mobile Homes
Unincorporated Los Angeles County	70.6	5.7	5.7	14.6	3.4
Los Angeles County (Total)	**48.7**	**6.6**	**8.1**	**35.0**	**1.6**

Sources: SCAG 2019a, 2019b

Employment

In 2017, SCAG estimated there to be 269,902 jobs in unincorporated Los Angeles County. The number of jobs increased from the 245,966 jobs estimated in 2007, which consists of 9.7% increase (SCAG 2019a). In Los Angeles County as a whole, SCAG estimated there to be 4,767,204 jobs in 2017, and 4,478,032 jobs in 2007. This represents a job increase of 6.5% (SCAG 2019b). In 2017, jobs in unincorporated Los Angeles County represented approximately 5.6% of total Los Angeles County employment.

SCAG forecasted the number of jobs in unincorporated Los Angeles County to reach 320,100 in 2045. Table 4.14-4, Summary of Job Estimates and Forecasts in Los Angeles County, summarizes job numbers in unincorporated Los Angeles County.

Table 4.14-4. Summary of Job Estimates and Forecasts in Los Angeles County

	2017 Jobs	2007 Jobs	Percentage Change	2045 Forecasted Jobs
Unincorporated Los Angeles County	269,902	245,966	9.7	320,100

Sources: SCAG 2019a, 2019b, 2020.

Jobs-Housing Balance

Jobs-housing balance is achieved by increasing opportunities for people to work and live in close proximity. The ratio is expressed as the number of jobs divided by the number of housing units. SCAG uses the jobs-housing balance as a general tool for analyzing where people work, where they live, and how efficiently they can travel between the two. Based on the data presented above, the jobs-housing balance for unincorporated Los Angeles County would divide the reported 2017 jobs number (269,902) by the reported 2018 housing stock number (294,730). In unincorporated Los Angeles County, the existing jobs-housing balance averages 0.91, which is considered housing-rich. Unincorporated Los Angeles County has a lower jobs-housing balance average than Los Angeles County as a whole, which has an average job-housing balance of 1.43.

The areas generally located in the rezoning program have a jobs-housing balance that ranges between 0.60 and 1.84 (see Table 4.14-5, Buildout Projections by the Seven Planning Areas affected by the Proposed Project). Per the Los Angeles County General Plan, one of the most cited studies of jobs-housing balance recommends 1.3 to 1.7 as the range for an ideal jobs-housing balance (County of Los Angeles 2014, page 5.13-3).

Table 4.14-5. Buildout Projections by the Seven Planning Areas Affected by the Proposed Project's Rezoning Program

	General Plan Buildout (Post 2035)			
Planning Area	*Housing Units*	*Population*	*Employment*	*Jobs/Housing-Ratio*
East San Gabriel Valley	70,097	255,952	53,231	0.76
Gateway	34,446	120,358	36,820	1.07
Metro	92,158	301,073	100,906	1.09
San Fernando Valley	13,464	47,060	24,741	1.84

Table 4.14-5. Buildout Projections by the Seven Planning Areas Affected by the Proposed Project's Rezoning Program

Planning Area	General Plan Buildout (Post 2035)			
	Housing Units	*Population*	*Employment*	*Jobs/Housing-Ratio*
South Bay	25,929	86,392	24,530	0.94
West San Gabriel	43,877	156,685	26,539	0.60
Westside	17,316	55,033	14,592	0.84
Total	**297,287**	**1,022,553**	**281,359**	**(*average*) 1.02**

Source: County of Los Angeles 2014, page 5.13-3

4.14.2 Relevant Plans, Policies, and Ordinances

Federal

There are no applicable federal policies or regulations related to housing and population.

State

Government Code Section 65580 et seq.

Government Code Article 10.6. Housing Elements, Section 65580, declares that the availability of housing is of vital statewide importance, and the early attainment of decent housing and a suitable living environment for every Californian, including farmworkers, is a priority of the highest order. Governments and private sectors should work cooperatively to expand housing opportunities and accommodate housing needs in California. Furthermore, designating and maintaining a supply of land and adequate sites suitable, feasible, and available for the development of housing sufficient to meet the locality's housing need for all income levels is essential to achieving the state's housing goals and the purposes of this article.

Regional

Regional Growth Management Policies: Southern California Association of Governments

SCAG is recognized by the state and federal governments as the regional planning agency for the six-county south coast region that includes Los Angeles County. In 2004, SCAG adopted a voluntary regional growth strategy known as the Compass Blueprint. SCAG's Compass Blueprint is an advisory or voluntary plan that promotes mixed-use development, better access to jobs, conservation of open space, public/private partnerships, and user-fee infrastructure financing, improving the capacity and efficiency of movement of goods, reducing vehicle miles traveled, improving air quality, improving housing availability and affordability, renovating urban cores, and creating over 500,000 high–paying jobs.

Regional Transportation Plan/Sustainable Communities Strategy

In 2020, the Regional Council of SCAG adopted the 2020–2045 RTP/SCS to increase mobility for the region's residents and visitors (SCAG 2020). Furthermore, the 2020–2045 RTP/SCS commits to reducing emissions from transportation sources to comply with SB 375, improving public health, and meeting the National Ambient Air Quality Standards. The SCS envisions combining transportation and land use elements in order to achieve

emissions reduction targets set by the California Air Resources Board (SCAG 2020). The 2020–2045 RTP/SCS includes population, jobs, and housing forecasts up to 2045.

Regional Housing Needs Allocation

The SCAG Regional Council adopted the Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy) on September 3, 2020.

As part of Connect SoCal, SCAG assigns a number of housing units that the County is required to plan for in the eight-year Housing Element cycle. That number of units is called the Regional Housing Needs Allocation (RHNA), and it is broken down by income category, ensuring that all economic groups are accommodated. Table 3-1 in Chapter 3, Project Description, provides the RHNA allocation required for unincorporated County by household income group.

The County's existing inventory of residential sites is insufficient to accommodate the 90,052 units in its RHNA for 2021-2029. As such, as part of the Proposed Project, the County includes a rezoning to accommodate its RHNA gap.

The 6th Cycle RHNA allocation plans for a total housing production need of 90,052 units for the unincorporated Los Angeles County (SCAG 2021a). Table 4.14-6, SCAG Regional Housing Needs Allocations, details the allocated housing needs assessment for the unincorporated Los Angeles County and Los Angeles County as a whole.

Table 4.14-6. SCAG Regional Housing Needs Allocations

Area	Number of Very Low Income Units	Number of Low Income Units	Number of Moderate Income Units	Number Above Moderate Income Units	Total
Unincorporated Los Angeles County	25,583	13,662	14,152	36,452	89,849
Los Angeles County Total	**217,492**	**123,141**	**131,523**	**340,916**	**813,071**

Source: SCAG 2021a.

Local

Los Angeles County Housing Element

The Housing Element is one of seven mandatory elements of the County's General Plan. The Housing Element provides an overview of demographics, household, housing stock, economic, and regulatory factors affecting housing development and affordability within the Project Area. The Housing Element sets forth a series of goals and implementing policies to address a variety of housing issues, including identifying vacant and underutilized sites to accommodate the County's RHNA. The RHNA is a state-mandated number of units by income category for which a jurisdiction must identify adequate development potential. The Proposed Project is an update to the Housing Element for the 6th Cycle period 2021-2029.

4.14.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment with respect to population and housing if the project would:

P-1: Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

P-2: Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere or displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

4.14.4 Methodology

The substantial population growth analysis considers whether the Proposed Project would result in a significant population increase, which would be a population increase that surpasses the forecasted population growth for the region. Increases in housing units will support population growth in the region, and while the Proposed Project would not directly lead to the construction of housing units, it would include a rezoning program to allow for more housing units in select areas. This section includes a review of the forecasted population increase by 2045, the estimated population increase resulting from the Proposed Project, and existing population in unincorporated Los Angeles County. Additionally, an analysis if whether the Proposed Project would displace population would be done by analyzing potential land use changes, such as residential to non-residential. If the Proposed Project has the potential to result in significant unplanned population growth and/or the displacing of populations therefore necessitating the construction new housing elsewhere, mitigation measures can be provided to reduce potential impacts.

4.14.5 Environmental Impacts

Threshold P-1 Would the Project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The Proposed Project consists of a policy document update, and adoption of Proposed Project alone would not produce environmental impacts. The Proposed Project consists of updating the General Plan Housing Element, and no actual development is proposed as part of the update. Implementation of the programs contained in the updated document would accommodate development required to meet the County's 2021–2029 RHNA allocation. Under the RHNA allocation, the unincorporated County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It has been determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its RHNA gap; refer to Chapter 3 for further details. While the Proposed Project consists of a policy document update, which is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

While the Proposed Project does not propose development at this time, the Proposed Project would facilitate additional population growth through the rezoning program. However, the Housing Element Update does not require new construction or expansion of existing roadway infrastructure (e.g., new roads), and the County's mapping application used to identify general areas of the rezoning program took into account accessibility to existing infrastructure and utilities. Therefore, the Proposed Project is not expected to result in extension of roads or infrastructure that would be sized to accommodate additional population growth beyond the growth disclosed herein.

The population growth is also consistent with SCAG's planned growth for the unincorporated Los Angeles County region and consistent with the planned growth for Los Angeles County as a whole. The 6th Cycle Regional Housing Needs Allocation allocates a housing production need for unincorporated Los Angeles County to meet its housing needs. As indicated in Table 4.14-6, unincorporated Los Angeles County needs a total housing production of 90,052 housing units over the 6th Cycle period (2021—2029).

As discussed in Section 4.14-1, Environmental Setting, unincorporated Los Angeles County has a person per housing unit ratio of approximately 3.5. Based on these ratios, implementation of the Proposed Project would have the potential to increase the population in unincorporated Los Angeles County by an estimated 94,500 persons. The total of the 2018 reported population and the estimated additional population would be approximately 1,151,622 persons. However, SCAG's Connect SoCal, the 2020–2045 RTP/SCS forecasted the population in the unincorporated Los Angeles County in year 2045 to be 1,258,000 persons. Therefore the anticipated population increase that would be allowed for by the rezoning program would be aligned with the SCAG 2020–2045 RTP/SCS forecasts and the Proposed Project would not result in any substantial unplanned growth in the region. Additionally, the anticipated housing unit increase that would be allowed for through the rezoning program would be aligned with housing unit increase expectations from SCAG's 6th Cycle RHNA. A summary of the estimates and forecasts are below in Table 4.14-7, Estimated Population and Housing Increase with the Proposed Project.

Table 4.14-7. Estimated Population and Housing Increase with the Proposed Project

Jurisdiction	Average Persons per Housing Unit	Proposed Estimated Increase in Housing Units	Estimated Population Increase	2018 Population + Estimated Population Increase	Forecasted Population by 2045	2018 Housing Units + Estimated Increase in Housing Units	Forecasted Housing Units by 2045
Unincorporated Los Angeles County	3.5	27,000	94,500	1,151,662	1,258,000	294,730	419,300

Source: SCAG 2019a; SCAG 2020

Implementation of the rezoning program would not exceed SCAGs population and housing forecasts within the County and the Proposed Project would be aligned with the dwelling units and increased population as projected by SCAG. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these forecasts, would not provide any goals, policies, or programs that would significantly increase the dwelling unit and populations project by SCAG. Therefore, the Proposed Project would not induce unplanned substantial population growth to the area and impacts would be **less than significant**.

Threshold P-2 **Would the Project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere or displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. The rezoning program would not displace a substantial number of existing people or housing; rather, it would facilitate an increase in housing supply, as discussed above. Therefore, implementation of the Proposed Project would have a **less-than-significant impact**.

4.14.6 Cumulative Impacts

The cumulative projects in the Los Angeles County region would have the potential to result in a significant cumulative impact if they would, in combination, directly or indirectly induce substantial population growth. The planning documents, such as general plans prepared by cities, would be subject to regional plans such as SCAG's Regional Comprehensive Plan and the RTP/SCS, similar to the Proposed Project. The general plans of adjacent jurisdictions have been prepared to be consistent with the population forecast of the regional planning documents. Thus, these projects would accommodate anticipated future growth, not induce new growth, similar to the Proposed Project. The Proposed Project would be adequate to accommodate SCAG's projected growth through 2045, therefore, it is unlikely that the Proposed Project would induce population growth in surrounding jurisdictions.

Since cumulative projects would be required to comply with applicable land use plans governing regional growth, a significant cumulative impact would not occur. Therefore, the Proposed Project, in combination with other cumulative growth in Los Angeles County, would not contribute to a significant cumulative population and housing impact. Impacts would be **less than significant**.

4.14.7 Mitigation Measures

No mitigation measures are required.

4.14.8 Level of Significance After Mitigation

No significant unavoidable adverse impacts relating to population and housing have been identified.

4.14.9 References

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4.15 Public Services

This section addresses the potential impacts of the Proposed Los Angeles County Housing Element Update (Proposed Project) on public services including fire protection and emergency services, law enforcement, school services, and library services. Park services are addressed in Section 4.16, Recreation. Public and private utilities and service systems, including water, wastewater, and solid waste services and systems, are addressed in Section 4.19, Utilities and Service Systems.

4.15.1 Environmental Setting

This section discusses the existing environmental setting relative to public services. As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analysis or studies.

Public services and facilities in Los Angeles County provide for drinking water, sanitary sewers, solid waste, utilities, early care and education, and libraries. Major issues identified with respect to the planning and maintenance of services and utilities in the unincorporated areas include (1) the adequate collection of development fees and (2) the need for a comprehensive system to effectively track planned development and corresponding infrastructure and service needs.

Fire Protection and Emergency Services

The Los Angeles County Fire Department (LACoFD) provides fire, safety, and emergency medical services to the unincorporated areas in the County and to 59 incorporated cities (LACoFD 2019). LACoFD serves approximately 4.1 million residents and 1.25 million housing units across its approximately 2,300-square-mile service area (LACoFD 2019, 2020).

The LACoFD operates 176 fire stations, 251 engine companies, 73 paramedic units, and 34 truck companies within 22 battalions within 9 divisions across the (LACoFD 2021). The LACoFD had a total of 5,901 personnel in 2019, as reported in the LACoFD's 2019 Statistical Summary (LACoFD 2019). There are three major geographic regions in the LACoFD service area (the North Region, Central Region, and East Region), which are divided into 9 divisions and 22 battalions (LACoFD 2020). The East Region consists of Divisions II, IV, VIII, and IX. The North Region consists of Divisions III and V. The Central Region consists of Divisions I, VI, and VII.

In addition to fire suppression, the LACoFD also provides fire prevention services, emergency medical services, hazardous materials services, and urban search and rescue services. The LACoFD operates multiple divisions including Air and Wildland, Fire Prevention, Forestry, Health Hazardous Materials, and Lifeguard divisions. The LACoFD is a special district and receives most of its revenue from the unincorporated areas from a portion of the ad valorem property tax paid by the owners of all taxable properties. Major issues associated with fire hazards include (1) the increase in the frequency and duration of wild fires and the increasing cost and danger to residents, property, and the environment and (2) urban fire considerations due to the intensity of development, the number of potentially affected populations, and the difficulties of containment.

LACoFD uses three wildland fire hazard designations: Moderate Fire Hazard, High Fire Hazard, and Very High Fire Hazard. Areas in the County that are not designated within a fire hazard zone are not considered to be subject to wildland fire hazards (County of Los Angeles 2014). Areas in the County that are designated within a fire hazard zone are shown in Figure 4.20-1, Fire Hazard Severity Zones. Wildfire hazards are further discussed in Section 4.20, Wildfire, of this Environmental Impact Report (EIR).

Under a mutual aid pact covering federal forestlands, responsibility for non-structure fires within the National Forest belongs to the U.S. Forest Service (USFS), while LACoFD has the primary mission of suppressing structure fires. Although these responsibilities are stated in the mutual aid pact, each agency fights both wild and structure fires in actual fire emergencies. In addition, an automatic aid agreement, which is an agreement that allows the closest municipality to provide an initial response to fires that may occur in a part of another municipality, exists between USFS and LACoFD. Firefighting, however, is not the primary function of USFS, and the agency is on duty at only certain times of the day. As a result, LACoFD would be called upon to provide fire service if fires involving structures or brushlands near the National Forest boundary occur after USFS's hours of service.

The LACoFD has several standards to maintain adequate fire protection within their service area. As listed in the Los Angeles County General Plan EIR, the standards for response times are as follows (County of Los Angeles 2014):

- 5 minutes or less for response times for urban areas
- 8 minutes or less for suburban areas
- 12 minutes or less for rural areas

The location of fire department battalions and stations relative to the Project Area can be found in Figure 4.15-1, Fire Department Battalions and Stations. Due to the urban and highly developed nature of the areas that are part of the rezoning program, there are several fire stations within proximity to said areas. The rezoning program areas are located across LACFD Divisions I, II, III, IV, V, VII, VIII, and IX (see Figure 4.15-1).

Law Enforcement

The Los Angeles County Sheriff's Department (LASD) provides general-service law enforcement to unincorporated areas of the County as well as cities within the County that have contracted with the agency. The LASD's service area totals approximately 4,084 square miles and serves a population of approximately 10 million people (LASD 2021). The LASD employs approximately 18,000 employees (LASD 2021).

According to the Los Angeles County 2035 General Plan (General Plan), the LASD is divided into 10 divisions, including the Office of Homeland Security, which focuses on potential threats related to local homeland security issues, such as terrorism or bioterrorism (County of Los Angeles 2015). The LASD provides law enforcement services to 90 unincorporated communities and 40 contract cities. In addition, LASD provides law enforcement services to 9 community colleges, Metro, and 48 superior courts. In addition to proactive enforcement of criminal laws, the LASD also provides investigative, traffic enforcement, accident investigation, and community education functions. The Field Operation Regions are centered on 25 patrol stations that are dispersed throughout the County. Los Angeles also maintains mutual aid agreements across jurisdictional boundaries for emergency response needs that exceed local resources.

According to the Los Angeles County General Plan EIR, LASD staff has indicated that an officer-to-population ratio of one officer to every 1,000 residents provides the desired level of service for its service area (County of Los Angeles 2014). This ideal standard typically is applied in EIRs for proposed projects that are served by LASD as a means to develop a rough assessment of the project's impacts on law enforcement services.

Additionally, the LASD also has established an optimal service response time of 10 minutes or less for emergency response incidents (a crime that is presently occurring and is a life or death situation), 20 minutes or less for priority response incidents (a crime or incident that is currently occurring but which is not a life or death situation), and 60 minutes or less for routine response incidents (a crime that has already occurred and is not a life or death situation) (County of Los Angeles 2014). These response times represent the range of time required to handle a service call, which is measured from the time a call is received until the time a patrol car arrives at the incident scene. Response time is variable, particularly because the nearest responding patrol car may be located anywhere within the station's patrol area and may not necessarily respond directly from the station itself.

The location of LASD stations relative to the areas affected by the rezoning program can be seen in Figure 4.15-2, Sheriff Departments. Due to the urban and highly developed nature of the areas affected by the rezoning program, there are sheriff departments within proximity to said areas.

School Services

The County's role in developing and managing educational facilities and programs is limited. However, the Los Angeles County Office of Education (COE), which is the country's largest regional education agency, serves as an intermediary between the local school districts and the California Department of Education. The COE is guided by a seven-member County Board of Education, which is appointed by the Board of Supervisors. The COE provides a vision statement and strategic opportunities for educational facility development to coordinate the assessment of facility needs and the construction of schools that fall to individual school districts. Another role that the County plays in coordinating public school facilities is through the County subdivision approval process, in which developers are required to assess the need for, and in some cases provide, land for the construction of public schools within their development. Development impact fees, based on the size of a development, are distributed to the appropriate school district for the construction of school facilities before the County issues any building permits. Issues associated with educational facilities involve (1) the effective coordination between land use planning and school facilities planning—providing the benefit of joint-use agreements to benefit communities and create operational and economic efficiencies and (2) the shortage of early care and education facilities in the unincorporated areas.

According to the COE, the County has 48 unified school districts, 27 elementary school districts, and 5 high school districts (COE 2021). There are 1,840 schools total, 372 authorized charter schools, and 73,737 teachers. The largest school district is Los Angeles Unified School District, with approximately 440,365 students enrolled (COE 2021). The total K through 12th grade enrollment in the County is approximately 1.4 million students (COE 2021).

There are two types of school districts. The first type is a split district—a school district that separates the elementary school district from the middle and high school district. The second type, a unified school district, combines all three types of schools. Figure 4.15-3A, Unified School District Boundaries, shows the unified school district zones relative to the Project Area. Figure 4.15-3B, High School & Middle School District Boundaries, shows the middle and high school split districts relative to the Project Area. Figure 4.15-3C, Elementary School District Boundaries, shows the elementary school split districts relative to the Project Area.

Within 0.25 miles of the general areas of the rezoning program are 27 elementary schools across 7 school districts, 6 middle schools across 4 school districts, and 11 high schools across 3 school districts. A list of the school names and their associated districts that fall within 0.25 miles of the areas affected by the rezoning program are listed below in Table 4.15-1.

Table 4.15-1. Schools Located within 0.25 Miles of the Rezoning Program Areas

Number	School District Name	School Name	Address	City
Elementary School				
1	Los Angeles Unified School District (LAUSD)	Wisdom Elementary School	1125 E. 74th Street	Los Angeles
2	LAUSD	Danny J. Bakewell, Sr., Primary Center	8621 South Baring Cross Street	Los Angeles
3	LAUSD	Washington Primary Center	860 West 112th Street	Los Angeles
4	LAUSD	Dr. Lawrence H. Moore Math, Science, Technology Academy	1321 East 61st Street	Los Angeles
5	LAUSD	Bandini Street Elementary School	425 North Bandini Street	San Pedro
6	LAUSD	Fifty-Fourth Street Elementary School	5501 South Eileen Avenue	Los Angeles
7	LAUSD	Florence Avenue Elementary School	7211 Bell Avenue	Los Angeles
8	LAUSD	Fourth Street Elementary School	420 South Amalia Avenue	Los Angeles
9	LAUSD	Miramonte Elementary School	1400 East 68th Street	Los Angeles
10	LAUSD	Ninety-Fifth Street Elementary School	1109 West 96th Street	Los Angeles
11	LAUSD	One Hundred Twenty-Second Street Elementary School	405 East 122nd Street	Los Angeles
12	LAUSD	Parmelee Avenue Elementary School	1338 East 76th Place	Los Angeles
13	LAUSD	Playa del Rey Elementary School	12221 Juniette Street	Culver City
14	LAUSD	Russell Elementary School	1263 East Firestone Boulevard	Los Angeles
15	LAUSD	Seventh Street Elementary School	1570 West Seventh Street	San Pedro
16	LAUSD	Woodcrest Elementary School	1151 West 109th Street	Los Angeles
17	LAUSD	Walnut Park Elementary School	2642 Olive Street	Huntington Park
18	Montebello Unified School District	Joseph A. Gascon Elementary School	630 South Leonard Street	Los Angeles
19	Montebello Unified School District	Montebello Park Elementary School	6300 Northside Drive	Los Angeles
20	Montebello Unified School District	Potrero Heights Elementary School	8026 East Hill Drive	South San Gabriel
21	Pasadena Unified School District	Altadena Elementary School	743 East Calaveras Street	Altadena

Table 4.15-1. Schools Located within 0.25 Miles of the Rezoning Program Areas

Number	School District Name	School Name	Address	City
22	Pasadena Unified School District	Daniel Webster	2101 East Washington Boulevard	Pasadena
23	Hawthorne Unified School District	Ramona	4617 West 136th Street	Hawthorne
24	Inglewood Unified School District	Parent (Frank D.) Elementary School	5354 West 64th Street	Inglewood
25	Lennox Unified School District	Moffett Elementary School	11050 Larch Avenue	Lennox
26	Compton Unified School District	Kelly Elementary School	2320 East Alondra Boulevard	Compton
27	Rowland Unified School District	Telesis Academy of Science & Math	2800 East Hollingworth Street	West Covina
Middle School				
1	LAUSD	Walnut Park Middle School A (School of Social Justice and Service Learning)	7500 Marbrisa Avenue	Walnut Park
2	LAUSD	Walnut Park Middle School B (Science, Technology, Engineering and Mathematics Academy)	7500 Marbrisa Avenue	Walnut Park
3	LAUSD	Thomas A. Edison Middle School	6500 Hooper Avenue	Los Angeles
4	Montebello Unified School District	Eastmont Intermediate	400 North Bradshawe Avenue	Montebello
5	Pasadena Unified School District	Charles W. Eliot Middle School	2184 North Lake Avenue	Altadena
6	Compton Unified School District	Vanguard Learning Center	13305 South San Pedro Street	Los Angeles
High School				
1	LAUSD	Public Service Community at Diego Rivera Learning Complex	6100 South Central Avenue	Los Angeles
2	LAUSD	Communication and Technology at Diego Rivera Learning Complex	6100 South Central Avenue	Los Angeles
3	LAUSD	Green Design at Diego Rivera Learning Complex	6100 South Central Avenue	Los Angeles
4	LAUSD	Performing Arts Community at Diego Rivera Learning Complex	6100 South Central Avenue	Los Angeles
5	LAUSD	Monterey Continuation	466 South Fraser Street	Los Angeles
6	LAUSD	James A. Garfield Senior High School	5101 East Sixth Street	Los Angeles
7	LAUSD	George Washington Preparatory High School	10860 South Denker Avenue	Los Angeles
8	LAUSD	Youth Opportunities Unlimited	915 West Manchester Avenue	Los Angeles
9	LAUSD	Ernest P. Willenberg Special Education Center	308 Weymouth Avenue	San Pedro

Table 4.15-1. Schools Located within 0.25 Miles of the Rezoning Program Areas

Number	School District Name	School Name	Address	City
10	Centinela Valley Union High School District	Hawthorne High School	4859 West El Segundo Boulevard	Hawthorne
11	Rowland Unified School District	Nogales High School	401 South Nogales Street	La Puente

Libraries

The Los Angeles County Library (LACL) system was established in 1912 and provides library services to over 3.4 million residents living in unincorporated Los Angeles County and to residents of 44 cities in Los Angeles County (County of Los Angeles 2021). The LACL has a service area of over 3,000 square miles.

The LACL system is a special fund County department operating under the direction of the Board of Supervisors. The County applies a library facilities mitigation fee to new residential developments in the unincorporated areas. This fee is intended to mitigate the significant adverse impacts of increased residential development on the LACL system.

The majority of the County's 85 libraries are undersized and understocked to meet the service needs of current and projected populations served by the LACL system. A study conducted by the LACL in April 2001 determined that many of the County's libraries do not meet basic facility and service planning guidelines (County of Los Angeles 2015). In addition, the study determined that by 2020, 77% of existing libraries will not meet the Library's current service level planning guideline of 2.75 items (books and other library materials) per capita. Many existing County libraries are located in areas with little or no new residential development, and therefore, there are no mitigation fees or other reliable sources of capital funding available to replace or expand them (County of Los Angeles 2015).

Parks

The County owns and operates parks and recreational facilities in both unincorporated areas and cities in Los Angeles County. The County's park system, including facilities that are owned, operated, and maintained by the County, totals approximately 70,000 acres (County of Los Angeles 2015). The system includes local and regional parks, natural areas, special use facilities, and multi-use trails (County of Los Angeles 2016). These facilities serve the local needs of communities in the unincorporated areas and regional needs countywide. The County Department of Parks and Recreation offers a wide variety of recreation programs to meet the diverse needs of residents, ranging from organized sports, tournaments, and scheduled classes, to special events. The park system also provides opportunities for more individualized, casual leisure activities such as family picnics and walking. Major goals associated with parks and recreation include the need to (1) plan for a diversity of needs and users, (2) acquire and develop additional parkland in underserved areas, (3) improve and expand the multi-use trail system, (4) protect important historical and natural resources, and (5) design and implement sustainable practices.

A detailed discussion of parks and recreation is included in Section 4.16.

4.15.2 Relevant Plans, Policies, and Ordinances

Federal

The following federal regulations pertaining to public services would apply to the Project.

National Fire Protection Association

The National Fire Protection Association recommends that fire departments respond to fire calls within 6 minutes of receiving the request for assistance 90% of the time. These time recommendations are based on the demands created by a structural fire. It is crucial to attempt to arrive and intervene at a fire scene prior to the fire spreading beyond the room of origin. Total structural destruction typically starts within 8 to 10 minutes after ignition. Response time is generally defined as 1 minute to receive and dispatch the call, 1 minute to prepare to respond to the fire station or field and 4 minutes (or less) travel time.

State

The following state regulations pertaining to public services would apply to the Project.

California Health and Safety Code (Section 13000 et seq.)

State fire regulations are set forth in Section 13000 et seq. of the California Health and Safety Code, which include regulations concerning building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and child care facility standards, and fire suppression training. The State Fire Marshal enforces these regulations and building standards in all state-owned buildings, state-occupied buildings, and state institutions throughout California.

California Code of Regulations Title 24, Part 2 and Part 9

Part 2 of Title 24 of the California Code of Regulations refers to the California Building Code, which contains complete regulations and general construction building standards of state adopting agencies, including administrative, fire and life safety, and field inspection provisions. Part 2 was updated in 2019 to reflect changes in the base document from the Uniform Building Code to the International Building Code. Part 9 refers to the California Fire Code, which contains fire-safety-related building standards referenced in other parts of Title 24. This code was revised in January 2019 with a change in the base model/consensus code from the Uniform Fire Code series to the International Fire Code.

California Public Resources Code, Section 4201-4204

This section of the California Public Resources Code was amended in 1982 to require the California Department of Forestry to classify all State Responsibility Areas (SRAs) into fire hazard severity zones. The purpose of this code is to provide classification of lands within SRAs in accordance with the severity of fire hazard present for the purpose of identifying measures to be used to retard the rate of spreading and to reduce the potential intensity of uncontrolled fires that threaten to destroy resources, life, or property.

State Responsibility Area Fire Safe Regulations (Title 14 Natural Resources, Department of Forestry and Fire Protection)

These regulations constitute the basic wildland fire protection standards of the California Board of Forestry. They have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction, and development in SRAs. Title 14 mandates that the future design and construction of structures, subdivisions, and developments in an SRA provide for basic emergency access and perimeter wildfire protection measures.

California Government Code 66000

According to California Government Code 66000, a qualified agency, such as a local school district, may impose fees on developers to compensate for the impact that a project will have on existing facilities or services. The State of California legislature passed Senate Bill (SB) 50 in 1998, which inserted new language into the Government Code (Sections 65995.5-65995.7), which authorized school districts to impose fees on developers of new residential construction in excess of mitigation fees authorized by Government Code 66000. School districts must meet a list of specific criteria, including the completion and annual update of a School Facility Needs Analysis, in order to be legally able to impose the additional fees.

California Government Code Section 65995

California Government Code Section 65995 (the Leroy F. Green School Facilities Act of 1998) set base limits and additional provisions for school districts to levy fees to help fund expanded facilities to house new pupils that may be generation by development projects. Sections 65996(a) and (b) state that such fees collected by school districts provide full and complete school facilities mitigation under the California Environmental Quality Act (CEQA). These fees may be adjusted by the district over time as conditions change.

Government Code Section 66477

The Quimby Act (Government Code Section 66477), enacted in 1975, creates a framework that allows cities and counties to provide parks for growing communities. The Quimby Act authorizes jurisdictions to adopt ordinances that require parkland dedication or payment of in-lieu fees as a condition of approval of residential subdivisions. The Quimby Act also specifies acceptable uses and expenditures of such funds, such as allowing developers to set aside land, donate conservation easements, or pay direct fees for park improvements.

2019 California Fire Code

The California Fire Code (24 CCR Part 9) establishes regulations to safeguard life and property against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout the State of California. The Fire Code includes regulations regarding fire-resistance-rate construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, means of egress fire safety during construction and demolition, and wildland-urban interface areas.

Local

The following local/regional regulations pertaining to public services would apply to the Project.

Los Angeles County 2035 General Plan

The Safety Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal S 4 Effective County emergency response management capabilities.

- **Policy S 4.1** Ensure that residents are protected from the public health consequences of natural or man-made disasters through increased readiness and response capabilities, risk communication, and the dissemination of public information.
- **Policy S 4.2** Support County emergency providers in reaching their response time goals.
- **Policy S 4.3** Coordinate with other County and public agencies, such as transportation agencies, and health care providers on emergency planning and response activities, and evacuation planning.
- **Policy S 4.4** Encourage the improvement of hazard prediction and early warning capabilities.
- **Policy S 4.5** Ensure that there are adequate resources, such as sheriff and fire services, for emergency response.
- **Policy S 4.6** Ensure that essential public facilities are maintained during natural disasters, such as flooding.

The Public Services and Facilities Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal PS/F 1 A coordinated, reliable, and equitable network of public facilities that preserves resources, ensures public health and safety, and keeps pace with planned development.

- **Policy PS/F 1.1** Discourage development in areas without adequate public services and facilities.
- **Policy PS/F 1.2** Ensure that adequate services and facilities are provided in conjunction with development through phasing or other mechanisms.
- **Policy PS/F 1.3** Ensure coordinated service provision through collaboration between County departments and service providers.
- **Policy PS/F 1.4** Ensure the adequate maintenance of infrastructure.
- **Policy PS/F 1.5** Focus infrastructure investment, maintenance and expansion efforts where the General Plan encourages development.
- **Policy PS/F 1.6** Support multi-faceted public facility expansion efforts, such as substations, mobile units, and satellite offices.
- **Policy PS/F 1.7** Consider resource preservation in the planning of public facilities.

Goal PS/F 7 A County with adequate educational facilities.

Policy PS/F 7.1 Encourage the joint-use of school sites for community activities and other appropriate uses.

Policy PS/F 7.2 Proactively work with school facilities and education providers to coordinate land use and facilities planning.

Policy PS/F 7.3 Encourage adequate facilities for early care and education.

Goal PS/F 8 A comprehensive public library system.

Policy PS/F 8.1 Ensure a desired level of library service through coordinated land use and facilities planning.

Policy PS/F 8.2 Support library mitigation fees that adequately address the impacts of new development.

Developer Fee for the Consolidated Fire Protection District of Los Angeles County

In response to increasing demands for new facilities, equipment, and staffing created by new development, the County has implemented a Developer Fee Program to fund the purchase of fire station sites, the construction of new stations, and the funding of certain capital equipment in the high-growth areas of the County (County of Los Angeles 2020a). The developer fees, which are specified in the Developer Fee Detailed Fire Station Plan (County of Los Angeles 2020a), are paid to the Consolidated Fire Protection District of Los Angeles County (Fire District). This Fire District developer fee is adjusted annually and is charged on all new development, including residential buildings, new detached residential accessory structures, new commercial buildings, and new additions over 2,000 square feet prior to building permit issuance.

Los Angeles County Title 22 Planning and Zoning Codes – Mitigation Fees

Section 22.246.060 Library Facilities Mitigation Fee

According to the County's General Plan, the library facilities mitigation fee is based on the estimated cost of providing the projected library facility needs in each library planning area (County of Los Angeles 2015). The mitigation fee shall provide funds for library facilities related to a residential development project. In Chapter 22.14, Definitions, of Title 22, the seven library planning areas are identified as the following (County of Los Angeles 2020b):

- Planning Area 1: Santa Clarita Valley
- Planning Area 2: Antelope Valley
- Planning Area 3: West San Gabriel Valley
- Planning Area 4: East San Gabriel Valley
- Planning Area 5: Southeast
- Planning Area 6: Southwest
- Planning Area 7: Santa Monica Mountains

Section 22.246.060, Library Facilities Mitigation Fee, states that there shall be a uniform fee within each library planning area based on the estimated cost of providing the projected library facility needs in each library planning area, as identified in Table 4.15-2. The fee amounts are reviewed annually by the County Librarian, in consultation with the Auditor-Controller.

Table 4.15-2. Library Facilities Mitigation Fee Per Dwelling Unit

Planning Area	Fee per Dwelling Unit
Planning Area 1: Santa Clarita Valley	$969.00
Planning Area 2: Antelope Valley	$939.00
Planning Area 3: West San Gabriel Valley	$980.00
Planning Area 4: East San Gabriel Valley	$967.00
Planning Area 5: Southeast	$970.00
Planning Area 6: Southwest	$977.00
Planning Area 7: Santa Monica Mountains	$972.00

Source: County of Los Angeles 2020c.

The County Librarian may accept a substitute consideration in lieu of the library facilities mitigation fee, provided that the County Library finds the proposed substitute consideration (a) has a value equal to or greater than the applicable library facilities mitigation fee otherwise due, (b) is in a form acceptable to the County Librarian, and (c) is within the scope of the applicable library facilities project (County of Los Angeles 2020c).

Section 22.246.070 Law Enforcement Facilities Fee

According to Chapter 22.14, Definitions, of Los Angeles County's Title 22 Planning and Zoning Code, law enforcement fees provide funds for law enforcement facilities related to residential, commercial, office, and/or industrial development projects. The fee amount is determined based on which law enforcement facilities fee zone the proposed project is located in. The three law enforcement facilities fee zones include the following (County of Los Angeles 2020b):

- Zone 1: Santa Clarita Zone
- Zone 2: Newhall Zone
- Zone 3: Gorman Zone.

Section 22.246.070, Law Enforcement Facilities Fee, states that there shall be a uniform fee within each law enforcement facilities fee zone based on the estimated cost of providing the projected law enforcement facility needs in each zone, as identified in Table 4.15-3. The fee amounts are reviewed annually by the County Sheriff, in consultation with the Auditor-Controller.

Table 4.15-3. Law Enforcement Facilities Mitigation Fee

Zones	Fee Amount
Zone 1: Santa Clarita Zone	
Per single-family dwelling unit	$467.00
Per multi-family dwelling unit	$337.00
Per 1,000-square foot commercial unit	$69.00

Table 4.15-3. Law Enforcement Facilities Mitigation Fee

Zones	Fee Amount
Or, per square foot of commercial space	$0.07
Per 1,000-square foot office unit	$87.00
Or, per square-foot of office space	$0.09
Per 1,000-square-foot of industrial unit	$35.00
Or, per square-foot of industrial space	$0.03
Zone 2: Newhall Zone	
Per single-family dwelling unit	$863.00
Per multi-family dwelling unit	$652.00
Per 1,000-square-foot of commercial unit	$129.00
Or, per square-foot of commercial space	$0.13
Per 1,000-square-foot office unit	$161.00
Or, per square-foot of office space	$0.16
Per 1,000-square-foot industrial unit	$64.00
Or, per square-foot of industrial space	$0.06
Zone 3: Gorman Zone	
Per single-family dwelling unit	$1,285.00
Per multi-family dwelling unit	$971.00
Per 1,000-square foot commercial unit	$192.00
Or, per square-foot of commercial space	$0.19
Per 1,000-square-foot office unit	$240.00
Or, per square-foot of office space	$0.24
Per 1,000-square-foot industrial unit	$96.00
Or, per square-foot of industrial space	$0.10

Source: County of Los Angeles 2020c.

School District Developer Fees

As detailed in Table 4.15-1, there are nine school districts that could potentially be burdened by the additional students the proposed rezone program could generate. The Proposed Project does not propose any development, but the rezone program would allow for increased housing density in already urban and highly developed areas of unincorporated Los Angeles County. Most unified school districts have developer fees, which would help to offset potential burdens on the school district resulting from increased population.

The nine school districts potentially affected include Los Angeles Unified, Montebello Unified, Pasadena Unified, Hawthorne Unified, Inglewood Unified, Lennox Unified, Compton Unified, Rowland Unified, and Centinella Valley Union High School District.

Los Angeles Unified School District has developer fee collection rates for residential and commercial/industrial developments that were updated per their 2018 Developer Fee Justification Study (LAUSD 2018). Compton Unified School District collects developer fees for residential and commercial/industrial developments, and the fees were last updated on March 10, 2020 (CUSD 2020). Districts that do not collect developer fees include Montebello Unified, Pasadena Unified, Hawthorne Unified, Rowland Unified, and Centinela Valley Union High School District.

4.15.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment with respect to public services if the project would:

FP-1: Result in a substantial adverse physical impact associated with the provisions 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 fire protection services.

4.15.4 Methodology

Analysis for public services varies based on the type of service. For fire protection and emergency services, the Proposed Project's estimated increase in population in the Project Area and its potential effects on the fire department's ability to adequately service its service area are taken into account. With regards to law enforcement, the type of development the project proposes and the resulting population increase are taken into consideration when analyzing how implementation of the Proposed Project would affect LASD's desired officer-to-population ratio. However, even if the officer-to-population ratio is lessened to a ratio that is less than desirable, development fees towards the LASD would act as appropriate mitigation for potential impacts. For school services, the analysis focuses on the school districts that would be potentially affected by the increased development potential through implementation of the Proposed Project. Each school district typically has their own unique development fee, and payment of these fees and any other relevant fees would act as appropriate mitigation for potential impacts towards school services. Additionally, the Proposed Project's potential impacts on library services would also be mitigated with payment of all relevant development fees as described in the County's Municipal Codes.

4.15.5 Environmental Impacts

Threshold FP-1 Would the Project result in a substantial adverse physical impact associated with the provisions 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 fire protection services?

Fire Protection and Emergency Services

The Proposed Project is a policy document and adoption of the Proposed Project alone would not produce environmental impacts. The Proposed Project consists of an updated housing program for which no actual development is proposed as part of the update. Implementation of the program contained in the document would accommodate development required to meet County's 2021–2029 Regional Housing Needs Assessment allocation. Under the Regional Housing Needs Assessment allocation, unincorporated Los Angeles County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It was determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its Regional Housing Needs Assessment gap; refer to Chapter 3, Project Description, for further details. While the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

The areas within the rezoning program would generally be located in urban and developed areas with access to multiple amenities. The location of fire department battalions and stations relative to the rezoning program can be found in Figure 4.15-1. In this figure, there are multiple fire departments and battalions that are in close proximity to the areas within the rezoning program. Due to the minimal distance between the rezoning program areas and surrounding fire stations and battalions, the desired response time of 5 minutes to urban areas would not be significantly increased or affected from the implementation of the Proposed Project.

As previously described, the Proposed Project includes a rezoning program that would allow for greater intensities than previously permitted in the unincorporated areas of the County, which would increase the demands on LACoFD to provide fire protection and emergency services. However, there are a variety of existing and proposed regulatory processes that would serve to minimize impacts associated with fire protection facilities. Specifically, the County has implemented a Developer Fee Program to fund the purchase of fire station sites, the construction of new stations, and the funding of certain capital equipment. Fees are also required by the LACoFD for fire services. Additionally, existing building and fire codes, as outlined in Section 4.15.2, Relevant Plans, Policies, and Ordinances, require equipment such as fire hydrants, sprinkler systems, smoke detectors, fire extinguishers, and adequate access and egress for emergency vehicles, which would also limit the impact of the Proposed Project on fire protection and emergency fire stations. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations and would not provide any goals, policies, or programs that would significantly impact fire protection or emergency services. Therefore, impacts would be **less than significant.**

Law Enforcement

LASD would provide general law enforcement for the Proposed Project. The desired officer-to-population ratio for LASD is one officer to every 1,000 residents. Of the approximately 18,000 employed persons at LASD, approximately 10,000 are sworn deputies. Based on the desired officer-to-population ratio, the approximately 10,000 officers would service 10,000,000. There are 1,151,662 persons living in unincorporated Los Angeles County as of 2018.

As previously described, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. The rezoning program could increase the County's population by an estimated 94,500 persons for a total population of 1,246,162 persons (see Section 4.14, Population and Housing). Therefore, the current LASD officer employment would meet the desired officer-to-population ratio even with the population increase.

As previously described, the Proposed Project includes a rezoning program that would allow for greater intensities than previously permitted in unincorporated areas of the County. It is anticipated that the demand for law enforcement services would increase above current levels due to implementation of the rezoning program. However, there are existing screening processes (such as screening completed by LASD to analyze potential impacts to their facilities and personnel) and funding mechanisms that would minimize the potential impacts. If the County Board of Supervisors adopted Law Enforcement Fees as detailed in Table 4.15-3, the fee would provide sufficient revenues to pay for land acquisition, engineering, construction, installation, purchasing, or any other direct costs for capital law enforcement facilities and equipment needed to serve the new development in the Project Area. Additionally, operational funding for LASD is derived from various types of tax revenue (e.g., property taxes, sales taxes, user taxes, vehicle license fees, deed transfer fees), which are deposited in the County's General Fund. The County Board of Supervisors then allocates the revenue for various County-provided public services, including LASD services. As future development occurs, tax revenues from property and sales taxes would be generated and deposited in the County's General Fund and the State Treasury. A portion of these revenues would then be allocated to LASD during the County's annual budget process to maintain staffing and equipment levels to adequately serve project-related increases in service-call demands. If determined to be necessary, mitigation will be imposed to fund capital facilities and equipment for LASD.

The existing regulatory setting and the goals and policies contained in the General Plan, would ensure that potential impacts to LASD's desired officer-to-resident ratio associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations and would not provide any goals, policies, or programs that would significantly impact the officer-to-resident ratio. Furthermore, the Proposed Project includes goals and policies (refer to Appendix B) to maintain adequate levels of service to enhance the health and safety of housing environments, such as Goal 8 and Policy 8.2. Therefore, impacts would be **less than significant**.

School Services

According to the Los Angeles General Plan Update EIR, the student generation rate for each of the seven Planning Areas affected by the Proposed Project is 0.7 students per dwelling unit (County of Los Angeles 2014).

As described above, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County and would therefore generate an increase in the number of students (see Section 4.14). Potential future residents in the areas of the rezoning program would send students to one of the 44 schools listed in Table 4.15-1.

As discussed in Section 4.14, implementation of the rezoning program would result in an estimated housing unit increase of 27,000 above what is current allowed pursuant to the General Plan and current zoning map. Using the 0.7 students per dwelling unit generation rate and multiplying it with the anticipated 27,000 housing unit increase, the rezoning program would increase the student population in the County by an additional 18,900 students. However, as the total student population in the County is an estimated 1.4 million students (COE 2021), an additional 18,900 students would be considered a relatively small increase to the student population and is unlikely to result in any substantial adverse impacts.

In addition, existing funding mechanisms would lessen potential impacts related to an increase in the student population. As detailed in Section 4.15.2, two of the nine school districts (Los Angeles Unified School District and Compton Unified School District) that would be affected by student generation resulting from the rezoning program are funded through the payment of development fees pursuant to SB 50/Government Code Section 65995. These fees are required to be paid by future development prior to issuance of building permits and would be used to offset the impact of the number of new students generated by the anticipated population increase resulting from the rezoning program. According to SB 50, payment of these fees constitutes adequate mitigation related to impacts to school facilities. The remaining seven school districts that would be potentially affected would be funded through state bonds.

Furthermore, a school district and a development have the option of entering into various alternative mitigation agreements to ensure the timely construction of school facilities to house students from new residential development. The primary financing mechanism authorized in these mitigation agreements is the formation of a community facilities district, pursuant to the Mello-Roos Community District Act of 1982. In lieu of an alternative mitigation agreement, state-mandated school facilities fees, which help maintain adequate school facilities and levels of service may also reduce potential impacts. Ultimately, the provision of schools is the responsibility of the school district. SB 50 provides that the statutory fees found in the Government and Education Codes are the exclusive means of considering and mitigating for school impacts. Imposition of the statutory fees constitutes full and complete mitigation (Government Code Section 65995[b]).

The existing regulatory setting, including funding mechanisms, would ensure that potential impacts to school facilities and services with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations and would not provide any goals, policies, or programs that would significantly impact the demand for school facilities and services. Furthermore, the Proposed Project includes goals and policies (refer to Appendix B) to maintain adequate levels of service to for housing environments, such as Goal 8 and Policy 8.2. Therefore, impacts would be **less than significant**.

Library Services

As described above, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. As a result, the demand for library services in the County would be greater, as compared to existing conditions. As seen in Figure 4.15-4, Libraries, there are several libraries across the rezoning program area, many of which are located within proximity to the areas within the rezoning program. However, the close proximity of libraries is commonplace for areas that are urban and highly developed, including the rezoning program area.

The rezoning program may result in an increase in population of 1,316,958 persons. As discussed above, the current guideline for library facility space is a minimum of 0.5 gross square feet per capita and 2.75 items (books and other library materials) per capita. To adequately serve future residents within the rezoning program area, the County library system would need to add 3,621,635 library items and 658,479 square feet of library space.

While the rezoning program would allow for greater intensities than previously permitted in the unincorporated areas of Los Angeles County, the County's library facilities mitigation fee program, as detailed in Table 4.15-2, would require payment pursuant to the Countywide program to account for library-related construction and acquisition costs for future residential projects, as necessary, in order to minimize potentially adverse effects. Additionally, approval of the Proposed Project itself, as a policy document, would not change this program and would not provide any goals, policies, or programs that would significantly impact libraries. Furthermore, the Proposed Project includes goals and policies to maintain community facilities as a means of sustaining the overall livability of neighborhoods, such as Goal 8 and Policy 8.2. Therefore impacts would be at a **less-than-significant level**.

Parks and Recreation

Impacts associated with parks and recreation are discussed in Section 4.16. Refer to Section 4.16 for additional details.

4.15.6 Cumulative Impacts

Fire Protection and Emergency Services

Fire protection services within the region often cross jurisdictional boundaries. Cumulative growth within the Project Area would result in a need for additional fire protection services to serve new development. Cumulative projects proposed under general plans of surrounding cities and counties, such as commercial, residential, or industrial projects, would require fire protection services from fire agencies within the region. In order to maintain adequate travel times to serve cumulative projects, the construction or expansion of fire protection facilities would be required, which would have the potential to result in an adverse impact on the environment. While the majority of cumulative projects involve discretionary actions and therefore would be required to demonstrate compliance with CEQA and/or the National Environmental Policy Act (NEPA) prior to project approval, they would incrementally

increase the need for fire services. However, these impacts would be mitigated through the County's Developer Fee Program to fund the purchase of fire station sites, the construction of new stations, and certain capital equipment and compliance with the County Fire Code. Therefore, cumulative impacts would be **less than significant**.

Law Enforcement

Cumulative residential development in the Project Area would require increased law enforcement services to serve new development. Additionally, future commercial, residential, or industrial projects would also require law enforcement services. The increase in demand for law enforcement services from implementation of cumulative projects would have the potential to result in the need to construct or expand existing police facilities, which would have the potential to create an adverse impact on the environment. While the majority of cumulative projects require discretionary actions and would be required to demonstrate compliance with CEQA and/or NEPA prior to project approval, they would incrementally increase the need for law enforcement services. Operational funding for the LASD and the police departments serving cities in Los Angeles County is derived from various types of tax revenue (e.g., property taxes, sales taxes, user taxes, vehicle license fees, deed transfer fees), which are deposited in the General Fund. Provided that staff and facilities are expanded to serve future development in the Project Area and cities, **less-than-significant cumulative impacts** to law enforcement are anticipated.

School Services

Cumulative residential development would increase the public school population in the region and require the construction or expansion of school facilities so that adequate service ratios are maintained. As described in Section 4.15.5, Environmental Impacts, an additional 27,000 dwelling units as a result of the Proposed Project would result in an additional 18,900 students. The additional 18,900 students to the existing estimated 1.4 million student population is a relatively small increase. However, this increase in student population could require the construction or expansion of school facilities, which would result in adverse environmental impacts. While the majority of cumulative projects require discretionary actions and would be required to demonstrate compliance with CEQA and/or NEPA prior to project approval, they would incrementally increase the need for school facilities.

As discussed above, under state law, development projects are required to pay established school impact fees in accordance with SB 50 at the time of building permit issuance. The funding program established by SB 50 has been found by the legislature to constitute "full and complete mitigation of the impacts of any legislative or adjudicative act…on the provision of adequate school facilities" (Government Code Section 65995[h]). The fees authorized for collection under SB 50 are conclusively deemed full and adequate mitigation of impacts on school district facilities. Therefore, the increase in the demand for school facilities and services due to cumulative development would be adequately mitigated to a **less-than-significant** level by the payment of SB 50 fees.

Library Services

LACL serves the Project Area and portions of surrounding cities. Cumulative residential development would increase the population of library users and result in an increase in demand for library services, which would result in the need to construct additional or expand existing library facilities, which could create an adverse impact on the environment. While the majority of cumulative projects require discretionary actions and would be required to demonstrate compliance with CEQA and/or NEPA prior to project approval, they would incrementally increase the need for library facilities and materials.

Future cumulative development would generate new tax revenues, and, as noted above, funding sources for LACL and city libraries consist of property taxes, state assistance, and revenue from fines, fees, and other miscellaneous revenue. In order to minimize potentially adverse effects, the County has devised library facilities mitigation fee programs, and future projects would be required to remit payment pursuant to the Countywide program to account for library-related construction and acquisition costs. Requiring payment of the library facilities fee in effect would mitigate cumulative impacts on LACL to a **less-than-significant level**.

4.15.7 Mitigation Measures

No mitigation measures are required.

4.15.8 Level of Significance After Mitigation

No significant impacts have been identified, and no significant and unavoidable impacts would occur.

4.15.9 References

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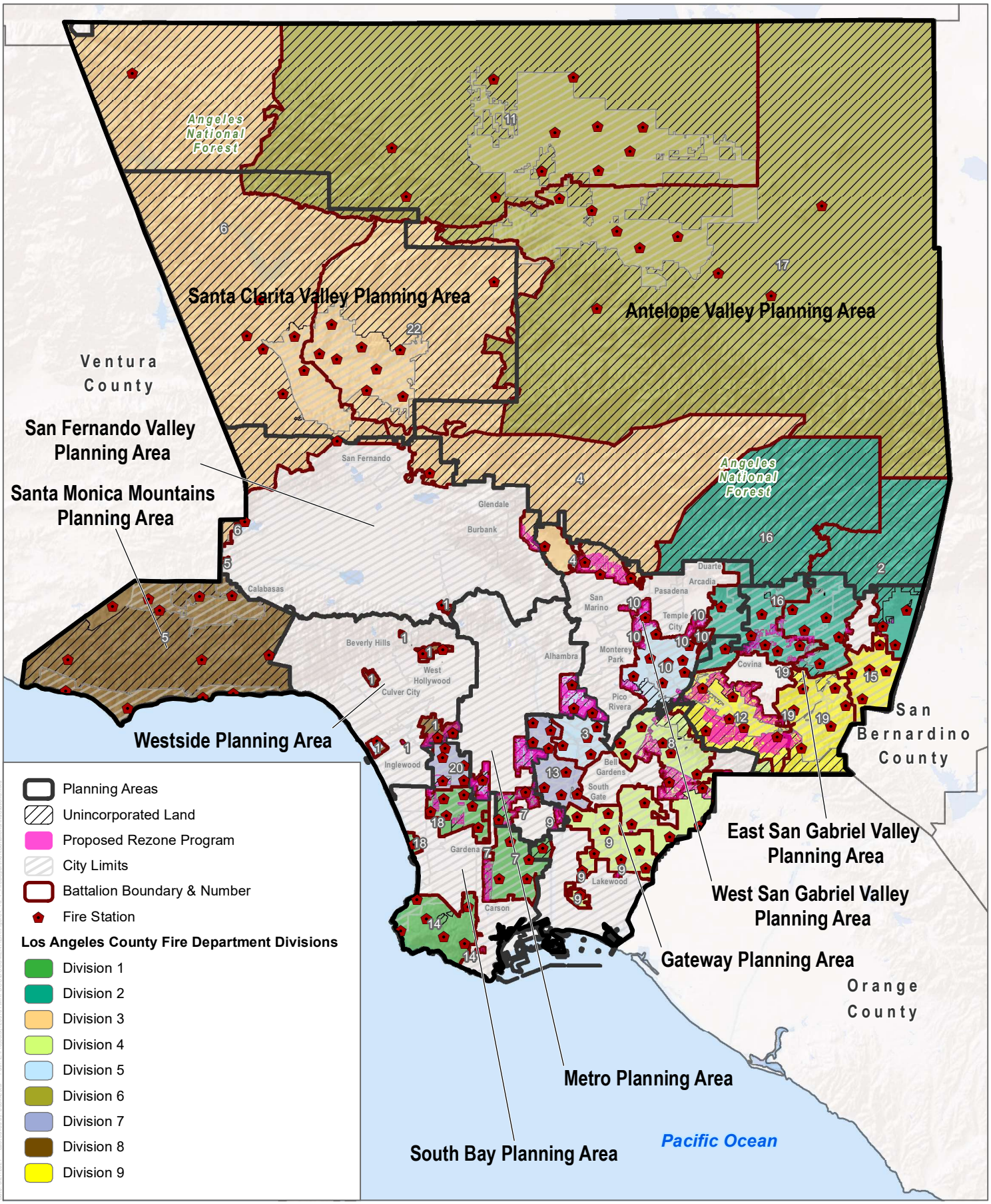
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SOURCE: ESRI 2021; LA County 2021

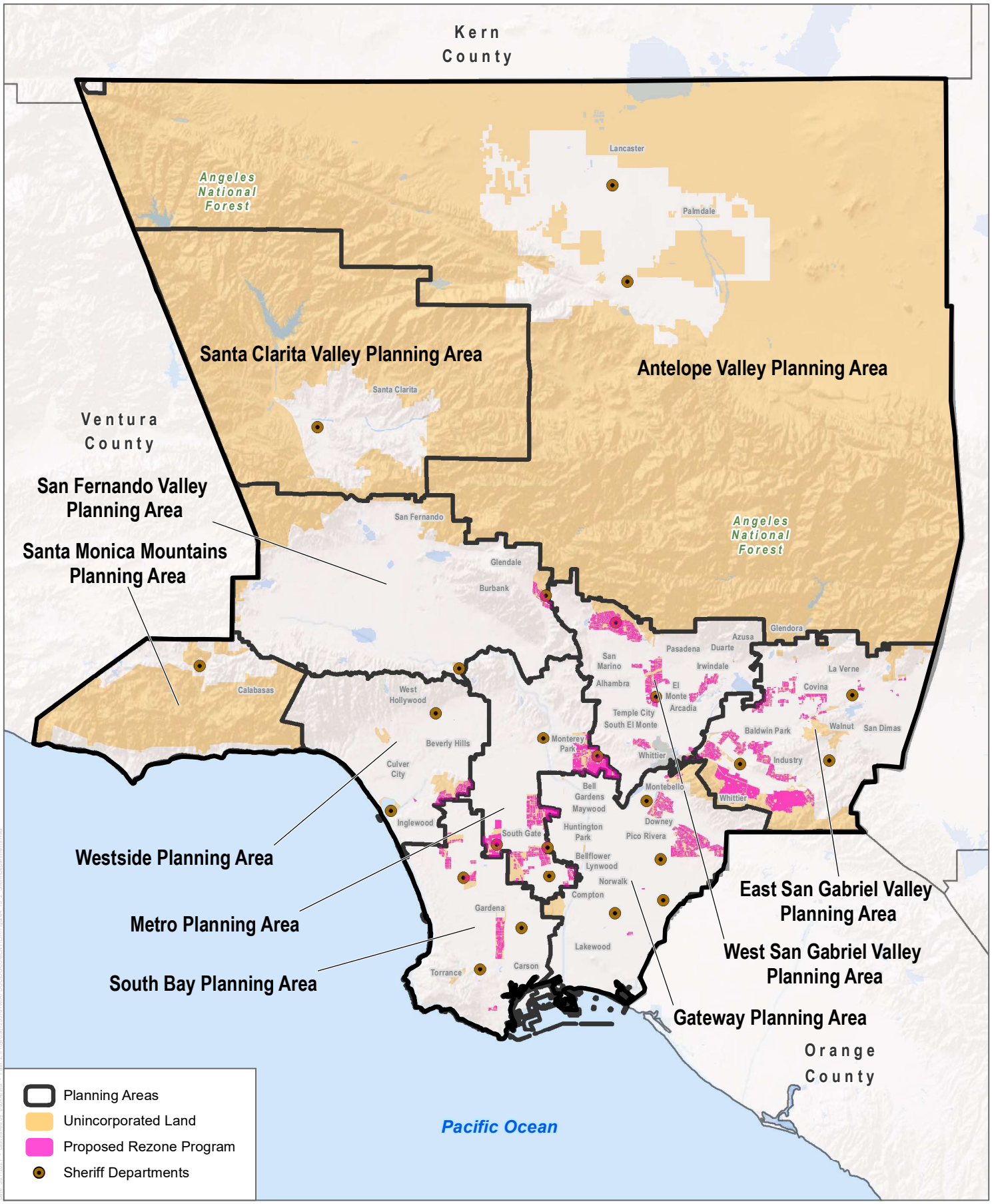
FIGURE 4.15-1

Fire Department Battalions and Stations

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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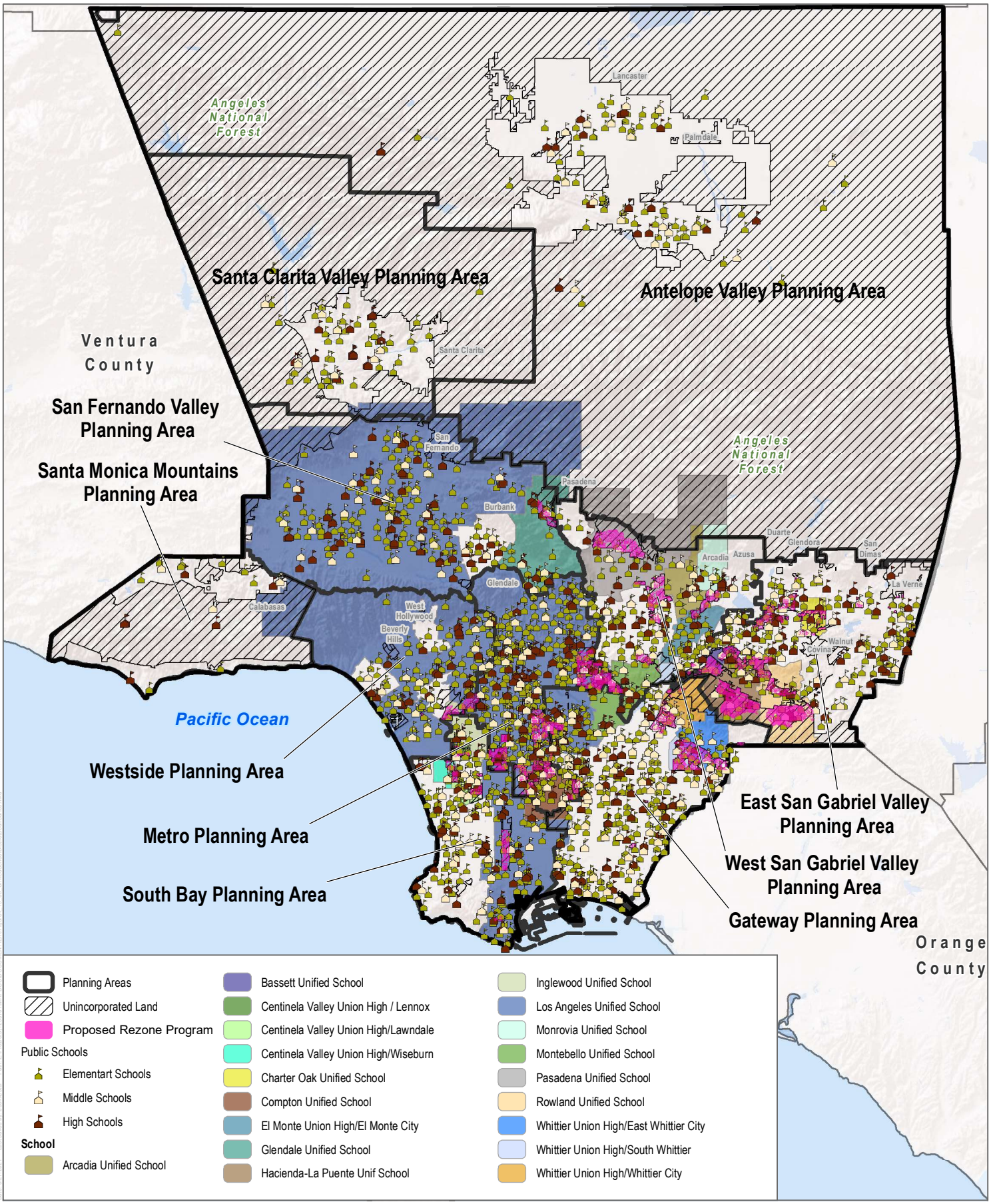
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FIGURE 4.15-2

Sheriff Departments

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SOURCE: ESRI 2021; LA County 2021

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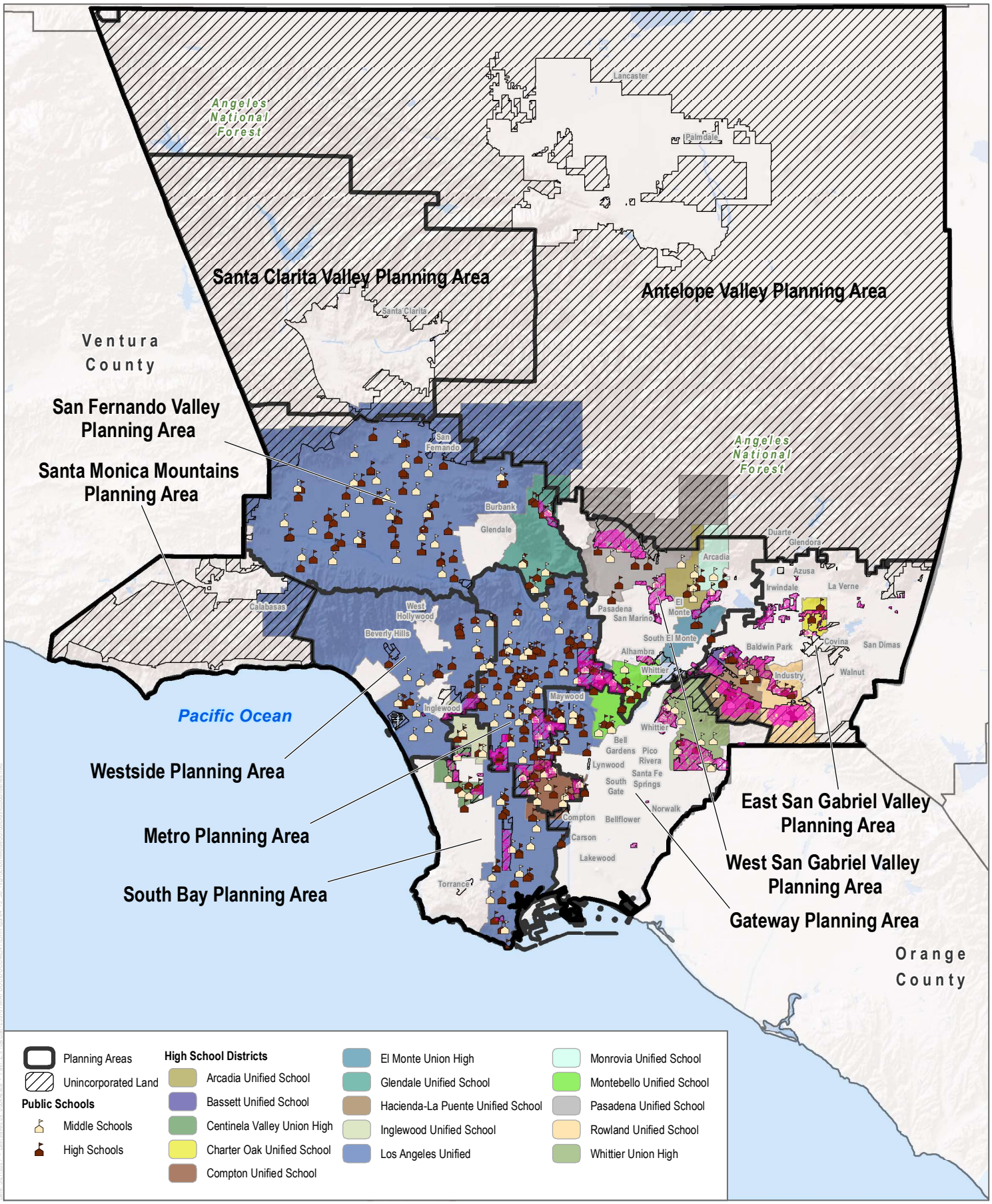
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FIGURE 4.15-3A

Unified School District Boundaries

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SOURCE: ESRI 2021; LA County 2021

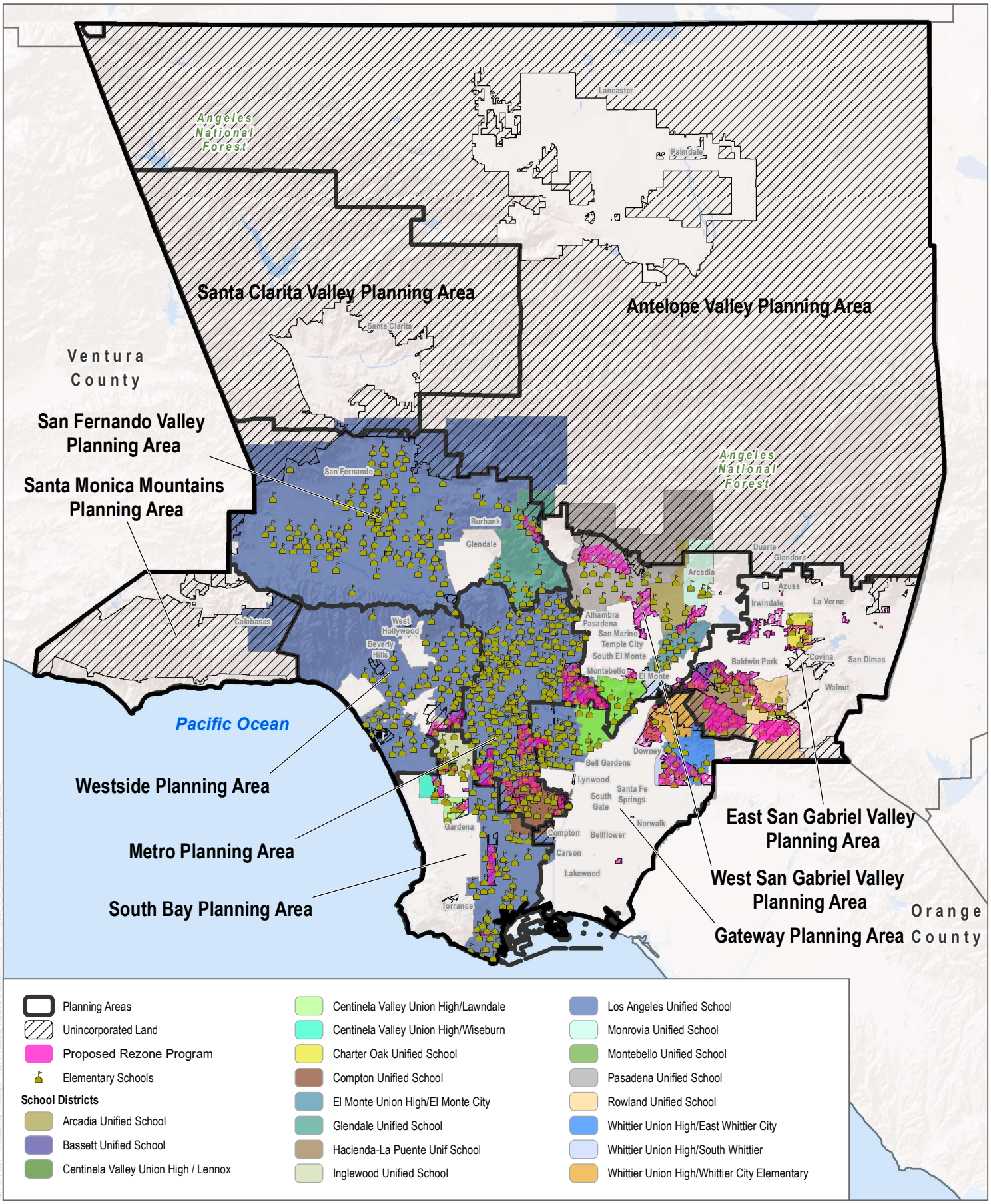
FIGURE 4.15-3B

High School & Middle School District Boundaries

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

FIGURE 4.15-3C

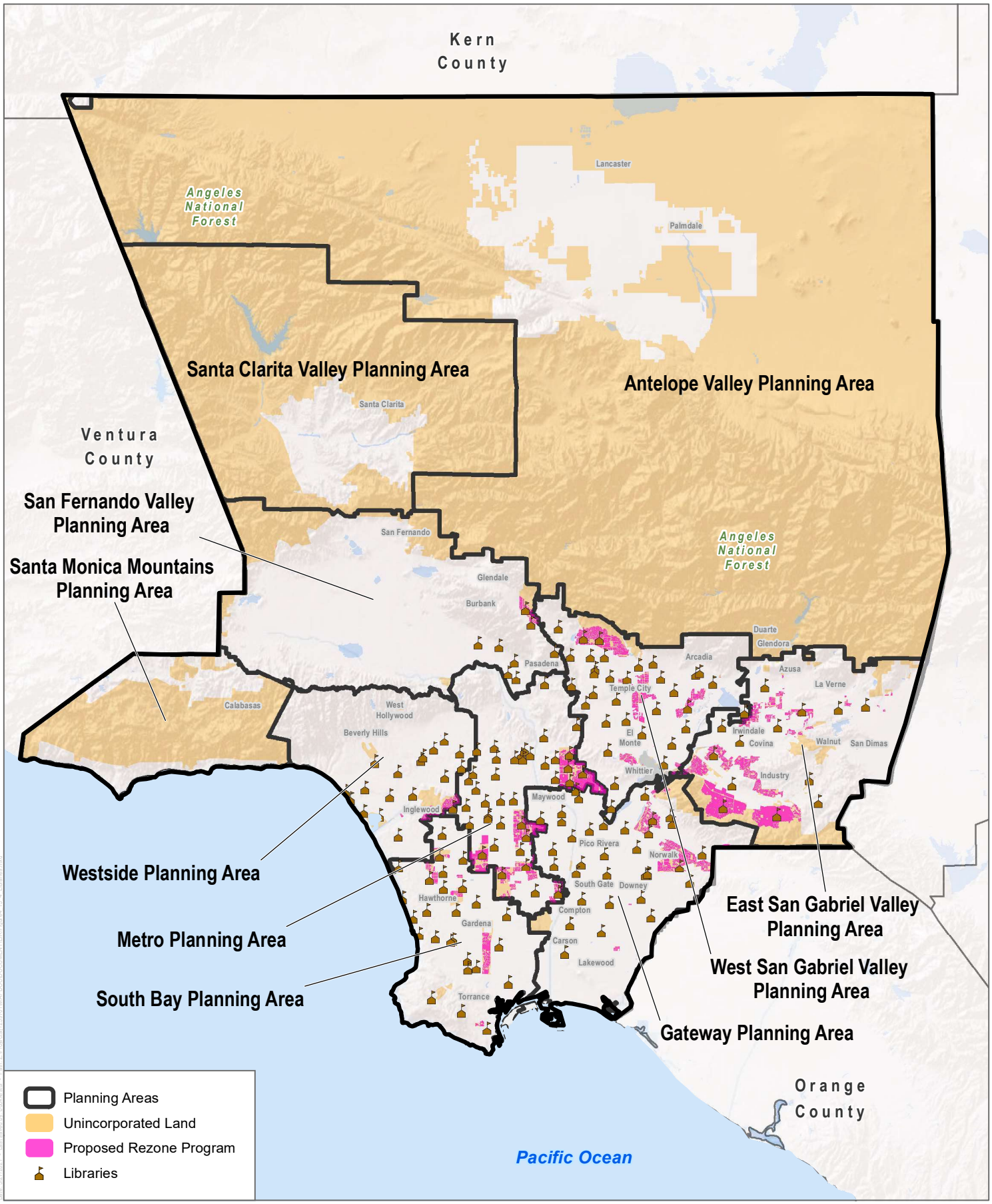
Elementary School District Boundaries

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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FIGURE 4.15-4

Libraries

Los Angeles County Housing Element Update

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4.16 Recreation

This section describes the regulatory framework, existing conditions, and the potential for environmental impacts related to implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project) on parks and recreation.

4.16.1 Environmental Setting

This section discusses the existing environmental setting relative to recreation. As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section describes generally the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program as those are the areas that may result in changes to the environment that were not already considered in previous environmental analyses or studies.

According to the Los Angeles Countywide Comprehensive Parks & Recreation Needs Assessment (Parks Needs Assessment) prepared by the Department of Parks and Recreation, there are 3,023 parks with more than 9,470 recreational amenities in the County (County of Los Angeles 2016a). The recreational amenities include amenities such as fitness zones, dog parks, gymnasiums, swimming pools, and more as detailed in the Parks Needs Assessment.

The Parks Needs Assessment categorized parks in Los Angeles County into four categories: local parks, regional recreation parks, regional open space, and natural area (County of Los Angeles 2016a).

Figure 4.16-1, Park and Open Space Locations within a Half Mile of the Proposed Project, shows the different types of parks located near the areas affected by the rezoning program.

Local Parks

Local parks are defined as parks under 100 acres and contain active amenities such as athletic courts and fields, playgrounds, and swimming pools (County of Los Angeles 2016a). There are 1,602 local parks in the County, totaling 15,723 acres.

Regional Recreation Parks

Regional recreation parks are defined as parks over 100 acres and contain active amenities such as athletic courts and fields, playgrounds, and swimming pools (County of Los Angeles 2016a). There are 17 regional recreation parks in Los Angeles County, which total 18,248 acres.

Regional Open Space

Regional open spaces are defined as open spaces that includes facilities that are more than 5 acres and generally contain only passive amenities such as visitor centers, trails, picnic shelters, or restrooms (County of Los Angeles 2016a). There are 329 regional open spaces in the County, totaling 98,977 acres.

Natural Areas

Natural areas are defined as areas generally larger than 100 acres and contain no reported amenities (County of Los Angeles 2016a). There are 1,075 natural areas in the County, totaling 768,699 acres. Natural areas were not included in the Parks Needs Assessment.

For planning purposes, parks are classified based on the size, use, and physical characteristics of the land. In addition, the traditional template of local and regional parks has been expanded to capture diverse opportunities for acquisition and development of parkland. The County's park system, including facilities that are operated and maintained by the Los Angeles County Department of Parks and Recreation, totals approximately 70,000 acres. Table 4.16-1 summarizes the acreage of local and regional parkland by Planning Area.

Table 4.16-1. Existing County Parkland by Planning Area

Planning Area	Local	Regional	Total
	(Acres)		
Antelope Valley	50	3,870	3,920
Coastal Islands	0	41,000	41,000
East San Gabriel Valley	220	3,440	3,660
Gateway	51	816	867
Metro	111	398	509
Santa Clarita Valley	71	14,425	14.497
San Fernando Valley	1	565	566
Santa Monica Mountains	0	0	0
South Bay	26	593	618
West San Gabriel Valley	56	3,465	3,521
Westside	22	414	436
Total	**308**	**68,986**	**69,594**

Source: County of Los Angeles, pers. comm., 2021.

The County offers a wide variety of parks and recreation resources, which generally fall under two systems: local and regional.

Local Park System

The local park system consists of parks of varying sizes that meet local needs and offer opportunities for daily recreation. This system includes community parks, neighborhood parks, pocket parks, and park nodes, which are summarized in Table 4.16-2.

Regional Park System

The regional park system is intended to meet the park and recreation needs of residents and visitors throughout Los Angeles County. This system consists of community regional parks, regional parks, and special use facilities, which are summarized in Table 4.16-2.

Table 4.16-2. Local and Regional Park System Summary

Facility	Typical Park Features and Amenities
Local Park System	
Community Park Acres per Thousand Population: 4/1,000 Suggested Acreage: 10 to 20 acres Service Area: 1 to 2 miles	Passive park amenities including but not limited to: informal open play areas, children's play apparatus, family and group picnic areas with overhead shelters, barbecues. Active sports activities including but not limited to: lighted sports fields, basketball courts and tennis courts. Additional amenities may include aquatics complex, skate park, arena soccer, roller hockey, community gardens, and dog parks. Park facilities including but not limited to: public restrooms, concession building, community buildings, maintenance building and onsite parking and information kiosks.
Neighborhood Park Acres per Thousand Population: 4/1,000 Suggested Acreage: 3 to 10 acres Service Area: 1/2 mile	Passive park amenities including but not limited to: informal open play areas, children's play apparatus, group picnic areas with overhead shelters, barbecues. Active park amenities including but not limited to: practice sports fields, basketball, tennis, and volleyball courts. Park facilities including but not limited to: public restroom, onsite parking and information kiosks.
Pocket Park Acres per Thousand Population: 4/1,000 Suggested Acreage: less than 3 acres Service Area: 1/4 mile	Passive park amenities including but not limited to: picnic areas and seating areas. Active park amenities including but not limited to: children's play apparatus.
Park Node Acres per Thousand Population: 4/1,000 Suggested Acreage: 1/4 acre or less No service radius area	Varies, can include: plazas, rest areas, playgrounds, landmarks and public art installations
Regional Park System	
Community Regional Park Acres per Thousand Population: 6/1,000 Suggested Acreage: 20 to 100 acres Service Area: up to 20 miles	Passive park amenities including but not limited to: informal open play areas, children's play apparatus, group picnic areas with overhead shelters, barbecues. Active sports activities including but not limited to: lighted sports fields, basketball courts and tennis courts. Additional amenities may include one or more of the following features: multiple sports facilities, aquatics center, fishing lake, community building and gymnasium, and scenic views and vistas. Park facilities including but not limited to: public restrooms, concession building, community buildings, maintenance building and onsite parking and information kiosks.
Regional Park Acres per Thousand Population: 6/1,000 Suggested Acreage: greater than 100 acres Service Area: 25+ miles	Passive park amenities including but not limited to: group picnic areas with overhead shelters, barbecues. Additional amenities may include one or more of the following features: lakes, wetlands, auditoriums, water bodies for swimming, fishing and boating, and sports fields.

Table 4.16-2. Local and Regional Park System Summary

Facility	Typical Park Features and Amenities
Special Use Facilities Acres per Thousand Population: 6/1,000 No size criteria No assigned service radius area	Generally, single purpose facilities. Can include passive features such as: wilderness parks, nature preserves, botanical gardens and nature centers. Active uses can include: performing arts, water parks, golf driving ranges and golf courses.

Source: County of Los Angeles, pers. comm., 2021.

Park Needs

Countywide, there are 3.3 acres of local and regional parks per 1,000 residents and 86.2 acres of regional open space and natural areas per 1,000 residents (County of Los Angeles 2016c). However, there is still unmet park needs in the County, with 14 unincorporated communities having either Very or High park need (County of Los Angeles 2016a). The park need categories are defined in Table 4.16-3. Areas with a Very High and High park need currently have less than the County-wide average of 3.3 acres of parkland per 1,000 residents, and approximately 52.6% of the County's population live in an area with a Very High or High park need.

Table 4.16-3. Park Needs Categories

Park Needs Category	Average Acres per 1,000 Residents in Each Need Category	Population of County's Total Population in Each Need Category (Percentage)
Very High	0.7	32.2
High	1.6	20.4
Moderate	11.5	26.2
Low	12.5	16.5
Very Low	52.0	4.6

Source: County of Los Angeles 2016a.

According to Figure 4.16-2, Park Needs, there are areas affected by the proposed rezoning program located in areas where the park need is Very High and High. All of the areas affected by the proposed rezoning program in the Metro Planning Area and the areas in the northern portion of the South Bay Planning Area are located in an area where the park need is Very High or High.

Parks Needs Assessment Trails

With several mountain ranges and a variety of environments, Los Angeles County offers a variety of trails and trail types. The County is responsible for providing parks and recreation facilities to meet the diverse needs of residents and visitors of Los Angeles County, and strives to make all trails multiuse and accessible to all non-motorized users, including: pedestrians, equestrians, and mountain bicyclists, where appropriate.

Other Recreational Facilities

In addition to the facilities discussed above, several other categories of recreation facilities exist throughout Los Angeles County, which serve the needs of residents. These facilities include multi-benefit parks, school district facilities, city park facilities, private recreational facilities, and greenways.

Multi-Benefit Parks

Multi-benefit parks and open spaces are created through collaborative efforts among city, county, state, and federal agencies; private organizations; schools; private landowners; and industries. These parks are characterized as having more than one function and contributing to multiple program goals.

School District Facilities

The County works with school districts to organize, promote, and conduct joint recreational and educational programs. These community recreation agreements are a form of joint-use agreement, where either a school or park facility may be put to some recreational use by the other party in exchange for some facility improvement and/or maintenance. A park does not have to be adjacent to a school (i.e., share a common boundary) for an agreement to be viable.

City Parks and Facilities

City parks and facilities that are located close to the borders of the unincorporated areas are enjoyed by city and county residents alike. Similarly, local Los Angeles County parks that are located within or close to the borders of cities provide recreational amenities for both populations. This overlap in local park service radius is an important factor to consider in the placement of new local Los Angeles County parks.

Private Recreational Facilities

Private recreational facilities play an important role in meeting recreational needs. The network of private recreational facilities consists of churches, health and fitness clubs, and other organizations that offer a variety of programs and facilities. The Parks and Recreation Element of the Proposed General Plan Update does not include an inventory of private recreational facilities, and as the County does not control, maintain, or program private recreational facilities, these resources are not credited toward the County's acreage goals for public parks

4.16.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal policies or regulations applicable to recreation with respect to the Proposed Project.

State

The following state regulations pertaining to recreation would apply to the Proposed Project.

Quimby Act (Government Code Section 66477)

The Quimby Act, enacted in 1975, creates a framework that allows cities and counties to provide parks for growing communities. The Quimby Act authorizes jurisdictions to adopt ordinances that require parkland dedication or payment of in-lieu fees as a condition of approval of residential subdivisions, The Quimby Act also specifies acceptable uses and expenditures of such funds, such as allowing developers to set aside land, donate conservation easements, or pay direct fees for park improvements.

Proposition 40 Park Bond Act

Proposition 40 allows for the maintenance for preservation of parks of the state's growing population by borrowing money through general obligation bonds for the development, restoration, and acquisition of state and local parks, recreation areas and historical resources, and for land, air, and water conservation programs.

Mello-Roos Community Facilities Act of 1982

The Mello-Roos Community Facilities Act provides an alternative method of financing certain public capital facilities and services, especially in developing areas and areas undergoing rehabilitation. This state law empowers local agencies to establish Community Facilities Districts (CFDs) as a means of obtaining community funding.

Landscaping and Lighting Act of 1972, California Streets and Highway Code Section 22500–22509

The California Landscaping and Lighting Act of 1972 authorizes local legislative bodies to establish benefit related assessment districts, or Landscaping and Lighting Districts and to levy assessments for the construction, installation, and maintenance of certain public landscaping and lighting improvements. Landscaping and Lighting Districts may be established to maintain local public parks.

Local

The following local/regional regulations pertaining to recreation would apply to the Proposed Project.

Los Angeles County 2035 General Plan

The Land Use Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project:

Goal LU 5 Vibrant, livable and healthy communities with a mix of land uses, services and amenities.

- **Policy LU 5.7** Direct resources to areas that lack amenities, such as transit, clean air, grocery stores, bikeways, parks, and other components of a healthy community.

The Parks and Recreation Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project:

Goal P/R 1 Enhanced active and passive park and recreation opportunities for all users.

- **Policy P/R 1.2** Provide additional active and passive recreation opportunities based on a community's setting, and recreational needs and preferences.
- **Policy P/R 1.4** Promote efficiency by building on existing recreation programs.
- **Policy P/R 1.2** Provide additional active and passive recreation opportunities based on a community's setting, and recreational needs and preferences

Goal P/R 3 Acquisition and development of additional parkland.

Policy P/R 3.1 Acquire and develop local and regional parkland to meet the following County goals: 4 acres of local parkland per 1,000 residents in the unincorporated areas and 6 acres of regional parkland per 1,000 residents of the total population of Los Angeles County.

Policy P/R 3.2 For projects that require zone change approvals, general plan amendments, specific plans, or development agreements, work with developers to provide for local and regional parkland above and beyond their Quimby obligations.

Policy P/R 3.3 Provide additional parks in communities with insufficient local parkland as identified through the gap analysis.

Goal P/R 5 Protection of historical and natural resources on County park properties.

Policy P/R 5.1 Preserve historic resources on County park properties, including buildings, collections, landscapes, bridges, and other physical features.

Policy P/R 5.3 Protect and conserve natural resources on County park properties, including natural areas, sanctuaries, and open space preserves.

Policy P/R 5.5 Preserve and develop facilities that serve as educational resources that improve community understanding of and appreciation for natural areas, including watersheds.

Los Angeles County Code (Quimby Requirements)

In addition to containing regulations on the operation of park facilities, the County Code contains provisions that regulate the provision of parklands for new subdivisions, in accordance with the Quimby Act. County Code Section 21.24.340 (Residential Subdivisions, Local Park Space Obligation, Formula) contains the methodology used to determine the amount of parkland required to be dedicated by the subdivider as a part of the subdivision map approval process. In accordance with Section 21.28.140, the developer may also choose to pay a fee in lieu of the provision of parkland. Additionally, the developer may choose to provide less than the required amount of parkland, but develop it with amenities equal to the value of what the in-lieu fee would be. In order to determine the local park space obligation for a subdivision, a formula is used, which considers the number of dwelling units in the subdivision, the average household size by Park Planning Area (PPA) (which differs for single family, multifamily, and mobile home developments as well as by PPA), and the adopted ratio of 3 acres of parkland per 1,000 residents, per the Quimby Act. However, it should be noted that, as discussed in the existing County General Plan, as a condition of zone change approval, General Plan amendment, specific plan approval, or development agreement, the County may require a subdivider to dedicate land according to the General Plan goal of 4 acres of local parkland per 1,000 residents, and 6 acres of regional parkland per 1,000 residents.

Once the local park space obligation is determined, County Code Section 21.24.350 (Residential Subdivisions, Provision or Local Park Sites) contains regulations pertaining to the siting of park facilities as well as provisions that give the option to subdividers of 50 units or less to choose to provide the obligatory amount of parkland, any excess of which would be credited to the subdivision, or otherwise allow any remaining obligation to be satisfied by the payment of park fees in accordance with the provisions of Section 21.28.140. Additionally, since only the portions of the land dedicated for parkland that are suitable for park use can be counted against the obligation of the subdivider, attributes of the park space including the slope of the site are used to determine the amount of land which can be counted against the subdivider's obligation. For example, for the portions of the site in excess of 20% slope, only 10% of the acreage will be counted against the subdivider's obligation whereas all of the land that is less than 3% slope can be counted toward the obligation.

Section 21.28.140 (Park Fees Required When, Computation and Use) contains provisions regarding the payment of in-lieu fees for any portion of the dedication obligation not satisfied by the subdivider. These fees would be enforced as a condition of approval on the final approval of the subdivision. The in-lieu fee is determined by multiplying the amount of park space not satisfied by the representative land value for the appropriate PPA. This section also makes it the responsibility of the Los Angeles County Department of Parks and Recreation to develop a schedule specifying how, when, and where it will use the land or fees, or both, from each subdivision to develop park or recreational facilities within the applicable PPA.

Los Angeles Countywide Parks and Recreation Needs Assessment

Adopted by the Board of Supervisors on July 5, 2016, the Parks Needs Assessment was a historic and significant undertaking to engage all communities within Los Angeles County in a collaborative process to gather data and input for future decision-making on parks and recreation. The primary goal of the Parks Needs Assessment was to quantify the magnitude of need for parks and recreational facilities and determine the potential costs of meeting that need. This goal has been accomplished, as evidenced by the final report, which uses a transparent, best-practices approach to evaluate park and recreation needs and is the product of an engagement process that involved the public, cities, unincorporated communities, community-based organizations, and other stakeholders. Specifically, the Parks Needs Assessment:

- Uses a set of metrics to measure and document park needs for each study area
- Establishes a framework to determine the overall level of park need for each study area
- Offers a list of priority park projects for each study area
- Details estimated costs for the priority park projects by study area
- Builds a constituency of support and understanding of the park and recreational needs and opportunities
- Informs future decision making regarding planning and funding for parks and recreation

Community Parks and Recreation Plans

DPR completed Community Parks and Recreation Plans (CPRPs) in February 2016 to envision greener futures for the following six unincorporated communities in Los Angeles County: East Los Angeles, East Rancho Dominguez, Lennox, Walnut Park, West Athens–Westmont, and Willowbrook. Each of the six plans identifies and addresses the unique park and recreation needs of the communities. Specifically, each plan first examines existing conditions, including: local demographics; existing parkland and recreational facilities; parkland gaps; recreation programs currently offered; trees and tree canopies in existing parks; transportation, safety and connectivity issues as they relate to parks; and availability of land for recreation purposes. Based upon the review of existing conditions and findings from the public outreach process, the plan provides a detailed assessment and prioritization of the community's park and recreation needs. The plan then presents a green space vision, design concepts for potential new park projects, and strategies to address the identified needs. Finally, the plan identifies possible partnership and funding opportunities, and details next steps to implement the green space vision and strategies. Implementation of the CPRPs is well under way, with a multitude of projects at varying scales and stages of development.

Measure A

Measure A was developed based on the findings of the Parks Needs Assessment and was approved in November 2016 with nearly 75% of voters supporting it. Generating more than $90 million per year for the county's local parks, beaches, and open space areas, Measure A is an annual parcel tax of 1.5 cents per square foot of improved property, and includes both formula-based allocations to Study Areas and competitive grants that are open to public agencies, non-profit organizations, and schools.

County of Los Angeles Trails Manual

The County Trails Manual provides guidance to County departments that interface with trail planning, design, development and maintenance of hiking, equestrian, and mountain biking trails. The Manual provides guidelines for implementation of multi-use trails within the unincorporated communities of Los Angeles County and recognizes the existence of the broader regional trail network in the County of Los Angeles and surrounding counties that provides access to recreational resources operated by federal, state, and local agencies. The Manual sets the guidelines for reviewing plans and specifications for trails that are provided in conjunction with land use planning and the entitlement process for projects proposed for development within the County. Proposed developments are reviewed for consistency with the Trails Manual. The goal of the Trails Manual is to establish well-defined trail types, guidelines, and priorities to facilitate the development of high-quality trails that benefit the public.

4.16.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment with respect to recreation if the project:

R-1 Would 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.

R-2 Includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.16.4 Methodology

The analysis for recreation is based on the existing parkland ratio goals as determined by the County's General Plan or any other relevant recreation policy-based document. The potential impacts of the Proposed Project are then determined based on how the Proposed Project could skew this ratio either positively or negatively. Should the Proposed Project skew the ratio negatively in a way that dips below the existing parkland ratio goals, then impacts would be considered significant and proper mitigation would be required. However, dedication of parkland or payment of applicable fees may potentially mitigate potential recreation impacts that could result from the Proposed Project.

Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

4.16.5 Environmental Impacts

Threshold R-1 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 consists of a policy document update, and adoption of Proposed Project alone would not produce environmental impacts. The Proposed Project consists of updating the General Plan Housing Element, and no actual development is proposed as part of the update. Implementation of the programs contained in the updated document would accommodate development required to meet the County's 2021–2029 Regional Housing Needs Assessment (RHNA) allocation. Under the RHNA allocation, the unincorporated County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It has been determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its RHNA gap; refer to Chapter 3 for further details. While the Proposed Project consists of a policy document update, which is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

According to Section 4.14, Population and Housing, the Proposed Project includes a rezoning program that would allow for a population increase by approximately 94,500 persons.

The anticipated increase in population in the South Bay Planning Area, Metro Planning Area, and East San Gabriel Valley Planning Area of would result in an increase in demand for recreational facilities in these areas. Additionally, increases in population in areas that currently do not have adequate recreational facilities would have the potential to accelerate deterioration of existing facilities from intensified overuse. As discussed earlier, the areas affected by the rezoning program that are in the previously mentioned three planning areas are located in areas marked as High or Very High park need and also identified as High Priority Areas (see Figure 4.16-2, Park Needs, and Figure 4.16-3, Park Needs – High Priority Areas).

The extent to which the County can implement parks, trails, and other recreational facilities is related to the availability of funding for land acquisition, construction, operations, and maintenance, and programming. However, as discussed in Section 4.16.2, *Relevant Plans, Policies, and Ordinances*, the Quimby Act is a mechanism to secure parkland and/or funding for improving existing and developing new parks. As allowed by the Quimby Act and pursuant to the County Code, new residential subdivisions must dedicate parkland or pay in-lieu fees (or both, in some circumstances) to enable the County to maintain a ratio of 3 acres of local parkland for every 1,000 residents (Section 21.24.340). This provision ensures that when new residential subdivisions are developed, there is an increase in parkland and/or funding for park improvement and/or development proportional to increases in population. Other regulations including the Mello-Roos Community Facilities Act of 1982 and the Landscaping and Lighting Act of 1972 help to ensure funding for the maintenance of existing and new parks. In addition, Measure A and grants from a variety of funding sources serve as sources of funding for the improvement of existing parks and the development of new parks, especially in Very High and High need areas identified through the Countywide Parks Needs Assessment. Additionally, per Policy P/R 3.3, the County strives to provide additional parks in communities with insufficient local parkland. The County may require a subdivider to dedicate land to meet the General Plan goal of 4 acres of local parkland per 1,000 residents in unincorporated areas (County of Los Angeles 2011). Enforcement of the goal of 4 acres of parkland for every 1,000 residents as a condition of approval where an appropriate nexus exist would serve to reduce the potential for deterioration of facilities by allowing for adequate funding.

Adherence to County Code Section 21.24.340 and the County's continued implementation of park improvement and development projects would ensure that the adequate amount of parkland would be available/ Although future funding and/or dedication of parkland may still not achieve the goal of 4 acres of parkland for every 1,000 residents, the availability of parkland per 1,000 residents could be improved. Parks funding through the County Code, Measure A, and grants from a variety of funding sources would help to ensure that new parks are developed and existing parks are improved, which in turn would serve to reduce the potential for deterioration of existing facilities.

Also, implementation of various policies in the General Plan would reduce the significance of this impact, as described in Section 4.16.2, Relevant Plans, Policies, and Ordinances. Additionally, the Proposed Project includes a new program relative to park access for new residential development, to evaluate the feasibility of establishing a new park impact fee for residential projects that are not subject to the County's Quimby parkland requirements in Title 21. Currently, only residential subdivisions are required to comply with the Quimby requirements which are satisfied through the provision of parkland, payment of in-lieu fees, or a combination of the two. It is anticipated that affordable housing projects would be exempt should the County move forward with a new park impact fee for non-subdivision residential projects.

In summary, the increases in parkland development and maintenance proportional to future increases in population would be sufficient to prevent a substantial deterioration of recreation facilities for future projects under this Proposed Project. As discussed above, adherence to the regulatory framework and County Code Section 21.24.340, and the County's continued implementation of park improvement and development projects, especially in Very High and High Need areas, would result in an increase in local parkland where funding or dedication of land would occur within the rezoning program.

The presence of a variety of recreation options beyond local park facilities, a planning framework that would allow for an efficient allocation of funds that would require funding for parks to be proportional to future increases in population, would all serve to reduce the potential for significant deterioration of recreational facilities associated with implementation of the Proposed Project. Additionally, existing regulations and General Plan policies would assure that funding for parkland acquisition would be proportional to increases in population pursuant to the Quimby Act. Furthermore, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would increase the use of existing neighborhood and regional parks. In addition, the Proposed Project includes goals and policies in Section II, Housing Strategy, of the Housing Element Update such as Goal 2 and Policy 2.1, which support housing development for extremely low, very low, lower, and moderate income households and those with special needs near facilities such as parks. Rezoning facilitated by the Proposed Project would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district specific plans, or other projects. Future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation. Therefore impacts would be **less than significant**.

Threshold R-2 Would the Project include recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

As described in Threshold AE-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts; however, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County Development and operation of new recreational facilities may have an adverse physical effect on the environment, including impacts relating to air quality, biological resources, lighting, noise, and traffic. However, goals, policies, and actions in the General Plan,

including the creation of a County Parks and Recreation Master Plan, a trails program, and Parks Sustainability Program would guide the development of future recreational facilities. Moreover, by directing the County to preserve historic and natural resources on County park properties, Policies P/R 5.1 and 5.3 would serve to reduce the potential for new or expanded facilities to result in adverse physical impacts. Finally, existing federal, state, and local regulations, would mitigate potential adverse impacts to the environment that may result from the expansion of parks, recreational facilities, and trails pursuant to implementation of the Proposed Project. Rezoning facilitated by the Proposed Project would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district specific plans, or other projects. Future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation. Consequently, the Proposed Project would result in **less-than-significant impacts** relating to new or expanded recreational facilities.

4.16.6 Cumulative Impacts

Implementation of the Proposed Project would increase use of existing local and regional parks, and could result in the accelerated deterioration of recreational facilities. Some cumulative projects, such as implementation of general plans for adjacent jurisdictions, would have the potential to increase the demand for recreational facilities, which could result in deterioration of existing facilities. As discussed in Section 4.14, the County is expected to have a total population of 11,462,600 by 2040. To meet the County's General Plan goal of 4 acres of regional open space and natural areas parkland per 1,000 residents of the total population of Los Angeles County, a total of 68,775 acres of regional open space and natural areas parkland would need to be in place. As discussed in Section 4.16.1, Environmental Setting, there are currently 867,676 acres of regional open space and natural areas. Therefore, cumulative regional open space and natural areas parkland impacts would be **less than significant.**

The deterioration that would occur to local and regional recreation parks from regional population growth may be offset by the acquisition of parkland and collection of in-lieu fees pursuant to the Quimby Act, as well as by the County's continued implementation of park improvement and development projects. As discussed previously, the Quimby Act is a funding mechanism for parkland acquisition for jurisdictions. As allowed by the Quimby Act, most cities in Los Angeles County have park dedication ordinances as part of their municipal codes. The park dedication ordinances require most residential subdivisions to dedicate parkland or pay in-lieu fees (or both, in some circumstances) to enable the jurisdictions to acquire local parkland at ratios between 3 acres and 5 acres per 1,000 residents. In order to accommodate future demand for park and recreational facilities from population growth in the Los Angeles region, additional park and recreational facilities will have to be developed and constructed throughout the region. Other cumulative projects, such as schools or residential projects in adjacent jurisdictions, would increase the need for recreational facilities in the region. Cumulative development would still incrementally increase the need for new or expanded facilities, which may have the potential to result in adverse environmental effects.

Grants through Measure A and other funding sources are available to fund the improvement and development of park and recreational facilities in urban areas and funding for maintenance of those facilities are provided through property assessments and taxes. Other regulations including the Mello-Roos Community Facilities Act of 1982 and the Landscaping and Lighting Act of 1972, would serve as supplemental sources of funding for parks maintenance. Enforcement of existing parkland dedication requirements would serve to reduce the potential for deterioration of existing facilities by allowing for adequate funding for the provision and maintenance of recreational facilities.

Therefore, existing regulations, County General Plan policies, and Implementation Programs assure that the funding for parkland acquisition would be proportional to increases in population and impacts would be **less than significant**.

It is speculative to determine the location of proposed park facilities in Los Angeles County and impacts arising from development of individual park projects. The majority of cumulative projects would be required to demonstrate compliance with CEQA and/or the National Environmental Policy Act prior to project approval; existing federal, state, and local regulations would mitigate potential adverse impacts to the environment that may result from the expansion of parks, recreational facilities, and trails.

Therefore, the Proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact associated with deterioration of regional parks and construction of recreational facilities.

4.16.7 Mitigation Measures

No mitigation measures are required.

4.16.8 Level of Significance After Mitigation

No significant unavoidable adverse impacts relating to hazards and hazardous materials have been identified.

4.16.9 References

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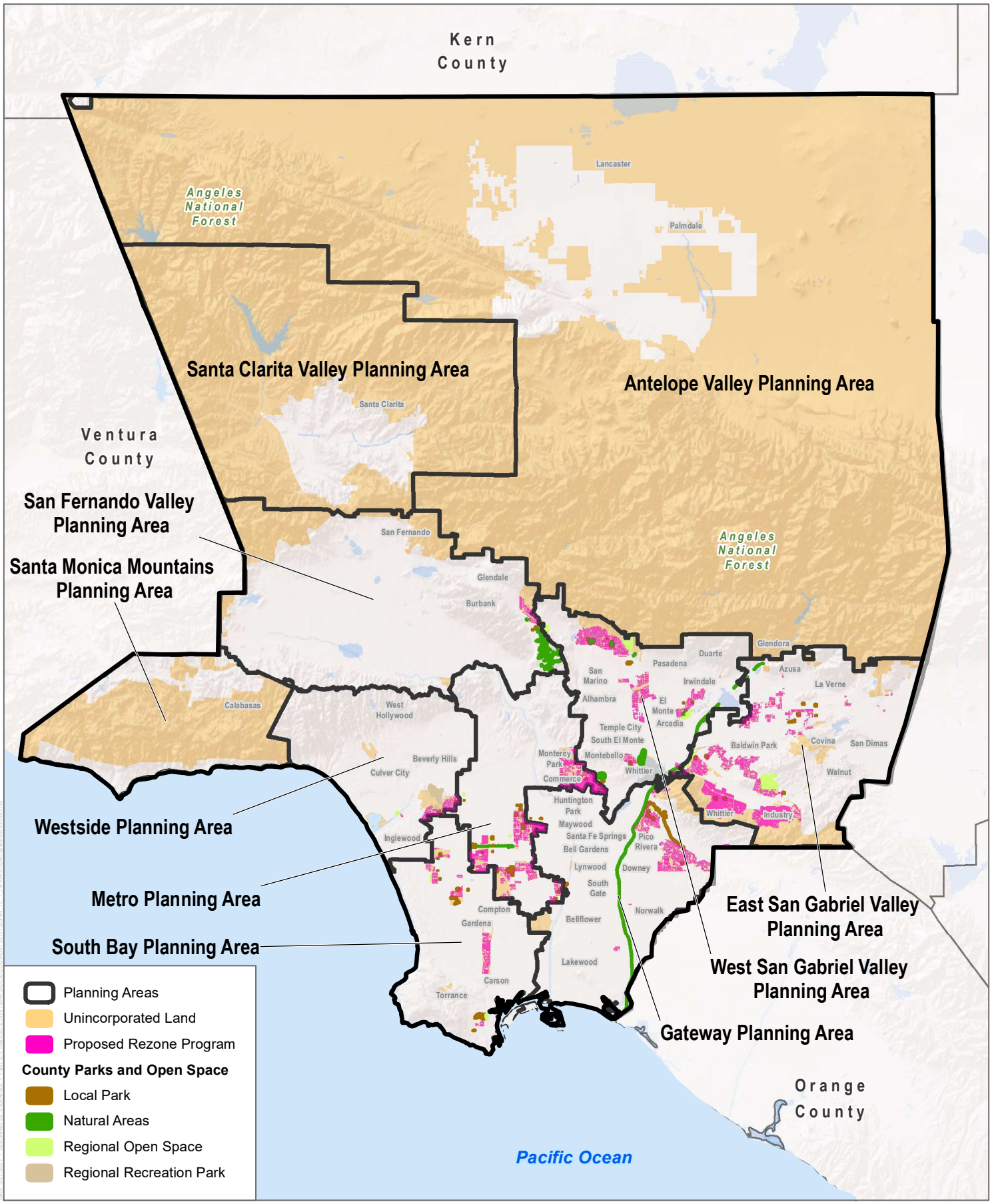
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SOURCE: ESRI 2021; LA County 2021, NHD 2021

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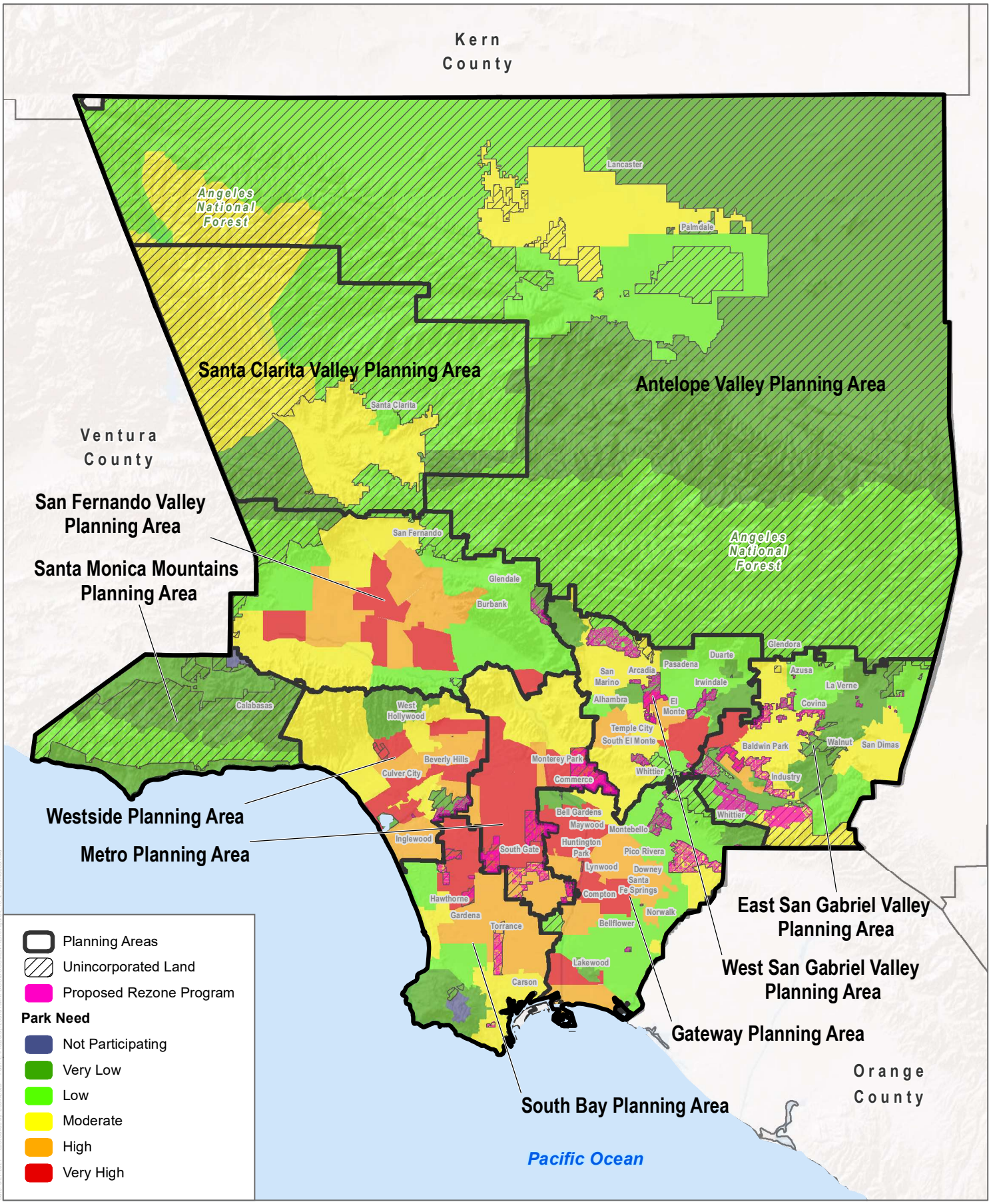
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FIGURE 4.16-1

Park and Open Space Locations within a Half Mile of the Proposed Project

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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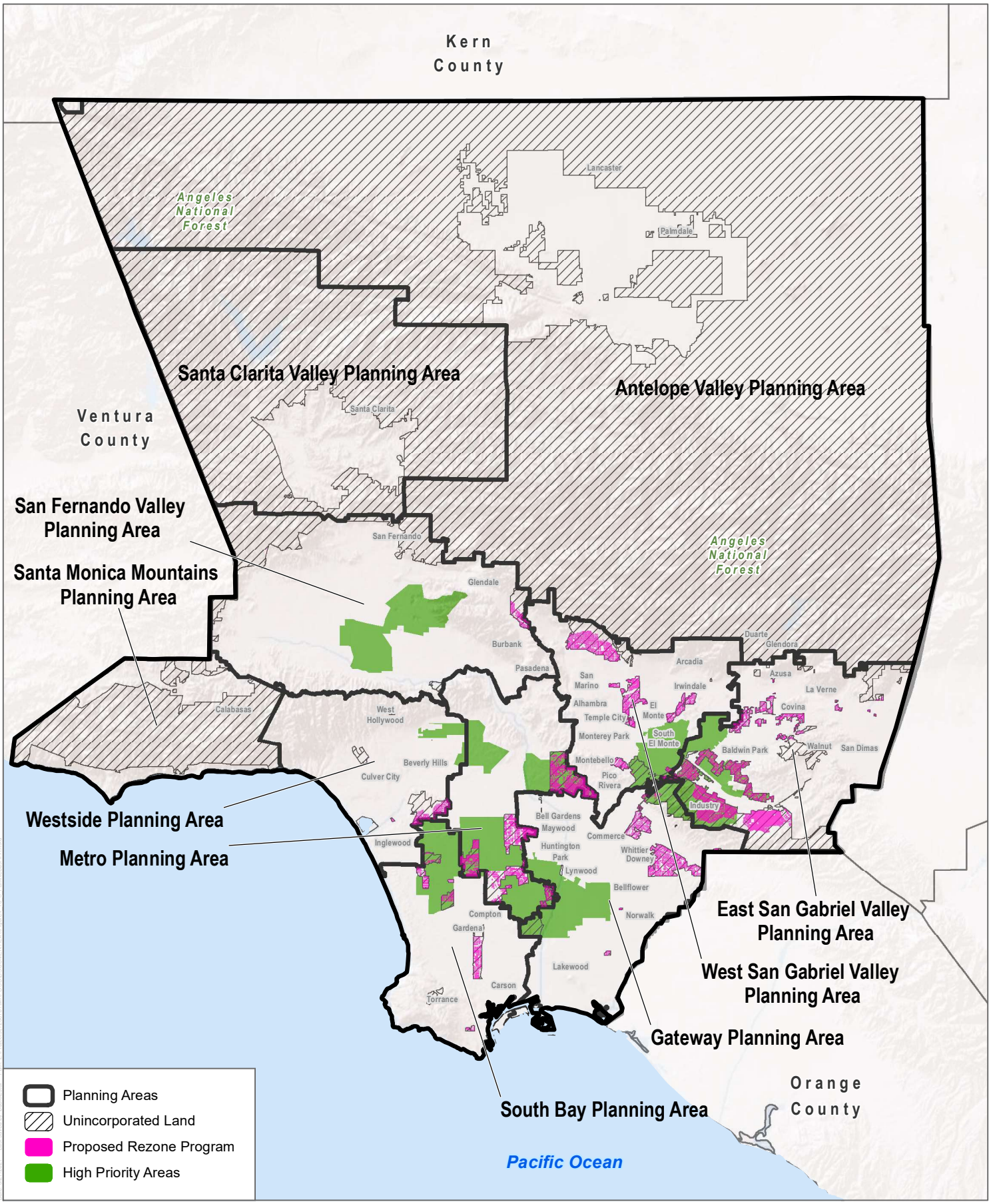
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FIGURE 4.16-2

Park Needs

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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FIGURE 4.16-3

Park Needs – High Priority Areas

Los Angeles County Housing Element Update

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4.17 Transportation

This section evaluates the potential for implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project) to result in transportation impacts. This section describes the existing conditions, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures as needed.

Pursuant to Senate Bill (SB) 743, the County adopted Transportation Impact Guidelines (Los Angeles County Public Works 2020) to include vehicle miles traveled (VMT) as the new metric to evaluate the significance of transportation impacts. These guidelines and thresholds apply to land use and transportation projects in the County that are subject to California Environmental Quality Act (CEQA) analysis. Therefore, this section uses VMT as the basis for evaluating transportation impacts of the Proposed Project under CEQA.

4.17.1 Environmental Setting

This section describes the existing transportation setting in the County, including the VMT, roadway, transit, pedestrian, and bicycle systems. As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to Los Angeles County (County) where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analyses or studies.

Vehicle Miles Traveled

CEQA Section 15064.3(a) established VMT as the most appropriate measure of transportation impacts. The subdivision (a) defines VMT as "the amount and distance of automobile travel attributable to a project." The term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. For land use projects and plans, such as the Proposed Project, based on the predominant use, the following VMT efficiency metrics and method of estimation can be used:

- **Total VMT per Service Population**: The total VMT to and from all zones in the geographic area are divided by the total service population to get the efficiency metric of VMT per service population. The total service population is the sum of the number residents and the number of employees.
- **Residential (Home-based) VMT per capita:** All home-based auto vehicle trips are traced back to the residence of the trip-maker (non-home-based trips are excluded) and then divided by the population within the geographic area to get the efficiency metric of home-based VMT per capita (or per resident).
- **Employment (Home-based work) VMT per employee**: All auto vehicle trips between home and work are counted, and then divided by the number of employees within the geographic area to get the efficiency metric of home-based work VMT per employee.

The County has used the regional Southern California Association of Governments (SCAG) Model[1] to estimate the average VMT for the unincorporated areas and for North and South County baseline VMT as shown in Table 4.17-1. North County contains the Antelope Valley, Santa Clarita Valley, and Santa Monica Mountains planning areas in the more rural portion of the County and South County contains the remaining planning areas (i.e., San Fernando, Westside, East San Gabriel Valley, West San Gabriel Valley, Metro, Gateway, and South Bay) in the more urban portion of the County. There are differences in the VMT trends between the northern and southern planning areas, therefore the County developed a North and South Baseline VMT. As shown in Table 4.17-1, the baseline VMT of North County is higher than the baseline VMT of South County. The average baseline VMT for the unincorporated areas is higher than the baseline VMT for the SCAG region.

By establishing a North and South Baseline VMT, the County acknowledged the differences in travel behavior in these areas given the land use context and transportation network to represent a more realistic and reasonable picture of baseline VMT. Per County guidelines, a comparison to North or South County VMT provides an appropriate baseline for a project's VMT analysis.

Table 4.17-1. 2016 Baseline VMT Metrics for Los Angeles County

Region	Total VMT per Service Population	Residential VMT per Capita	Employment VMT per Employee
North County	43.1	22.3	19.0
South County	31.1	12.7	18.4
Unincorporated Los Angeles County Average	35.9	17.0	20.7
SCAG Region	34.2	15.0	19.0

Source: Fehr & Peers 2020.
Note: VMT = vehicle miles traveled; SCAG = Southern California Association of Governments.

Figure 4.17-1 depicts the North and South County planning area boundaries that have been used in establishing the VMT baseline in the County.

Roadway System

The California Department of Transportation (Caltrans) is the state agency responsible for the maintenance of freeways and state highways. Los Angeles County Public Works is responsible for the design, construction, operation, maintenance, and repair of roads in the unincorporated areas of the County and in a number of local jurisdictions that contract with the County for these services (County of Los Angeles 2015).

[1] Los Angeles County Senate Bill (SB) 743 Implementation and CEQA Updates Report, June 2020: The most current version of the SCAG Model has a base year of 2012 and future year of 2040 and was developed for the 2016 SCAG Regional Transportation Plan and Sustainable Communities Strategy, April 2016. The model contains traffic analysis zones that contain socio-economic data reflecting the population, employment, and land use development characteristics throughout the region. The traffic analysis zones are characterized as Tier 1 and Tier 2 zones, and each Tier 1 zone contains multiple Tier 2 zones. The Tier 2 zones represent a smaller geographic area that allows the model to produce more refined trip assignment forecasts. Both Tier 1 and Tier 2 zones are used to calculate VMT. Total VMT is calculated using the Tier 1 zones and VMT by trip purpose (e.g., homebased VMT) is calculated using the Tier 2 zones. The SCAG regional model contains the socioeconomic data and transportation network for the entire SCAG region including the incorporated Cities. The model also contains neighboring, external zones that are used to estimate travel demand that occurs between the SCAG region and adjacent areas, as well as estimate regional travel demand for those traveling through the SCAG region.

The Los Angeles County Highway Plan designates the functional classification system of the County's highway system (County of Los Angeles 2000, 2016). The Highway Plan roadway classifications and descriptions are provided in Table 4.17-2. Figure 4.17-2A and Figure 4.17-2B illustrate the County's Highway Plan for the North and South County areas, respectively. These plans are also available on the County's website at the following links:

- http://dpw.lacounty.gov/ldd/lddservices/streetandbridge/docs/hwy_n.pdf
- http://dpw.lacounty.gov/ldd/lddservices/streetandbridge/docs/hwy_s.pdf

Table 4.17-2. Highway Plan Roadway Classifications

Classification	Description
Major Highway	This classification includes urban highways that are of countywide significance and are, or are projected to be, the most highly traveled routes. These roads generally require four or more lanes of moving traffic, channelized medians and, to the extent possible, access control and limits on intersecting streets. This width may vary to meet extraordinary circumstances. Also classified as major highways are key connectors, non-urban access ways, and recreational roads. The bulk of these routes are not planned for urban type improvement. However, the full major highway right-of-way width of 100 feet or more is generally required to maintain adequate safety and vehicular capacity.
Secondary Highway	Secondary highways include urban routes that serve or are planned to serve an areawide or countywide function, but are less heavily traveled than major highways. In a few cases, routes that carry major highway levels of traffic are classified as secondary highways because it is impractical to widen them to major highway standards. In addition to the countywide function, secondary highways frequently act as oversized collector roads that feed the countywide system. In this capacity, the routes serve to remove heavy traffic from local streets, especially in residential areas. In urban areas, secondary highways normally have 4 moving lanes of traffic on 80 feet of right-of-way. However, configuration and width may vary with traffic demand and conditions on the ground. Access control, especially to residential property and minor streets, is desirable along these roads.
Limited Secondary Highway	Limited secondary highways are located in remote foothill, mountain, and canyon areas. Their primary function is to provide access to low-density settlements, ranches, and recreational areas. The standard improvement for limited secondary highways is two traffic lanes on 64 feet of right-of-way. Typically, such improvements consist of 28–30 feet of pavement with graded shoulders. Left-turn pockets and passing lanes may be provided when required for traffic safety. The right-of-way may be increased to 80 feet for additional improvements where traffic or drainage conditions warrant. A uniform building setback shall be established 40 feet from the centerline of all limited secondary highways in order to preserve proper sight distances and to help maintain a rural appearance adjacent to the roadway. This setback shall be in addition to any yard requirement contained in the Zoning Code.
Parkway	The parkway classification is applied to urban and non-urban routes that having park-like features either within or adjacent to the roadway.
Expressway	The expressway classification is primarily for through-traffic with full or partial control of access. Expressways can accommodate 6 to 10 traffic lanes. The width of right of-way varies as necessary to incorporate these features but shall not be less than 80 feet. Roadway improvements vary depending upon the composition and volume of traffic carried.

Source: Los Angeles County General Plan 2035

There are 11 planning areas in the County. The main freeways and highways in each of the planning areas are listed below:

Antelope Valley Planning Area. This area is served by portions of Interstate (I) 5 and State Route (SR) 14. The main north–south highways include 30th Street, Sierra Highway, 50th Street, 47th Street, 126th Street, 210th Street, 240th Street, Largo Vista Road, San Gabriel Canyon Road (SR-39), Mount Wilson Red Box Road, Angeles Forest Highway, and Upper Big Tujunga Canyon Road. The east–west highways and secondary highways include Avenue B, Avenue C, Lancaster Road (SR-138), Avenue D, Avenue J, Avenue K/Avenue K 8, Avenue O, Avenue P, Palmdale Boulevard, Pearblossom Highway, Antelope Highway (SR-138), Big Pines Highway, and Angeles Crest Highway (SR-2).

Coastal Islands Planning Area: Two of the eight California Channel Islands, Santa Catalina Island and San Clemente Island, make up the Coastal Islands Planning Area. Access to Santa Catalina Island is via ferry service from Long Beach, San Pedro, and Dana Point. Access to San Clemente Island is via charter boats from Long Beach, Newport Beach, and San Diego.

East San Gabriel Valley Planning Area. This area is served by portions of I-10, SR-210, SR-57, SR-60, and SR-71. Main north–south highways and secondary highways include Harbor Boulevard, Azusa Avenue, Hacienda Boulevard, and Irwindale Avenue/Sunset Avenue. East–west highway and secondary highways include Colima Road, Amar Road, Sunset Avenue, 7th Street, Badillo Street, Arrow Highway, Baseline Road, and Temple Avenue.

Gateway Planning Area. This area is served by portions of I-710, I-605, I-405, I-105, I-5, SR-91, SR-103, and SR-22. The main north–south highways and secondary highways include Alameda Street, Santa Fe Avenue, Norwalk Boulevard, Carmenita Road, Painter Avenue, Valley View Avenue, and La Mirada Boulevard. East–west highways and secondary highways include Mulberry Drive, Telegraph Road, and Mills Avenue.

Metro Planning Area. This area is served by portions of I-110, I-105, I-10, I-5, I-710, SR-60, and US-101. The main north–south highways and secondary highways include Alameda Street, Central Avenue, Broadway, Atlantic Avenue, Western Avenue, Central Avenue, Santa Ana Avenue, and Atlantic Boulevard. East–west highways and secondary highways include Florence Street, Firestone Boulevard, Century Boulevard, Santa Ana Boulevard, Imperial Highway and El Segundo Boulevard, Rosecrans Avenue, Compton Boulevard, Redondo Beach Boulevard, Rosecrans Boulevard, Manchester Avenue, Florence Avenue, Olympic Boulevard, Whittier Boulevard, 3rd Street, Cesar E Chavez Avenue, and Beverly Boulevard.

San Fernando Valley Planning Area. This area is served by portions of I-210, I-5, I-405, SR-170, SR-134, SR-118, and SR-2. East–west highways include Lake Manor Drive and Foothill Boulevard.

Santa Clarita Valley Planning Area. This area is served by portions of I-5 and SR-14. North–south highways include Sierra Highway and Plum Canyon Road.

Santa Monica Mountains Planning Area. There are no key arterials that pass through the unincorporated areas in this planning area; however, this area is served by portions of US-101.

South Bay Planning Area. This area is served by portions of I-405, I-110, I-105, SR-91, and SR-47. The main north–south highways include Vermont Avenue, Hawthorne Boulevard (SR-107), and La Cienega Boulevard. East–west highways and secondary highways include Torrance Boulevard, Manhattan Beach Boulevard, and Sepulveda Boulevard.

West San Gabriel Valley Planning Area. This area is served by portions of I-210, I-605, I-710, SR-110, I-10, and SR-60. North–south highways include Rosemead Boulevard (SR-19), San Gabriel Boulevard, Sierra Madre Boulevard, Peck Road, and Myrtle Avenue. East–west highways and secondary highways include Potrero Grande Drive, Live Oak Avenue, New York Drive, Woodbury Road, Mariposa Street and Marengo Street, and Huntington Drive.

Westside Planning Area. This area is served by portions of I-405, I-10, and SR-90. La Brea Avenue is the north–south highway and Slauson Avenue and Stocker Street are east–west highways within the planning area.

Transit

The County is served by a large public transit system that includes rail systems and various bus service options, such as transitways and bus rapid transit systems. The Los Angeles County Metropolitan Transportation Authority (Metro) operates the Metro rail system within the County, which has six lines, including two subway (heavy rail rapid transit) lines (the B and D lines) and four light rail lines (the A, C, L and E lines), and 93 stations. The Metro rail system connects with the Metro Busway bus rapid transit system (the G and J lines) and also with the Metrolink commuter rail system. Figure 4.17-3A illustrates the existing and planned major transit projects in the County included in Metro's Long-Range Transportation Plan for the horizon year 2050.

Metrolink and Amtrak are the two additional rail service operators in the County. The Southern California Regional Rail Authority operates the Metrolink commuter rail system, which has its hub in Downtown Los Angeles at Union Station and extends to Ventura, San Bernardino, Riverside, Orange, and San Diego counties and serves some of the unincorporated areas. Amtrak provides interstate service from points around the country to Union Station, as well as regional service between major cities throughout California. Figure 4.17-3B illustrates the Metrolink commuter rail system.

Metro bus system comprises 140 lines/170 routes serving 16,000 bus stops in the County, per the NextGen Bus Plan (Metro 2020). Figure 4.17-3C illustrates the Metro bus system. The Metro bus system has largely remained unchanged and, given the transforming landscape of transportation and travel demand within the County and addition of Metro rail and the bus rapid transit system, it has been observing a decline in ridership since 2014. Metro approved the NextGen Bus Plan in October 2020 to provide a better bus system for the County.

Los Angeles County Public Works and LAGOBus operate fixed route shuttle services and the Link to provide an affordable and efficient transit service (generally with a frequency of 30–60 minutes) to key destinations for residents in communities in unincorporated areas:

- Topanga Shuttle Service connects Topanga/Woodland Hills and Santa Monica
- Acton/Agua Dulce Shuttle service in Acton and Agua Dulce connects to Santa Clara Transit Station and Newhall Metrolink Station
- Avocado Heights/Bassett/West Valinda Shuttle service in Avocado Heights
- Height Hopper Shuttle connects Hacienda Height and Rowland Heights communities
- East Valinda Shuttle
- Edmund D. Edelman's Children's Court Shuttle service in East Los Angeles
- El Sol Shuttle service in East Los Angeles
- Sunshine Shuttle service in South Whittier
- Wellness Center Shuttle services the Los Angeles County/USC Medical Center

The Link provides services on the following routes and para transit service in unincorporated areas:

- Athens Shuttle service in West Athens-Westmont
- Baldwin Hills Parklands Shuttle service connects La Cienega/Jefferson Boulevard Metro Station to Kenneth Hahn State Recreation Area
- Florence-Firestone/Walnut Park Shuttle service in Florence-Firestone and Walnut Park
- King Medical Center Shuttle service in Willowbrook
- Lennox Shuttle service in Lennox
- Willowbrook Shuttle

These shuttle services connect with transit providers such as Metro, Metrolink, Torrance Transit, Los Angeles Department of Transportation DASH, Gardena Bus Lines, Culver City Bus, Gardena Bus lines, Inglewood I-Line Trolley, Big Blue Bus, Santa Clara Transit, La Puente Link, Foothill Transit, La Puente Link, Alhambra Community Transit, El Sol Shuttle, Monterey Park Spirit, Montebello Transit, and Norwalk Transit.

Active Transportation

The County has a mix of rural, suburban, and urban communities that provide different opportunities for and challenges to active modes of transportation such as walking and biking. The pedestrian network generally includes sidewalks, shared use paths, and trails. To enhance walkability in the communities, a plan for pedestrian facilities has been prepared for unincorporated areas of the County. The Step by Step Los Angeles County plan (County of Los Angeles Department of Public Health 2019) is discussed in detail in Section 4.17.2.

Per the County's 2012 Bicycle Master Plan, bicycle facilities in unincorporated areas of the County are classified as follows (County of Los Angeles 2012):

Class I – Bicycle Path: Bike paths, also called shared-use paths or multi-use paths, are paved rights-of-way for exclusive use by bicyclists, pedestrians, and other non-motorized modes of travel. They are physically separated from vehicular traffic and can be constructed in roadway rights-of-way or exclusive rights-of-way. Most of the County bicycle paths are located along creek and river channels and along the beach.

Class II – Bicycle Lane: Bike lanes are defined by pavement striping and signage used to allocate a portion of a roadway for exclusive bicycle travel. Bike lanes are one-way facilities on either side of a roadway. Bike lanes are located adjacent to a curb where no on-street parking exists. Where on-street parking is present, bike lanes are striped to the left side of the parking lane.

Class III - Bicycle Route: Bike routes provide shared use with motor vehicle traffic within the same travel lane. Designated by signs, bike routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand.

Class IV - Bikeways: A Class IV Bikeway (separated bikeway) is a bikeway for the exclusive use of bicycles and includes a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

Figure 4.17-4, Types of Bikeway Facilities, illustrates the bicycle facilities that are existing and proposed in the County. Maps with proposed bikeways from the 2012 Bicycle Master Plan are available on the County's website at the following link: https://dpw.lacounty.gov/pdd/bike/docs/bmp/LA%20County%20Bicycle%20Master%20Plan%20 %20Atlas%20of%20Proposed%20Bikeways.pdf.

4.17.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal regulations pertaining to transportation that would apply to the Proposed Project.

State

Senate Bill 743

On September 27, 2013, Governor Brown signed SB 743, which became effective on January 1, 2014. The purpose of SB 743 is to streamline review under the CEQA process for several categories of development projects, including the development of infill projects in transit priority areas, and to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas (GHG) emissions. SB 743 adds Chapter 2.7, Modernization of Transportation Analysis for Transit Oriented Infill Projects, to the CEQA Statute (California Public Resources Code, Section 21099). Section 21099(d)(1) provides that aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. In addition, SB 743 mandates that alternative metric(s) for determining impacts relative to transportation shall be developed to replace the use of level of service (LOS) in CEQA documents.

In the past, environmental review of transportation impacts focused on the delay that vehicles experience at intersections and on roadway segments, which is often measured using LOS. Mitigation for impacts on vehicular delay often involves increasing capacity such as widening a roadway or the size of an intersection, which in turn induces more vehicular travel and greater pollutant emissions. Additionally, improvements to increase vehicular capacity can often discourage alternative modes of transportation such as biking, walking, and transit. SB 743 directed the Governor's Office of Planning and Research (OPR) to develop an alternative metric(s) for analyzing transportation impacts in CEQA documents. The alternative shall promote the state's goals of reducing GHG emissions and traffic-related air pollution by promoting the development of a multimodal transportation system and providing clean, efficient access to destinations. Under SB 743, it was anticipated that the focus of transportation analysis would shift from vehicle delay (and LOS) to VMT within transit-priority areas (i.e., areas well served by transit).

Pursuant to SB 743, OPR released the draft revised CEQA Guidelines in November 2017, recommending the use of VMT for analyzing transportation impacts. Additionally, OPR released updates to the Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018) to provide guidance on VMT analysis. In this Technical Advisory, OPR provides its recommendations to assist lead agencies in screening out projects from VMT analysis and selecting a significance threshold that may be appropriate for their particular jurisdictions. While OPR's Technical Advisory is not binding on public agencies, CEQA allows lead agencies to "consider thresholds of significance . . . recommended by other public agencies, provided the decision to adopt those thresholds is supported by substantial evidence" (CEQA Guidelines Section 15064.7[c]).

In December 2018, the CEQA Guidelines were updated to add Section 15064.3, Determining the Significance of Transportation Impacts, which describes specific considerations for evaluating a project's transportation impacts using VMT methodology. This new methodology was required to be used for projects starting on July 1, 2020.

CEQA Guidelines Section 15064.3(b) is divided into four subdivisions as follows:

(1) **Land Use Projects.** Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop[2] or a stop along an existing high-quality transit corridor[3] should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.

(2) **Transportation Projects.** Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

(3) **Qualitative Analysis.** If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) **Methodology.** A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project.

Since the Proposed Project is a land use development, CEQA Guidelines Section 15064.3(b)(1) applies to the Proposed Project.

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (Sustainable Communities Act; SB 375) 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, the California Air Resources Board sets regional targets for GHG emissions reductions from passenger vehicle use. In 2010, the California Air Resources Board established targets for 2020 and 2035 for each region covered by one of the state's

[2] OPR's Technical Advisory 2018: Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.")

[3] OPR's Technical Advisory 2018: Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.")

Metropolitan Planning Organizations (MPOs). The California Air Resources Board will periodically review and update 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. California Air Resources Board must review the adopted SCS to confirm and accept the MPO's 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 to meet the targets. The alternative planning strategy is not a part of the RTP.

The Sustainable Communities Act also establishes incentives to encourage local governments and developers to implement the SCS or the alternative planning strategy. Developers can get relief from certain CEQA requirements if their new residential and mixed-use projects are consistent with a region's SCS (or alternative planning strategy) that meets the targets (see California Public Resources Code, Sections 21155, 21155.1, 21155.2, 21159.28.).

Statewide Transportation Improvement Program

The California 2010 Statewide Transportation Improvement Program, approved by the U.S. Department of Transportation in October 2009, is a multi-year, statewide, intermodal program of transportation projects that is consistent with the statewide transportation plan and planning processes, metropolitan plans, and Title 23 of the Code of Federal Regulations. The Statewide Transportation Improvement Program is prepared by Caltrans in cooperation with the MPOs and the regional transportation planning agencies. The Statewide Transportation Improvement Program contains all capital and noncapital transportation projects or identified phases of transportation projects for funding under the Federal Transit Act and Title 23 of the Code of Federal Regulations, including federally funded projects.

The California Department of Transportation

As the owner and operator of the state highway system, Caltrans implements established state planning priorities in all functional plans, programs, and activities. Caltrans coordinates and consults with local jurisdictions when proposed local land use planning and development may impact state highway facilities. Pursuant to Section 21092.4 of the California Public Resources Code, for projects of statewide, regional, or area-wide significance, the lead agency shall consult with transportation planning agencies and public agencies that have transportation facilities that could be affected by the project.

Caltrans Draft Transportation Impact Study Guide and Safety Review (Caltrans 2020) replaced the Guide for the Preparation of Traffic Impact Studies (Caltrans 2002). Per the 2020 Transportation Impact Study Guide, Caltrans' primary review focus is VMT, replacing LOS as the metric used in CEQA transportation analyses (Caltrans 2020). Caltrans recommends use of OPR's recommended thresholds and guidance on methods of VMT assessment found in OPR's Technical Advisory (OPR 2018) for land use projects. In addition to VMT, the 2020 Transportation Impact Study Guide states that it may request a targeted operational and safety analysis to address a specific geometric or operational issue related to the state highway system and connections with the state highway system.

Regional

Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

SCAG develops the RTP, which presents the transportation vision for Los Angeles, Orange, San Bernardino, Imperial, Riverside, and Ventura counties. SB 375 was enacted to reduce GHG emissions from automobiles and light trucks through integrated transportation, land use, housing and environmental planning. Under the law, SCAG is tasked with developing an SCS, an element of the RTP that provides a plan for meeting emissions reduction targets set forth by the California Air Resources Board. The SCS outlines the plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures.

The 2016 RTP/SCS identifies priorities for transportation planning within the Southern California region, sets goals and policies, and identifies performance measures for transportation improvements to ensure that future projects are consistent with other planning goals for the area (SCAG 2016). The Regional Transportation Improvement Programs, also prepared by SCAG based on the RTP, lists all of the regional funded/programmed improvements within the next 5 to 7 years. To qualify for CEQA streamlining benefits under SB 375, a project must be consistent with the RTP/SCS.

The 2020–2045 RTP/SCS, also known as Connect SoCal, is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. It charts a path toward a more mobile, sustainable, and prosperous region by making connections between transportation networks, between planning strategies, and between the people whose collaboration can improve the quality of life for Southern Californians (SCAG 2020). The SCAG Regional Council adopted Connect SoCal on September 3, 2020.

For SCAG member jurisdictions, the 6th cycle Housing Element planning period extends from 2021 to 2029. As part of Connect SoCal, SCAG assigns a number of housing units that the County is required to plan for in the 8-year Housing Element cycle. That number of units is called the Regional Housing Needs Assessment (RHNA), and it is broken down by income category, ensuring that all economic groups are accommodated. If a jurisdiction cannot show that there are enough sites to address the housing need, the jurisdiction is required to develop a rezoning program. The rezoning ensures that there are enough sites with sufficient densities to address the housing need identified through the RHNA.

Los Angeles County Metropolitan Transportation Authority

Metro is the county-level transportation planning and public transportation operating agency that was created by the State of California to set policy, coordinate, plan, fund, build, and operate transit services and transportation programs throughout Los Angeles County. Metro supports the transportation improvement programs of the 88 cities and 16 municipal transit operators within the County, as well as Los Angeles's paratransit provider, Access Services, and its regional commuter rail service provider, Metrolink. Metro is also responsible for the preparation of the Long-Range Transportation Plan and the Short-Range Transportation Plan (SRTP). The current Long- and Short-Range Transportation Plans are the 2020 Long-Range Transportation Plan and the 2014 Short-Range Transportation Plan.

The transportation plans include all major transit and highway projects (partially or fully funded), existing programs and policies, and new policies and initiatives required to achieve Metro's regional goals.

Local

Los Angeles County Public Works

The County's Public Works Department adopted their Transportation Impact Guidelines on July 23, 2020. As mentioned above, a project's effect on automobile delay is no longer a consideration when identifying a significant impact under CEQA; therefore, the operational analysis parts of the Transportation Impact Guidelines that do not directly apply to CEQA are not addressed in this section. The Draft Program Environmental Impact Report (PEIR) addresses the VMT-based CEQA analysis criteria detailed in the Transportation Impact Guidelines. The Transportation Impact Guidelines include guidance and requirements for VMT analysis of development projects, including project screening, analysis methodology, significance criteria, impact assessment, and mitigation strategies (Los Angeles County Public Works 2020).

Los Angeles County General Plan Mobility Element

The Mobility Element of the Los Angeles County General Plan (General Plan) contains goals designed to further the County's mobility strategy pursuant to the California Complete Streets Act of 2007. The Mobility Element addresses this requirement with policies and programs that consider all modes of travel, with the goal of making streets safer, accessible, and more convenient to walk, ride a bicycle, or take transit (County of Los Angeles 2015). As mentioned previously, a project's effect on automobile delay or LOS is no longer a consideration when identifying a significant impact under CEQA; therefore, the County's General Plan policies related to performance of roadway system are not included in this section. The relevant goals and policies within the Mobility Element are presented below (County of Los Angeles 2015):

Goal M 1 Street designs that incorporate the needs of all users. (Complete Streets)

- **Policy M 1.1** Provide for the accommodation of all users, including pedestrians, motorists, bicyclists, equestrians, users of public transit, seniors, children, and persons with disabilities when requiring or planning for new, or retrofitting existing, roads and streets.
- **Policy M 1.2** Ensure that streets are safe for sensitive users, such as seniors and children.
- **Policy M 1.3** Utilize industry standard rating systems, such as the Institute for Sustainable Infrastructure (ISI) Rating System, to assess sustainability and effectiveness of street systems for all users.

Goal M 2 Interconnected and safe bicycle- and pedestrian-friendly streets, sidewalks, paths and trails that promote active transportation and transit use. (Active Transportation Design)

- **Policy M 2.1** Design streets that accommodate pedestrians and bicyclists, and reduce motor vehicle accidents through a context-sensitive process that addresses the unique characteristics of urban, suburban, and rural communities.

Policy M 2.2 Accommodate pedestrians and bicyclists, and reduce motor vehicle accidents by implementing the following street designs, whenever appropriate and feasible:

- Lane width reductions to 10 or 11 feet in low speed environments with a low volume of heavy vehicles.
- Wider lanes may still be required for lanes adjacent to the curb, and where buses and trucks are expected.
- Low-speed designs.
- Access management practices developed through a community-driven process.
- Back in angle parking at locations that have available roadway width and bike lanes, where appropriate.

Policy M 2.3 Accommodate pedestrians and bicyclists, and reduce motor vehicle accidents by implementing the following intersection designs, whenever appropriate and feasible:

- Right angle intersections that reduce intersection skew.
- Smaller corner radii to reduce crossing distances and slow turning vehicles.
- Traffic calming measures, such as bulb-outs, sharrows, medians, roundabouts, and narrowing or reducing the number of lanes (road diets) on streets.
- Crossings at all legs of an intersection.
- Shorter crossing distances for pedestrians.
- Right-turn channelization islands. Sharper angles of slip lanes may also be utilized.
- Signal progression at speeds that support the target speed of the corridor.
- Pedestrian push buttons when pedestrian signals are not automatically recalled.
- Walk interval on recall for short crossings.
- Left-turn phasing.
- Prohibit right turn on red.
- Signs to remind drivers to yield to pedestrians.

Policy M 2.4 Ensure a comfortable walking environment for pedestrians by implementing the following, whenever appropriate and feasible:

- Designs that limit dead-end streets and dead-end sidewalks.
- Adequate lighting on pedestrian paths, particularly around building entrances and exits, and transit stops.
- Designs for curb ramps, which are pedestrian friendly and compliant with the American Disability Act (ADA).
- Perpendicular curb ramps at locations where it is feasible.
- Pedestrian walking speed based on the latest standard for signal timing. Slower speeds should be used when appropriate (i.e., near senior housing, rehabilitation centers, etc.)
- Approved devices to extend the pedestrian clearance times at signalized intersections.
- Accessible Pedestrian Signals (APS) at signalized intersections.

- Pedestrian crossings at signalized intersections without double or triple left or right turn lanes.
- Pedestrian signal heads, countdown pedestrian heads, pedestrian phasing and leading pedestrian intervals at signalized intersections.
- Exclusive pedestrian phases (pedestrian scrambles) where turning volume conflicts with very high pedestrian volumes.
- Advance stop lines at signalized intersections.
- Medians or crossing islands to divide long crossings.
- High visibility crosswalks.
- Pedestrian signage.
- Advanced yield lines for uncontrolled crosswalks.
- Rectangular Rapid Flashing Beacon or other similar approved technology at locations of high pedestrian traffic.
- Safe and convenient crossing locations at transit stations and transit stops located at safe intersections.

Policy M 2.5 Ensure a comfortable bicycling environment by implementing the following, whenever appropriate and feasible:

- Bicycle signal heads at intersections.
- Bicycle signal detection at all signalized intersections.
- Wayfinding signage.
- Road diet techniques, such as lane narrowing, lane removal, and parking removal/restriction.
- Appropriate lighting on all bikeways, including those in rural areas.
- Designs, or other similar features, such as: shoulder bikeways, cycle tracks, contra flow bike lanes, shared use paths, buffered bike lanes, raised bike lanes, and bicycle boulevards.

Policy M 2.6 Encourage the implementation of future designs concepts that promote active transportation, whenever available and feasible.

Policy M 2.7 Require sidewalks and bikeways to accommodate the existing and projected volume of pedestrian and bicycle activity, considering both the paved width and the unobstructed width available for walking.

Policy M 2.8 Connect pedestrian and bicycle paths to schools, public transportation, major employment centers, shopping centers, government buildings, residential neighborhoods, and other destinations.

Policy M 2.9 Encourage the planting of trees along streets and other forms of landscaping to enliven streetscapes by blending natural features with built features.

Policy M 2.10 Encourage the provision of amenities, such as benches, shelters, secure bicycle storage, and street furniture, and comfortable, safe waiting areas near transit stops.

Policy M 2.11 Promote the continuity of streets and sidewalks through design features, such as limiting mid-block curb cuts, encouraging access through side streets or alleys, and promoting shorter block lengths

Goal M-3 Streets that incorporate innovative designs. (Innovative Street Design)

Policy M 3.1 Facilitate safe roadway designs that protect users, preserve state and federal funding, and provide reasonable protection from liability.

Policy M 3.2 Consider innovative designs when part of an accepted standard, or when properly vetted through an appropriate engineering/design review, in compliance with all state and federal laws.

Policy M 3.3 Complete the following studies prior to the implementation of innovative design concepts:

- An analysis of the current and future context of the community and neighborhood in which they are proposed;
- A balanced assessment of the needs of all users and travel modes (i.e., pedestrian, bicycle, transit, vehicular, and equestrian, where appropriate);
- A technical assessment of the operational and safety characteristics for each mode; and
- A consistency check with transportation network plans, including the Highway Plan, Bicycle Master Plan, and Community Pedestrian Plans.

Goal M 4 An efficient multimodal transportation system that serves the needs of all residents

Policy M 4.1 Expand transportation options that reduce automobile dependence.

Policy M 4.2 Expand shuttle services to connect major transit centers to community points of interest.

Policy M 4.3 Maintain transit services within the unincorporated areas that are affordable, timely, cost-effective, and responsive to growth patterns and community input.

Policy M 4.4 Ensure expanded mobility and increase transit access for underserved transit users, such as seniors, students, low income households, and persons with disabilities.

Policy M 4.5 Encourage continuous, direct routes through a connected system of streets, with small blocks and minimal dead ends (cul-de-sacs).

Policy M 4.8 Provide and maintain appropriate signage for streets, roads and transit.

Policy M 4.9 Ensure the participation of all potentially affected communities in the transportation planning and decision-making process.

Policy M 4.10 Support the linkage of regional and community-level transportation systems, including multimodal networks.

Policy M 4.11 Improve the efficiency of the public transportation system with bus lanes, signal prioritization, and connections to the larger regional transportation network.

Policy M 4.12 Work with adjacent jurisdictions to ensure connectivity and the creation of an integrated regional network.

Policy M 4.13 Coordinate with adjacent jurisdictions in the review of land development projects near jurisdictional borders to ensure appropriate roadway transitions and multimodal connectivity.

Policy M 4.14 Coordinate with Caltrans on mobility and land use decisions that may affect state transportation facilities.

Policy M 4.15 Reduce vehicle trips through the use of mobility management practices, such as the reduction of parking requirements, employer/institution-based transit passes, regional carpooling programs, and telecommuting.

Policy M 4.16 Promote mobility management practices, including incentives to change transit behavior and using technologies, to reduce VMTs

Goal M 5 Land use planning and transportation management that facilitates the use of transit.

Policy M 5.1 Facilitate transit-oriented land uses and pedestrian-oriented design to encourage transit ridership.

Policy M 5.2 Implement parking strategies that facilitate transit use and reduce automobile dependence.

Policy M 5.3 Maintain transportation right-of-way corridors for future transportation uses, including bikeways, or new passenger rail or bus services.

Goal M 7 Transportation networks that minimizes negative impacts to the environment and communities.

Policy M 7.5 In rural areas, require rural highway and street standards that minimize the width of paving and the placement of curbs, gutters, sidewalks, street lighting, and traffic signals, except where necessary for public safety.

Los Angeles County Bicycle Master Plan 2012 and Bicycle Master Plan Update

The Los Angeles County Board of Supervisors adopted the current Bicycle Master Plan in March 2012. The plan estimates that within the Metro/Downtown Los Angeles area by the year 2030, the total number of daily bicycle commuters could increase from the current estimate of 2,612 to 12,021 (County of Los Angeles 2012). The bike-to-work mode share is estimated by the plan to increase from the current 0.30% to 1.0% for that subarea. Metro publishes the LA Metro Bike Map, a regional map that includes existing bicycle facilities within all jurisdictions of the County. The Bike Map identifies Class II Bike Lanes, Class III Bike Routes, and Bicycle Boulevards throughout County. On October 15, 2019, the Board of Supervisors directed Los Angeles County Public Works to initiate an update to the 2012 Bicycle Master Plan in partnership with Regional Planning, Beaches and Harbors, Parks and Recreation, the Sheriff's Department, and Highway Patrol. Los Angeles County Public Works would also revise the plan's PEIR to analyze transportation impacts using VMT rather than LOS. As of this writing, no updates to the Bicycle Master Plan have been completed.

Along with the proposed bikeways, the current Bicycle Master Plan recommends various bicycle-friendly policies and programs to promote bicycle ridership among users of all ages and skill sets within the County. The relevant goals and polices are presented below (County of Los Angeles 2012):

Goal 1 **Bikeway System.** Expanded, improved, and interconnected system of county bikeways and bikeway support facilities to provide a viable transportation alternative for all levels of bicycling abilities.

Policy 1.1 Construct bikeways proposed in 2012 County of Los Angeles Bicycle Master Plan over the next 20 years.

Policy 1.3 Coordinate with developers to provide bicycle facilities that encourage biking and link to key destinations.

Policy 1.4 Support the development of bicycle facilities that encourage new riders.

Policy 1.6 Develop a bicycle parking policy.

Goal 2 Increased safety of roadway for all users.

Policy 2.1 Implement projects that improve the safety of bicyclists at key locations.

Policy 2.2 Encourage alternative street standards that improve safety such as lane reconfigurations and traffic calming.

Policy 2.4 Evaluate impacts on bicyclists when designing new or reconfiguring streets.

Policy 2.6 Support development of a Healthy Design Ordinance.

Policy 2.7 Support the use of the Model Design Manual for Living Streets and Design as a reference for LACPW.

Step by Step Los Angeles County

In 2019, the Los Angeles County Board of Supervisors adopted Step by Step Los Angeles County: Pedestrian Plan for Unincorporated Communities, a policy framework for how the County proposes to get more people walking, make walking safer, and support healthy active lifestyles. It also includes Community Pedestrian Plans for the communities of Lake Los Angeles, Walnut Park, Westmont/West Athens, and Whitter-Los Nietos. The Step by Step pedestrian plan communities were selected based on key criteria that identified communities in unincorporated Los Angeles County with high rates of pedestrian collisions that resulted in death or injury (County of Los Angeles Department of Public Health 2019). Additionally, one goal of the inaugural pedestrian plans that were approved in 2019 was to pilot pedestrian planning and design in a mix of rural (Lake Los Angeles), urban (Westmost-West Athens and Walnut Park), and suburban (West Whittier-Los Nietos) communities.

Step by Step outlines actions, policies, procedures, and programs that the County will consider to enhance walkability across unincorporated communities. The pedestrian plans also provide guidance in developing a network of sidewalks, off-street paths, trails, and facilities (such as lighting, crosswalks, and benches) that allow people to walk safely and comfortably to key destinations. It includes policies that address safety, traffic, education, and programs to promote a safe, walkable community. The relevant goals and polices of Step by Step Los Angeles County are presented below (County of Los Angeles Department of Public Health 2019):

Goal 1 **Safe Streets** Eliminate all fatalities and severe injuries involving people walking.

Policy SS-1 Coordinate across County departments, and with the California Highway Patrol, community members, and organizations to implement Vision Zero Los Angeles County to eliminate traffic-related pedestrian fatalities and severe injuries.

Policy SS-2 Elevate the pedestrian walking experience by enhancing pedestrian crossings and implementing traffic calming measures where feasible and appropriate.

Goal 2 **Make Walking the Easy and Healthy Choice** Communities, streets, and sidewalks are designed to promote walking and healthy living.

- **Policy EH-1** Make transportation, land use, and building design or site planning decisions that make walking a logical first choice transportation option for residents and visitors.
- **Policy EH-2** Design pedestrian-friendly streets to make walking a convenient first choice for daily activities.
- **Policy EH-3** Provide opportunities for community participation in creating safe and inviting pedestrian environments.

Goal 3 **Connectivity** Develop and maintain a complete pedestrian network that links transit, schools, parks, and other key destinations in the community.

- **Policy C-1** Support projects that increase pedestrian connectivity, reduce walking distances, and enhance safety.
- **Policy C-2** Create a barrier-free pedestrian network. Maintain pedestrian facilities to ensure they are free of hazards and obstructions

Goal 4 **Equity** Make unincorporated Los Angeles County more walkable for all through equity in public engagement, service delivery, accessibility, planning, and capital investments.

- **Policy EQ-1** Prioritize the needs of low-income communities of color and the most vulnerable users.
- **Policy EQ-2** Create a pedestrian network

Goal 5 **Safe Communities** Address real and perceived personal safety concerns to encourage walking.

- **Policy SC-1** Implement community environmental design and community programs that enhance public safety that supports people of all abilities – especially youth, seniors, and those with disabilities. This includes, but is not limited to, wide sidewalks, curb ramps, accessible pedestrian signals to aid the visually impaired, and adequate pedestrian crossing times.

Goal 6: **Sustainability and Preservation** Pedestrian projects and programs enhance the natural environment including clean air and water.

- **Policy SP-1** Improve air quality and reduce greenhouse gas emissions through reduced car dependency.
- **Policy SP-2** Enhance the natural environment through the greening of pedestrian space by planting trees and vegetation, and the use of efficient materials and processes in sidewalk and street enhancement projects.

4.17.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would have a significant effect on the environment with respect to transportation and traffic if the project would:

T-1: Conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

T-2: Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

T-3: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

T-4: Result in inadequate emergency access.

The thresholds are analyzed in this section. In addition, this section includes a program-level analysis of the potential VMT impacts due to the Proposed Project. A screening-based approach for measuring VMT impacts was found appropriate for this program-level impact analysis. This is because it is only possible to make generalized estimates of dwelling units and non-residential square footage that could be developed by rezoning areas based on maximum allowable density and floor area ratio (FAR) at this time. The specific location or intensity of development throughout the County would need to be evaluated as, and when, individual projects are proposed. The Proposed Project includes a rezoning program, specifying limited areas in the Project Area where the maximum allowable density will be increasing, but actual development will likely depend on the proposals that come forth from various applicants. In addition, the specific timing and other details such as affordable housing units, mix and intensity of land uses, and driveway locations would determine the potential for significant transportation impacts. Therefore, individual development projects would also be required to be reviewed in accordance with the County's Transportation Impact Analysis Guidelines (Los Angeles County Public Works 2020).

The County of Los Angeles Vehicle Miles Traveled Impact Threshold

Per the County's Transportation Impact Analysis Guidelines (Los Angeles County Public Works 2020), a project has a potentially significant VMT impact if it meets one or more of the criteria listed below when comparing to the baseline VMT for the North and South County areas. Refer to Figure 4.17-1 and Table 4.17.1 for the geographic boundaries for the North and South County baseline areas and VMT baseline values, respectively.

- **Residential Projects:** The project's residential VMT (i.e., the VMT generated by home-based work and other trips) per capita would not be 16.8% below the existing residential VMT per capita for the Baseline Area (i.e., within North or South County) in which the project is located.
- **Office Projects:** The project's employment VMT (i.e., the VMT generated by home-based work trips) per employee would not be 16.8% below the existing employment VMT per employee for the Baseline Area (i.e., within North or South County) in which the project is located.
- **Regional Serving Retail Projects**: The project would result in a net increase in existing total VMT.
- **Land Use Plans:** The plan total VMT per service population (i.e., sum of residents and employees) would not be 16.8% below the existing VMT per service population for the Baseline Area in which the plan is located (see Table 4.17-1).
- **Other Land use Type:** Public Works to determine which of the above is an appropriate threshold of significance to be used.

Consistent with the OPR guidelines and CEQA Guidelines Section 15064.3(b), the following specific VMT metrics were recommended by the County for the Proposed Project's VMT impact assessment:

- **Residential Use:** VMT per resident for all home-based trips.
- **Mixed-Use:** Total VMT per service population.

4.17.4 Methodology

As described in Chapter 3.0, Project Description, the general areas included as part of the Proposed Project's rezoning program were evaluated in this PEIR at a programmatic level based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. Further analysis was not conducted because the County had no further information and would be too speculative to base an analysis of potential impacts resulting from future housing development per the Proposed Project. As such, potential changes beyond that are considered speculative or unlikely to occur and therefore, not reasonably foreseeable.

Conflict with Plans, Policies, and Programs

The applicable programs, plans, ordinances, and policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities were analyzed for their applicability to the Proposed Project under Threshold T-1.

Vehicle Miles Traveled

Based on the general areas that are included in the Proposed Project's rezoning program, a VMT screening based analysis for development projects based on the criteria in the County's Transportation Impact Guidelines (Los Angeles County Public Works 2020) was conducted. The following criteria have been evaluated for the Proposed Project:

- **Non-Retail Project Trip Generation Screening.** If a development project generates a net increase of 110 or more daily vehicle trips,[4] then further VMT analysis is required. Therefore, residential areas with less than 110 daily net trip generation would screen out of conducted further VMT analysis and a less-than-significant determination can be made.
- **Retail Project Trip Generation Screening.** If a development project contains retail uses that exceed 50,000 square feet of gross floor area, then further VMT analysis is required. However, if the retail project is part of a mixed-use project, then the remaining portion of the project may be subject to further analysis in accordance with other screening criteria. Therefore, sites with 50,000 square feet of gross floor area or less would screen out of conducted further VMT analysis and a less-than-significant determination can be made.

[4] OPR's Technical Advisory, 2018: CEQA provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area (14 CCR 15301[e][2]). Typical project types for which trip generation increases relatively linearly with building footprint (i.e., general office building, single tenant office building, office park, and business park) generate or attract an additional 110-124 trips per 10,000 square feet. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer trips could be considered not to lead to a significant impact.

- **Proximity to Transit Based Screening.** If a development project is located within a 0.5-mile radius of a major transit stop[5] or an existing stop along a high-quality transit corridor[6] then the following subsequent questions should be considered:
  - Does the project have a FAR less than 0.75?
  - Does the project provide more parking than required by the County Code?
  - Is the project inconsistent with the SCAG RTP/SCS?
  - Does the project replace residential units set aside for lower income households with a smaller number of market-rate residential units?

  If the answer to all four questions is no, further analysis is not required, and a less-than-significant determination can be made. To determine the proposed change in residential units, the total number of lower income housing units that exist on the project parcel should be counted and compared to the total number of lower income and market-rate residential units proposed by the project. If there is a net decrease in residential units, then Proximity to Transit Based Screening criteria cannot be utilized.

- **Residential Land Use Based Screening (Affordable Housing Screening).** Independent of the screening criteria for non-retail and retail projects, certain projects that further the state's affordable housing goals are presumed to have less-than-significant impact on VMT. If the project requires a discretionary action and 100% of the units, excluding manager's units, are set aside for lower income households, then further analysis is not required, and a less-than-significant determination can be made.
- **Map-based Screening.** The Project proposes residential uses and mixed-use (residential and local serving commercial uses). Therefore, VMT per capita and VMT per service population metrics were chosen for the project's VMT analysis. To provide a baseline VMT and to determine which areas are below the County's threshold (i.e., 16.8% below the existing residential VMT per capita or total VMT per service population for the Baseline Area), all theareas within the Proposed Project's rezoning program were overlayed on the County's VMT baseline maps for the North County and South County areas. This analysis is provided to show the areas of the rezoning program that may not have an impact; however, a project-level analyses will be required for individual projects that do not meet any of the above-mentioned County screening criteria to determine whether a significant impact occurs or not.

Hazards due to Geometric Design Features or Incompatible Uses

An impact on transportation hazards related to a geometric design feature would be significant if implementation of the Proposed Project would result in designs for on-site circulation and access driveways that fail to meet County's design guidelines.

Inadequate Emergency Access

An impact on emergency access would be significant if implementation of the Proposed Project would result in inadequate emergency access.

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5 OPR's Technical Advisory 2018: California Public Resources Code, Section 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.")

6 OPR's Technical Advisory 2018: California Public Resources Code, Section 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.")

Program-Level Trip Generation Estimate

While trip generation is not used for the purpose of determining impacts based on traffic delay or congestion, it is estimated at a program-level and for potential future sites to determine whether the increase in residential density and the change in non-residential use (based on comparison with the proposed General Plan) would lead to an increase or decrease in overall daily and peak hour trips. Trip generation also plays an important role in evaluating mobile emissions and noise impacts.

Dwelling Units and Commercial/Retail Square Footage

Based on comparison of existing target units and proposed target units from the General Plan EIR, the number of additional residential dwelling units (proposed under the rezoning program) was calculated within the general rezoning program area. Additionally, a comparison of commercial use sites that may be rezoned to mixed-use to allow for additional units was conducted to estimate the additional residential units and commercial/retail use on those sites. This was calculated from difference between the existing developable square footage (estimated using existing Target FAR from the General Plan and its corresponding square footage) and proposed developable square footage (estimated by converting increased FAR for mixed-use sites into equivalent number of dwelling units and square footage for commercial/retail use).[7] . Overall, the program would result in the addition of 63,443 dwelling units and reduction of 16.0 million square feet of commercial uses within the areas included in the rezoning program.

Trip Rates and Trip Generation

Trip generation for the areas included in the Proposed Project's was based on daily and AM and PM peak hour trip generation rates obtained from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (ITE 2017), for Multifamily (Mid-Rise) uses (ITE Code 221) and Shopping Center (for commercial) uses (ITE Code 820). Trip generation rates and the resulting trip generation estimates for the Project are summarized in Table 4.17-3.

Based on the density and number of proposed dwelling units, it is anticipated that the development would be multifamily, which includes apartments, townhouses, and condos. The County's transportation guidelines recommend using the most recent edition of the ITE Trip Generation Manual (i.e., the 10th Edition). Therefore, the use of ITE's Multifamily (Mid-Rise) trip rate, which covers at least three dwelling units in the same building of between 3 and 10 stories, was used for areas in the rezoning program within the unincorporated County. The ITE trip rate for multifamily units proposed in both general urban/sub-urban and dense multi-use urban areas were used since some of the sites would be developed with a higher density with higher accessibility to transit and/or proximity to employment centers. As shown in Table 4.17-3, the total residential trip generation is estimated to be 288,301 daily trips, 22,839 AM peak hour trips, and 27,915 PM peak hour trips.

The trip generation for commercial use was estimated using the ITE trip rates for a Shopping Center use. Some of the trips generated by commercial/retail uses are pass-by trips, or trips whose primary destination are not those uses. These would include trips such as a work-to-home trip that stops at a business (retail, restaurant, services such as gas station, etc.) on the way home from work. These trips would not be new trips; rather, they are trips that are already on the roadway network that would make a stop and therefore can be reduced from the primary trip generation of the commercial/retail use. Therefore, trip reductions for pass-by trips based on the Los Angeles Department of Transportation's Transportation Assessment Guidelines (LADOT 2020) were applied to commercial

[7] Per direction from County staff, a 66.66%-33.33% split was assumed for sites between residential-commercial uses that may be rezoned to mixed-use. For equivalent dwelling unit calculation from FAR, a 1,000 square foot per dwelling unit conversion was assumed using Appendix D, Table 2.1 of CalEEMod 2017 *User's Guide Version 2016.3.2* (CAPCOA 2017).

square footage. When accounting for shopping center pass-by trip reductions, 50% of the trips generated by commercial uses would be subtracted from the primary trip generation of commercial uses. The reduction in trip generation due to reduction of commercial square footage is therefore estimated to be half of the primary trip generation (i.e., −302,554 daily trips, −7,534 AM peak hour trips, and −30,536 PM peak hour trips).

As shown in Table 4.17-3 and described above, with the addition of approximately 63,443 dwelling units and reduction of 16.0 million square feet of commercial uses, the Proposed Project would result in a net reduction of −14,253 daily trips, a net increase of 15,306 AM peak hour trips, and a net reduction of −2,621 PM peak hour trips. The increase in AM peak hour trips is attributed to a higher percentage of AM peak hour trips generated from residential uses compared to relatively low AM peak hours trips generated by commercial uses.

However, in this PEIR, only the Project's daily trip generation has been used for VMT screening and evaluating mobile emissions and noise impacts. The peak hour trips estimate has been provided for informational purposes only.

Table 4.17-3. Trip Generation

Trip Rates[1]										
Land Use	*ITE Code*	*Units*	*Daily*	*AM Peak Hour*			*PM Peak Hour*			
				% In	*% Out*	*Total*	*% In*	*% Out*	*Total*	
Multifamily Housing (Mid-Rise)[2]	221	DU	5.44	0.09	0.27	0.36	0.27	0.17	0.44	
Multifamily Housing (Mid-Rise)[3]	221	DU	2.59	0.09	0.27	0.36	0.27	0.17	0.44	
Shopping Center[4]	820	TSF	37.75	0.58	0.36	0.94	1.83	1.98	3.81	
Trip Generation										
Land Use	*ITE Code*	*Size*	*Units*	*Daily*	*AM Peak Hour*			*PM Peak Hour*		
					In	*Out*	*Total*	*In*	*Out*	*Total*
Residential(General Urban/Sub urban)	221	43,503	DU	236,656	4,072	11,589	15,661	11,676	7,465	19,141
Residential (Dense Multi use Urban)	221	19,940	DU	51,645	1,866	5,312	7,178	5,352	3,422	8,774
Unincorporated County/ (Commercial)[5]	820	−16,029	TSF	−605,108	−9,342	−5,726	−15,068	−29,314	−31,757	−61,072
Pass-by Trip Reduction[2]				*302,554*	*4,671*	*2,863*	*7,534*	*14,657*	*15,879*	*30,536*
Commercial/Retail (Primary - Pass-by Trips) Net Trips				*−302,554*	*−4,671*	*−2,863*	*−7,534*	*−14,657*	*−15,879*	*−30,536*
Residential Trip Generation	221	63,443	DU	288,301	5,938	16,901	22,839	17,028	10,887	27,915
Commercial Trip Generation	820	−16,029	TSF	−302,554	−4,671	−2,863	−7,534	−14,657	−15,879	−30,536
Total Net New Trip Generation				**−14,253**	**1,267**	**14,038**	**15,306**	**2,371**	**−4,992**	**−2,621**

Notes: DU = Dwelling Unit; TSF = Thousand Square Feet

1 Trip rates based on fitted-curve equations or average rates from ITE 2017.

2 Trip rates for Multifamily housing units (Three- 10 levels within the same building with at least 3 other DUs) within General Urban/Sub-Urban Areas

3 Trip rates for Multifamily housing units (Three- 10 levels within the same building with at least 3 other DUs) within Dense Multi-Use Urban Areas

4 Shopping Center trip rates are based on ITE average trip rate.

5 Pass-by Trip Rates (50% discount rate for Shopping Center less than 50,000 sf, Fast Food Restaurant, Gasoline/Service Station, Convenience Market, Flower/Bakery/Yogurt Shop, Dry Cleaner, Liquor Store) from LADOT 2020.

4.17.5 Environmental Impacts

Threshold T-1 Would the Project conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Local Plans

The General Plan, including the Mobility Element, the Bicycle Master Plan, and Step by Step Los Angeles County, include plans, programs, and policies that address the circulation system in the County. As shown below, the Proposed Project does not have the potential to conflict with the plans, programs, ordinances, and policies described in Section 4.17.2.

- **Los Angeles County General Plan Mobility Element:** The General Plan Mobility Element includes goals, policies, and programs aimed at providing a multimodal transportation system that promotes walkability and connectivity throughout the unincorporated areas of the County, including interconnected and safe bicycle and pedestrian-friendly facilities that promote active transportation and transit use. The General Plan also contains elements that support alternative transportation programs, such as increasing ridership on public transit and developing public transit as an alternative to automobile travel. Implementation of the Proposed Project would be subject to and implement General Plan policies applicable to the circulation system (County of Los Angeles 2015).
- **Bicycle Master Plan:** The Bicycle Master Plan also contains elements that support alternative transportation programs, including increasing ridership on public transit, developing mass transit as an alternative to automobile travel, developing rail transit or exclusive bus lanes in high demand corridors, and researching and developing new transportation technologies (County of Los Angeles 2012). The Proposed Project would support alternative modes of transportation, including walking and bicycling, to reduce total VMT. The County will provide safe and convenient access to safe transit, bikeways, and walkways; consider the safety and convenience of pedestrians and cyclists in the design and development of transportation systems; provide safe pedestrian connections across barriers, such as major traffic corridors, drainage and flood control facilities, and grade separations; adopt consistent standards for implementation of Americans with Disabilities Act requirements; and, in the development review process, prioritize direct pedestrian access between building entrances, sidewalks, and transit stops. The Bicycle Master Plan also contains many programs and policies that would mitigate potential hazards or barriers for bicyclists (County of Los Angeles 2012).
- **Step by Step Los Angeles County: Pedestrian Plan for Unincorporated Communities:** Step by Step Los Angeles County provides a policy framework for how the County proposes to get more people walking, make walking safer, and support healthy active lifestyles (County of Los Angeles Department of Public Health 2019). Implementation of the Proposed Project would be subject to and consistent with goals regarding safe streets, making walking easy and healthy, improving connectivity, equity, safe communities, sustainability, and preservation.
- Future housing development sites under the PEIR would be subject to discretionary permits and would be required to comply with all applicable County policies and requirements. This includes policies to improve public access, mobility, and safety for all road users, including pedestrians and bicyclists. Any impacts identified for an individual project would be addressed through the project approval process, including design review, environmental review, and mitigation measures specific to any identified impacts.

Regional Plans

Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

The strategies intended to be supportive of implementing the 2020–2045 RTP/SCS and reducing GHGs include: focus growth near destinations and mobility options, promote diverse housing choices, leverage technology innovations, support implementation of sustainability policies, and promote a green region. The Proposed Project's compliance with the two applicable strategies is presented below.

Focus Growth Near Destinations and Mobility Options. The Proposed Project's compliance with this strategy of the 2020–2045 RTP/SCS is demonstrated via the Proposed Project's land use characteristics and features that would reduce vehicular trips. Regarding VMT reduction characteristics, if the individual project is a mixed-use development located within a transit priority area[8] and adjacent to transit stops, it would not generate as many vehicular trips and VMT as an urban or suburban location that is not served by transit. As such, the Proposed Project would provide residential and mixed-use opportunities within proximity to transit services. The County's guidance further supports that projects located within 0.5 miles of major transit stops or within high-quality-transit areas (HQTAs) can be screened out of detailed analysis as they can be presumed to not have a significant VMT impact. See also the VMT impact analysis included in Section 4.17.5.

Promote Diverse Housing Choices. The Proposed Project would comply with this strategy of the 2020–2045 RTP/SCS since it would result in the development of new market-rate and affordable residential units.

Los Angeles County Metropolitan Transportation Authority

The Proposed Project would not preclude Metro from implementing any major transit, active transportation, operations, capital improvement and highway projects, nor conflict with existing programs and policies or new policies and initiative required to achieve its regional goals.

Summary of Analysis for Threshold T-1

The Proposed Project consists of a policy document update, and adoption of Proposed Project alone would not produce environmental impacts. The Proposed Project consists of updating the General Plan Housing Element, and no actual development is proposed as part of the update. Implementation of the programs contained in the updated document would accommodate development required to meet the County's 2021–2029 RHNA allocation. Under the RHNA allocation, the unincorporated County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It has been determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its RHNA gap; refer to Chapter 3, Project Description, for further details.

While the Proposed Project consists of a policy document update, which is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. However, the Proposed Project would not have the potential to conflict with local and

[8] Per California Public Resources Code, Section 21099(a)(7) a "Transit priority area" means an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations. For purposes of SB 743, a transit priority area also includes major transit stops that are scheduled to be completed within the planning horizon of the SCAG RTP/SCS.

regional plans, programs, ordinances, and policies. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these local and regional plans, programs, ordinances, and policies and would not provide any goals, policies, or programs that would significantly impact transportation within the County. Furthermore, the Proposed Project includes goals and policies to enhance use of transit, such as Goal 2, Policy 2.2, which focuses on encouraging multifamily residential uses along major commercial and transportation corridors, and Goal 11, Policy 11.3, which encourages policies and programs that incentivize housing near transit. Additionally, future housing development pursuant to the Proposed Project's rezoning program would be subject to discretionary permits and would be required to comply with all applicable County policies and requirements. This includes policies to improve public access, mobility, and safety for all road users, including pedestrians and bicyclists. Any impacts identified for an individual project facilitated by the Proposed Project's rezoning program would be addressed through the project approval process, including design review, environmental review, and mitigation measures specific to any identified impacts.

As a result, the Proposed Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Therefore, impacts would be **less than significant.**

Threshold T-2 Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The following discusses the results of the VMT screening analysis and impacts of the areas generally included in the rezoning program and consistency with CEQA Guidelines Section 15064.3(b).

Per the County's guidelines, if a project meets any one of the following criteria it would not require a detailed VMT analysis:

- Trip Generation Screening: Generate or attract fewer than 110 daily vehicle trips
- Retail Project Screening: A project that contains a local serving retail use that does not exceed 50,000 square feet of gross floor area
- Proximity to Transit Screening: Is located within a transit priority area or HQTA
- Land Use Screening (Affordable Housing Screening): Based on discussion with County staff it was determined that the number of units that can be set aside for lower income households would be based on development proposals that could be likely for potential future sites. Therefore, the screening criteria for this type of land use cannot be used at this time. However, per County's guidelines, only projects with 100% affordable or lower income household units, excluding manager's units, would be screened out using this criterion.

Map Based Screening: It should be noted that the County has not included a map-based screening criteria; however, based on discussion with County staff, areas (within the rezoning program) that overlap with baseline VMT maps for North and South County areas may be used to determine which portions of the rezoning program are located in a low VMT-generating area. This can be used as a tool to predict potential eligibility for a less-than-significant VMT impact.

Therefore, trip generation, proximity to transit analysis, and map-based screening was conducted for all areas included in the rezoning program to determine how many areas would generally meet each or at least one of the screening criteria identified.

Project Trip Generation Screening

The number of potential new dwelling units and net new commercial use that would potentially result from the Proposed Project's rezoning program was estimated based on the residential density and FAR calculations. During the discretionary review, the net new trip generation for areas in the rezoning program can be estimated using the trip generation rates for multifamily units and commercial use described previously or using applicable trip rate for existing uses on each parcel. Residential site that would generate less than 110 daily net trips would screen out of conducting further VMT analysis and would receive a less-than-significant determination.

It should be noted that the program-level trip generation estimate provided in Table 4.17-3 is based on a comparison of the County's General Plan target densities for the year 2035 and the changes proposed by the rezoning program. However, the net new trip generation of potential future residential sites (based on the size of existing and proposed future residential development) would be verified as future rezoning occurs as part of the Proposed Project's rezoning program.

Proximity to Transit Based Screening

Based on the criteria of being within a 0.5-mile radius of a major transit stop or along a high-quality transit corridor, each individual parcel was subject to transit priority area screening using ArcMap 10.8.1 software.[9] Figures 4.17-5 illustrates areas within a 0.5-mile radius of major transit stops and Figure 4.17-6 illustrates areas within HQTA for unincorporated County. Per County's guidelines, these areas would potentially be screened out from further VMT analysis.[10]

The transit priority area screening was conducted using ArcGIS software, data provided by the County for major transit stops for Metro, and HQTA data available from SCAG. There are additional transit service providers in the County; however, a cursory review of transit service providers indicated that Metro is the primary provider of high frequency service in the County and has the most coverage. The NextGen Bus Plan[11] by Metro would be implementing a new plan that is reflective of local and regional travel needs and would improve the service frequencies. Metro has started making service changes for various lines in terms of new routes, added trips, and replaced and discontinued services since December 2020. Other transit service providers such as LAGOBus provide transit services within unincorporated County lands. Due to effect of COVID-19, many of the transit services have been impacted. It is likely that additional areas within the unincorporated County lands may screen out using the transit priority area screening once transit services are resumed in the future. Therefore, transit proximity screening may need to be validated using the most current transit services available in the vicinity of individual projects.

Although the County requires that HQTA screening should be applied to projects along an existing transit stop, the data from SCAG is only available for the year 2045, which includes both existing and planned transit stops. Therefore, based on the location of the proposed development, the HQTA screening for transit proximity may need to be verified at the time individual projects are proposed. As noted, previously future housing development facilitated by the Proposed Project's rezoning program will be subject to discretionary permits and future environmental review.

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9 ArcMap is a geographic information system (GIS) application for working with maps, and is used primarily to view, edit, create, and analyze geospatial data.

10 The sites may also require fulfilling the additional criteria of not:
- Having a Floor Area Ratio less than 0.75;
- Providing more parking than required by the County Code;
- Inconsistent with the SCAG RTP/SCS;
- Replacing residential units set aside for lower income households with a smaller number of market-rate residential units.

11 NextGen Bus Plan can be accessed at https://la metro.maps.arcgis.com/apps/MapJournal/index.html?appid= 73d3d0bb07e04ca686328883b3d971ab#

Map-Based Screening

The County recently prepared baseline VMT per capita and VMT per service population maps for its SB 743 Implementation Update (Fehr & Peers 2020).

The rezoning program areas within the unincorporated County lands were overlayed with the three categories of baseline VMT average for North and South County.

i. Less than 16.8% below North or South County Average
ii. 0 to16.8% below North or South County Average
iii. Higher than North or South County Average

Figures 4.17-7 and 4.17-8 illustrate VMT per capita and VMT per service population, respectively, for areas within the unincorporated County lands.

Although a map-based screening is not included in the County's transportation guidelines, based on discussion with the County staff, it was determined that the baseline VMT maps for the North and South County would be an appropriate method to obtain baseline VMT and to show areas that are below the 16.8% threshold to indicate the areas of the rezoning program that may not have an impact. Project-level analyses would be required for individual projects facilitated by the Proposed Project's rezoning program to determine if a significant impact VMT would occur.

Summary of Analysis for Threshold T-2

The Proposed Project would facilitate development of housing units to meet the County's RHNA for the current planning period (year 2021-2029). Unless screened out using any of the above-mentioned criteria, each future development project would undergo transportation analysis that evaluates VMT under the updated criteria as part of the project-specific environmental analysis required for future rezoning facilitated by the Proposed Project.

As described in Threshold T-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. Of the areas generally in the rezoning program, a large number within the unincorporated County lands would potentially meet at least one of the screening criteria described above. Based on the analysis provided above, it can be inferred that some of the future residential sites would screen out and be presumed to have a less-than-significant impact. However, there would be projects that may not meet the screening criteria once specific details regarding trip generation, availability of transit service, and/or efficiency metrics are identified at the time individual project is proposed. Those projects could result in significant VMT impacts. Additionally, even though overall program-level trip generation is negative due to reduction in commercial use, the VMT generated by proposed residential and mixed-use projects would be **potentially significant**. This is because local serving commercial uses tend to have lower VMT (which is screened out per SB 743) compared to VMT generated by residential and mixed uses.

Threshold T-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)?

As described in Threshold T-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than are currently allowed within the County. Implementation of the Proposed Project would be subject to, and constructed in accordance with, applicable roadway design standards and General Plan

policies. The Proposed Project would be subject to, and designed in accordance with, County standards and specifications that address potential design hazards including sight distance, driveway placement and access, and signage and striping. Additionally, any new transportation facilities or improvements to such facilities associated with the Proposed Project would be constructed based on design standards consistent with Los Angeles County Municipal Code Chapter 21.24, Design Standards, and best practices consistent with General Plan Mobility Element Goals M-1 and M-2.

Based on criteria included in the County's Transportation Impact Analysis Guidelines, individual projects may be required to prepare Site Access Studies and/or Site Access Analyses to address the needs of vehicles, bicycles, and pedestrians (LADOT 2020). Operational analysis maybe necessary for some individual projects to evaluate primary site access points, unsignalized intersections integral to the project's access, and signalized intersections in the vicinity of the individual project. Potential corrective actions for project access and circulation constraints can include, but are not limited to, the following:

- Installation of a traffic signal or stop signs or electronic warning devices at site access points
- Redesign and/or relocation of project access points
- Redesign of the internal access and circulation system
- Installation of stop-signs and pavement markings internal to the site
- Restriction or prohibition of turns at site access points
- Installation of new traffic signal, left-turn signal phasing, or other vehicle flow enhancements at nearby intersections
- Reconfiguration of intersections that reduces gridlock and unsafe conflict points

Therefore, a site access analysis of individual projects within the program would ensure appropriate improvement measures are identified to reduce hazards due to geometric design features. Therefore, with the implementation of County's Transportation Impact Analysis Guidelines, the Proposed Project would not increase hazards because of a roadway design feature or incompatible uses. Additionally, approval of the Proposed Project itself, as a policy document update, would not provide any goals, policies, or programs that substantially increase hazards in the area. Therefore, impacts would be **less than significant**.

Threshold T-4 Would the Project result in inadequate emergency access?

As described in Threshold T-1, while the Proposed Project consists of a policy document update that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

The County and responsible emergency service agencies including the Los Angeles County Fire Department have emergency access and design standards that are based on the size and intensity of development. The Proposed Project would be designed to meet all applicable emergency access and design standards and adequate emergency access would be provided. Compliance with these provisions would be ensured through the review process by the County and emergency service agencies.

As mentioned in the General Plan Update EIR, the County will require capacity enhancement of the roadway system when necessary, to ensure that the future dedication and acquisitions of roadways are based on projected demand and implement the construction of paved crossover points through medians for emergency vehicles. The County will maintain a current evacuation plan; ensure that new and infill development is provided with adequate

emergency and/or secondary access, including two points of ingress and egress for most subdivisions; require visible street name signage; and provide directional signage to freeways at key intersections to assist in emergency evacuation operations. Additionally, approval of the Proposed Project itself, as a policy document update, would not change these regulations and would not provide any goals, policies, or programs that would adversely affect emergency access within the area. Therefore, the Proposed Project would have a **less-than-significant impact** associated with inadequate emergency access.

4.17.6 Cumulative Impacts

Per County transportation guidelines, long-term or cumulative effects are determined through consistency with the SCAG RTP/SCS (SCAG 2020). Therefore, the geographic scope for transportation impacts would include cumulative growth projections for unincorporated Los Angeles County and 88 other jurisdictions that are reflected in the SCAG RTP/SCS. The RTP/SCS demonstrates compliance with air quality conformity requirements and GHG reduction targets. Projects that are consistent with the RTP in terms of development location, density, and intensity are consistent with air pollution and GHG goals and would have a less-than-significant cumulative impact. However, SCAG recognizes that a jurisdiction may need to update their housing elements as part of General Plans and amend zoning and land use designations to accommodate state-mandated RHNA. General Plan and zoning changes may need to accommodate more housing units than reflected in Connect SoCal's household and population growth projections for individual or combined SCAG traffic analysis zones within the jurisdictions (Exceedances). Per Resolution No. 20-624-1 of SCAG, adopting the 2020-2045 RTP/SCS PEIR Addendum and Approving SOCAL in its entirety, SCAG agrees that such exceedances may not be used to impede a local jurisdiction's compliance with sixth cycle RHNA requirements, to assess impacts of a plan or project under CEQA, or affect eligibility for state funding.

Therefore, based on the size and intensity of the Proposed Project and other cumulative projects that would be proposed within the County, it can be concluded that cumulative effects would have the potential to be **significant and unavoidable**. However, as the Los Angeles Countywide Sustainability Plan 2019 encourages increased multimodal travel, the policies and programs provided therein would continue to work toward decreasing VMT (County of Los Angeles 2019). By proactively engaging with new transportation options and expanding transit through partnerships with Metro and Metrolink and other transit services, the County can increase the likelihood that people choose alternatives to private vehicles, and thereby reduce overall VMT.

4.17.7 Mitigation Measures

Based on the criteria used to establish the general rezoning program areas, many of the areas can be screened out of further VMT analysis and presumed to have a less-than-significant impact. However, there would be some areas that may not meet the screening criteria once specific details regarding trip generation, availability of transit service, and/or efficiency metrics are identified at the time the individual project is proposed. Those future projects could result in significant VMT impacts. The VMT impacts of individual projects proposed within the rezoning program may be mitigated to a less than significant. The following section provides a summary of measures that can implemented to reduce a project's VMT impact.

Reducing the number of single-occupant vehicles generated at individual future sites, and thus minimizing VMT impacts, can be accomplished by modifying the project design, or by implementing transportation demand management strategies. Transportation demand management strategies have been determined to be among the most effective VMT mitigators, and are made through site modifications, programming, and operational changes; however, not all are applicable to residential projects. Specific mitigation strategies may need to be tailored to the

project characteristics and their effectiveness needs to be analyzed and documented as part of the environmental review process to determine if impacts could be mitigated or if they would remain significant and unavoidable. Given that research on the effectiveness of transportation demand management strategies is continuing to evolve, feasible mitigation measures should be considered based on the best data available at the time a project is being considered by the County. The effectiveness of the following mitigation measures would be dependent in large part on future project design features and occupancies, which are unknown at this time. California Air Pollution Control Officers Association report Quantifying Greenhouse Gas Mitigation Measures (CAPCOA 2010) has identified actions and changes to project features that reduce VMT.

The County's Transportation Analysis Guidelines (LADOT 2020) and Senate Bill 743 Implementation and CEQA Updates Report (Fehr & Peers 2020) include potential VMT reduction strategies. The measures from these sources were compiled in Table 4.17-4. Additionally, Table 4.17-4 shows the range of potential VMT reduction for each category.

It should be noted that SCAG is currently developing a Regional VMT Impact Mitigation Fee Program that would provide an option to mitigate significant VMT impacts. At time of this writing, details about the program are unavailable. However, per County's direction, the fee program has been noted as a potential mitigation measure.

Additionally, the Metro's Transit Supportive Planning Toolkit details specific policies and programs that can be used to promote transit-oriented developments. However, since the Specific Plan areas (within unincorporated County) would screen out based on transit proximity screening, specific mitigation measures for transit district parcels have not been identified in this PEIR.

Table 4.17-4. Potential VMT Reduction Measures for Individual Projects

Strategy	Description of Potential VMT Reduction Measure	Potential VMT Reduction Range[1]	Updated Expected VMT Reduction[2]
Residential Use			
MM TRA 1: Neighborhood Design/Site Enhancement	• Provide pedestrian network improvements (CAPCOA SDT-1) *Providing a pedestrian access network to link areas of a Project encourages people to walk instead of drive. This mode shift results in people driving less and thus a reduction in VMT. The provision of sidewalks on site that connect to off-site pedestrian walkways linking to other complementary land uses is estimated to result in a VMT reduction* • Provide Traffic Calming Measures (CAPCOA SDT-2) *Features such as marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, etc. encourage people to walk or bike.* • Incorporate Bike-Lane Street Design On-site (CAPCOA SDT-5) *Incorporate bicycle lanes, routes, and shared-use paths into street systems and large developments. This is a grouped strategy so quantification is not provided.* • Provide bike-parking with Multi-Unit Residential Projects (CAPCOA SDT-7) *Long-term bicycle parking provided at apartment complexes or condominiums without garages to promote bike use. This is a grouped strategy so quantification is not provided.* • Provide Electric Vehicle Parking (CAPCOA SDT-8) *The provision of electric vehicle parking is grouped with use of electric vehicle and provision of neighborhood electric vehicle network, therefore, quantification is not provided.*	• 0%–2% • 0.25%–1.0% • Grouped • Grouped • Grouped	• 0.5%–5.7% • 0%–1.7% • NA • NA • NA
MM TRA-2: Land use/Location	• Increase Density (CAPCOA LUT-1) *Designing projects with increased dwelling units per unit area where allowed by the General Plan and/or Zoning Ordinance reduces GHG emissions associated with traffic in several ways* • Increase transit accessibility (CAPCOA LUT-5) *Enhancing and expanding non-motorized access to transit will encourage a shift toward taking transit, instead of driving. This may include adding sidewalks, walkways that connect to/from dead end streets, and walkways in*	• 0.8%–30% • 0.5%–24.6%	• NA I. 0.0%–5.8% II. 0.0%–7.3%

Table 4.17-4. Potential VMT Reduction Measures for Individual Projects

Strategy	Description of Potential VMT Reduction Measure	Potential VMT Reduction Range[1]	Updated Expected VMT Reduction[2]
	easements to enhance connectivity in neighborhoods, bike lanes, and lighting and other amenities in the site design and site frontage improvements. • Integrate Affordable and Below Market Rate Housing (CAPCOA LUT-6) *Affordable housing provides greater opportunity for lower income families to live closer to jobs centers and achieve jobs/housing match near transit. It also addresses to some degree the risk that new transit-oriented development would displace lower income families.*	• 0.04%–1.20%	• NA
MM TRA-3: Parking Policy/Parking	• Unbundle Parking Costs from Property Cost (CAPCOA PDT-2) *Unbundling separates parking from property costs, requiring those who wish to purchase parking spaces to do so at an additional cost from the property cost. This removes the burden from those who do not wish to utilize a parking space*. • Encourage to not overpark projects to maintain the ability for projects to screen out in areas. Parking requirements can be updated in County's code.	• 2.6%–13.0%	• 2.0%–12.0%
MM TRA-4: Commute Trip Reduction	• Provide Ridesharing Programs (CAPCOA TRT-3) *Increasing the vehicle occupancy by ride sharing will result in fewer cars driving the same trip, and thus a decrease in VMT. Funding maybe provided by Community Facilities, District, County Service Area.* • Subsidized or Discounted Transit Programs (CAPCOA TRT-4) *A project can provide subsidized/discounted daily or monthly public transit passes. It could provide free transfers between all shuttles and transit to participants. These passes can be partially or wholly subsidized by the employer, school, or development.*	• 1%–15% • 0.3%–20%	• 2.5%–8.3% Three possible range: I. 0.3%–14% II. 0%–16.0% III. 0.1%–6.9%
Mixed Use (in addition to measures that apply to single use residential, following measures could apply to Mixed-Use sites)			
MM TRA-5: Land use/Location	• Increase diversity of Urban and Suburban Developments (Mixed-Use) (CAPCOA LUT-3) *Having different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transport.*	• 9.0%–30%	• NA

Table 4.17-4. Potential VMT Reduction Measures for Individual Projects

Strategy	Description of Potential VMT Reduction Measure	Potential VMT Reduction Range[1]	Updated Expected VMT Reduction[2]
MM TRA-6: Commute Trip Reduction	• Implement Commute Trip Reduction Marketing (CAPCOA TRT-7) *For larger multi-family and mixed-use sites, a project can implement marketing strategies to reduce commute trips by establishing a kiosk in common amenity area where information regarding transportation options and commute trip reduction can be provided to residents.*	• 0.8%–4.0%	• NA
MM TRA-7: Regional VMT Reduction/Mitigation Fee			
Impact Fee	• An impact fee maybe leveed on projects that have significant VMT impact as determined by the SCAG regional VMT reduction/mitigation program.		

Notes: VMT; vehicle miles traveled; NA = Not Available.

1 CAPCOA 2010.

2 Fehr & Peers 2020.

4.17.8 Level of Significance After Mitigation

Since the Proposed Project would be replacing commercial uses with residential or mixed-use development, it would have a potential to increase overall VMT per capita or service population. Most of the areas in the rezoning program can be screened out of further VMT analysis and presumed to have a less-than-significant impact. However, there may be future projects that may not meet the screening criteria once specific details regarding trip generation, availability of transit service, and/or efficiency metrics are identified at the time individual project is proposed. Those projects could result in significant VMT impacts. As discussed in Section 4.17.7, Mitigation Measures, the Proposed Project's overall VMT impacts (Threshold T-2) would remain **significant and unavoidable**. It is not possible to guarantee at this time that VMT impacts can be reduced to a less-than-significant level; however, with the implementation of measures available for reducing VMT (**Mitigation Measure [MM] TRA-1** through **MM TRA-6**) and/or complying with **MM TRA-7,** Regional VMT Reduction Program (when the program is set-up and available), the VMT impacts of most individual projects within the program can likely be mitigated to less-than-significant levels.

4.17.9 References

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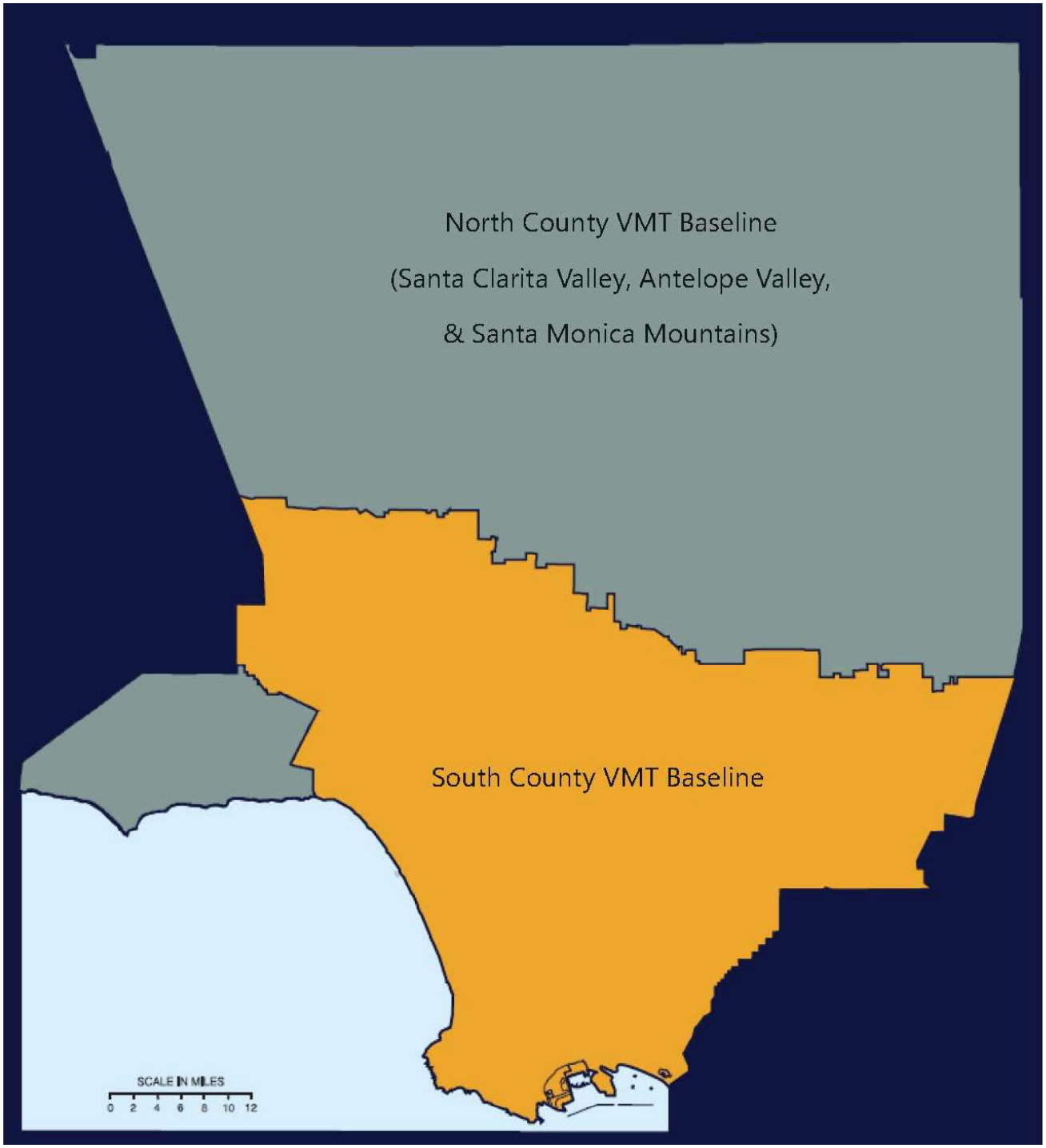
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Region	*Total VMT per Service Population*	*Residential VMT per Capita*	*Employment VMT per Employee*
North County	43.1	22.3	19.0
South County	31.1	12.7	18.4

SOURCE: Feer & Peers 2020

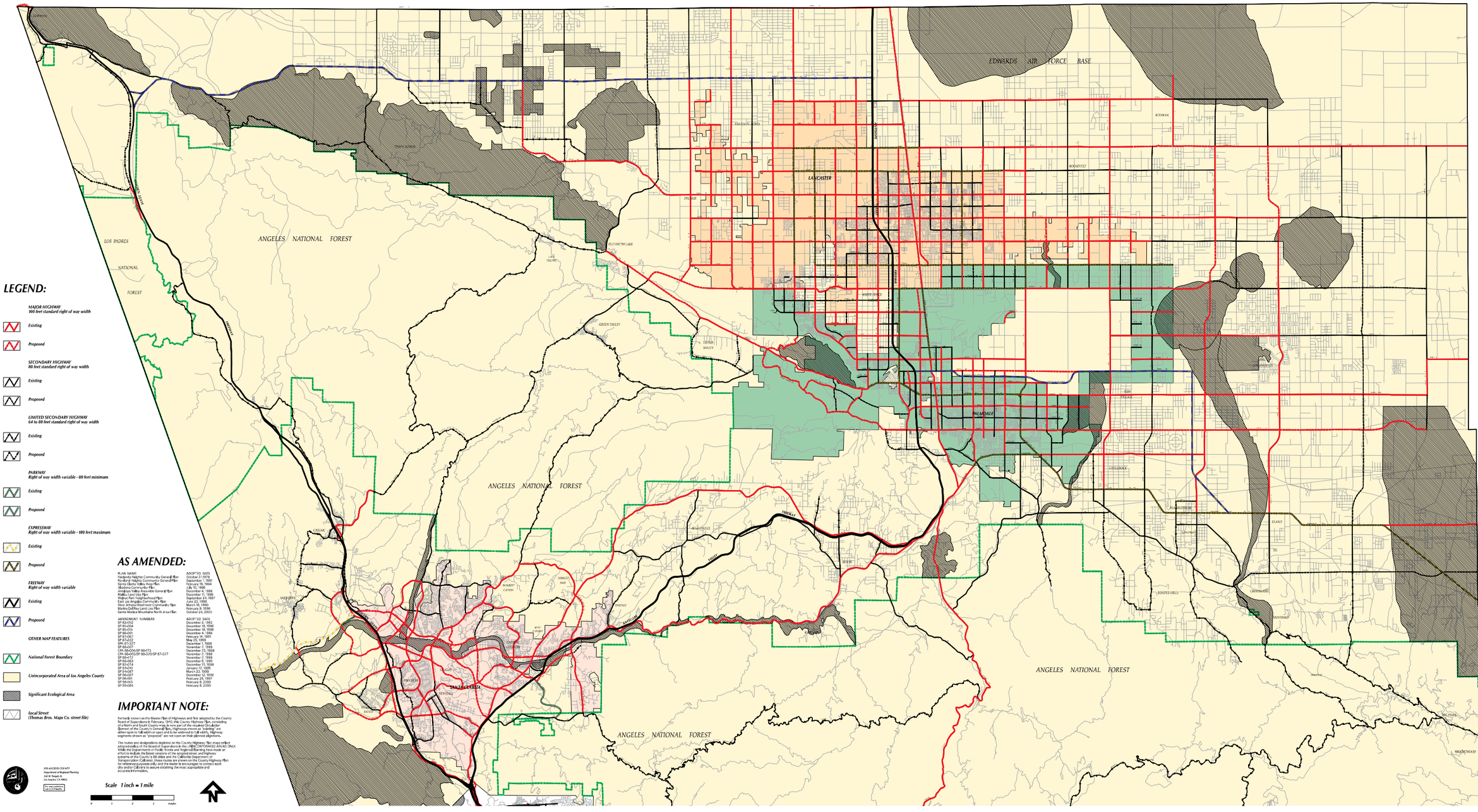
FIGURE 4.17-1

North and South Couinty Baseline VMT Boundaries and Metric

Los Angeles County Housing Element Update

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LOS ANGELES COUNTY HIGHWAY PLAN



LEGEND:

MAJOR HIGHWAY
100 feet standard right of way width
- Existing
- Proposed

SECONDARY HIGHWAY
80 feet standard right of way width
- Existing
- Proposed

LIMITED SECONDARY HIGHWAY
64 to 80 feet standard right of way width
- Existing
- Proposed

PARKWAY
Right of way width variable - 80 feet minimum
- Existing
- Proposed

EXPRESSWAY
Right of way width variable - 100 feet maximum
- Existing
- Proposed

FREEWAY
Right of way width variable
- Existing
- Proposed

OTHER MAP FEATURES
- National Forest Boundary
- Unincorporated Area of Los Angeles County
- Significant Ecological Area
- local Street (Thomas Bros. Maps Co. street file)

AS AMENDED:

PLAN NAME	ADOPTED DATE
Hacienda Heights Community General Plan	October 21,1975
Rowland Heights Community General Plan	September 1, 1981
Santa Clarita Valley Area Plan	February 16, 1984
Altadena Community Plan	July 10, 1986
Antelope Valley Westside General Plan	December 9, 1986
Malibu Land Use Plan	September 11, 1986
Walnut Park Neighborhood Plan	September 24, 1987
East Los Angeles Community Plan	June 23, 1988
West Athens-Westmont Community Plan	March 15, 1990
Marina Del Rey Land Use Plan	February 9, 1996
Santa Monica Mountains North Area Plan	October 24, 2000

AMENDMENT NUMBERS	ADOPTED DATE
SP 85-052	December 18, 1986
SP 85-056	December 18, 1996
SP 86-001	December 4, 1986
SP 87-067	February 14, 1991
SP 87-327	July 12, 1988
SPA 87-327	December 1, 1988
SP 88-007	November 2, 1989
CPA 88-004/SP 88-173	December 23, 1998
CPA 88-003/SP 88-370/SP 87-327	November 2, 1988
SP 89-052	December 6, 1989
SP 89-053	December 6, 1989
SP 93-074	December 21, 1998
SP 94-010	January 10, 1995
SP 94-087	March 23, 1999
SP 95-044	December 21, 1998
SP 96-041	February 25, 1997
SP 98-043	February 8, 2000
SP 99-086	February 8, 2000

IMPORTANT NOTE:

Formerly known as the Master Plan of Highways and first adopted by the County Board of Supervisors in February, 1940, the County Highway Plan, consisting of a North and South County map, is now part of the required Circulation Element of the County's General Plan. Highways shown as "existing" are either open to full width or open and to be widened to full width. Highway segments shown as "proposed" are not open on their planned alignment.

The routes and designations depicted on the County Highway Plan may reflect differences from the routes and designations shown on the SCAG REGIONAL ONLY. While the Departments of Public Works and Regional Planning have made an effort to include the latest versions of the accepted street and highway systems of the County's 88 cities and the California Department of Transportation (Caltrans), these routes are shown on the County Highway Plan for reference purposes only, and the reader is encouraged to contact each city and/or Caltrans to assure obtaining the most appropriate and accurate information.

COUNTY OF LOS ANGELES
Department of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012

Scale 1 inch = 1 mile

0 1 2 3 4 miles

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SOURCE: Los Angeles County 2016

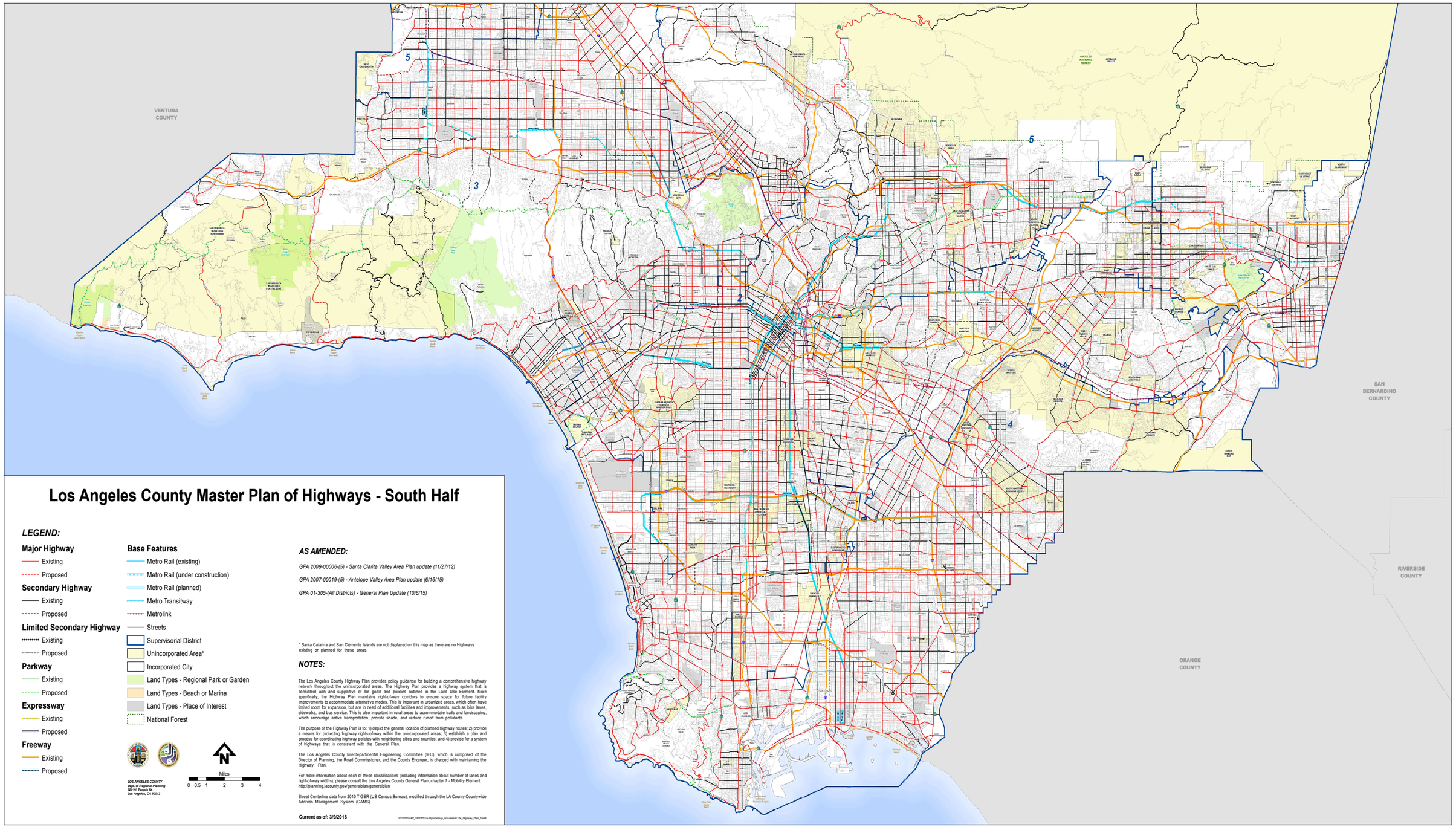
FIGURE 4.17-2A

Los Angeles County Highway Plan - North

Los Angeles County Housing Element Update

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SOURCE: Los Angeles County 2016

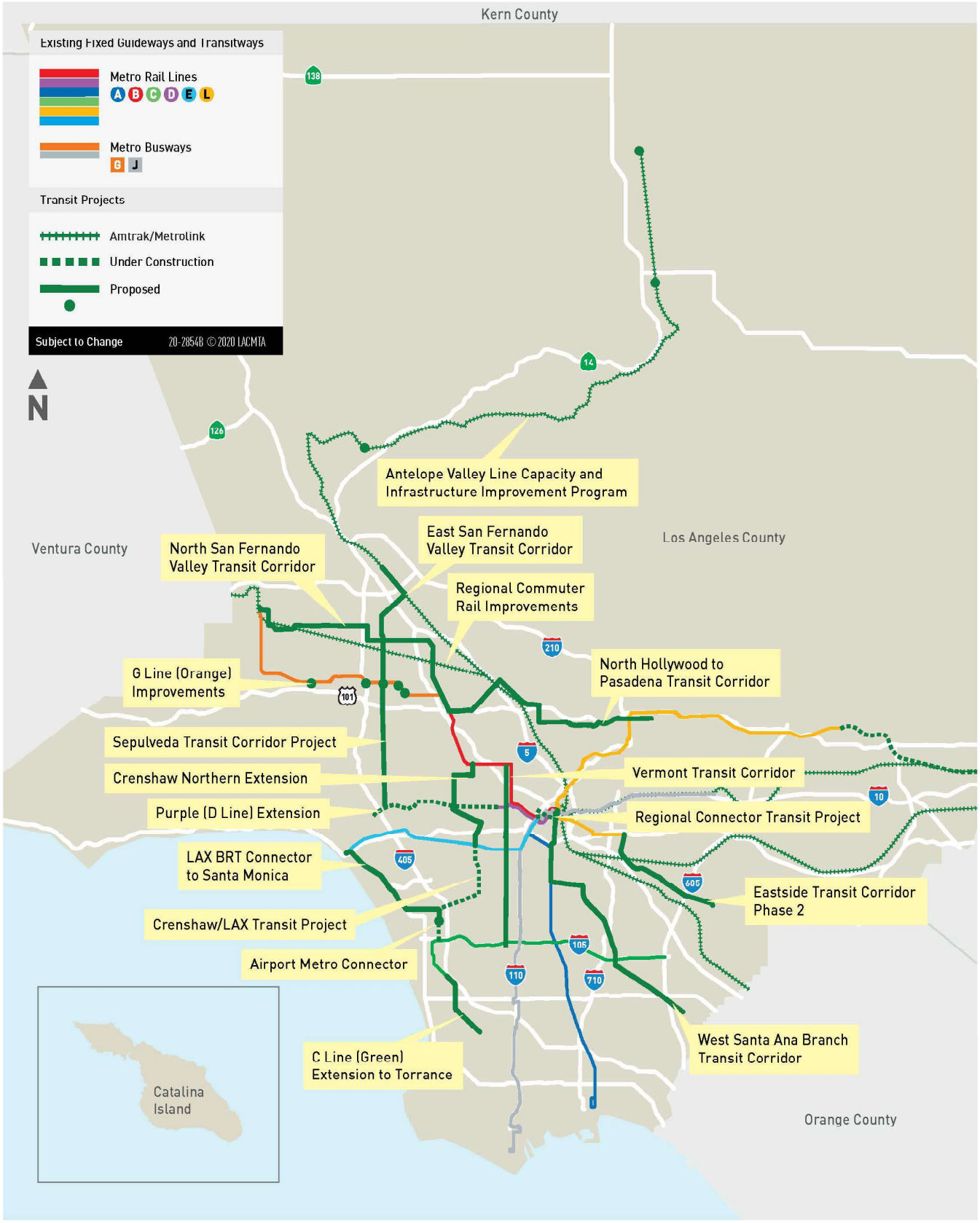
FIGURE 4.17-2B

Los Angeles County Highway Plan - South

Los Angeles County Housing Element Update

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SOURCE: Los Angeles County 2020

FIGURE 4.17-3A

Existing and Planned Major Transit Projects

Los Angeles County Housing Element Update

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SOURCE: Los Angeles County 2019

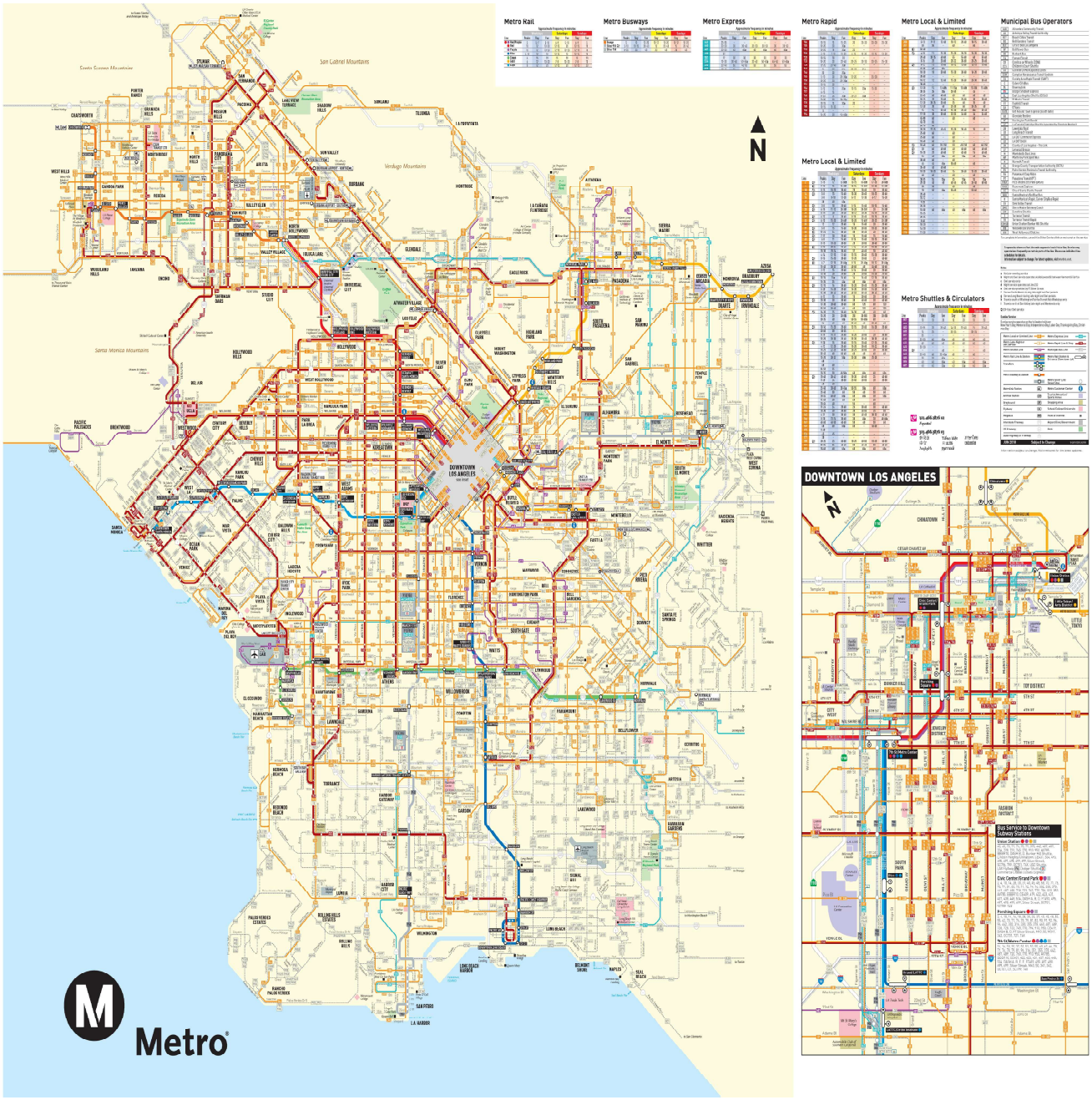
FIGURE 4.17-3B

Metrolink Commuter Rail System

Los Angeles County Housing Element Update

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SOURCE: Los Angeles County 2018

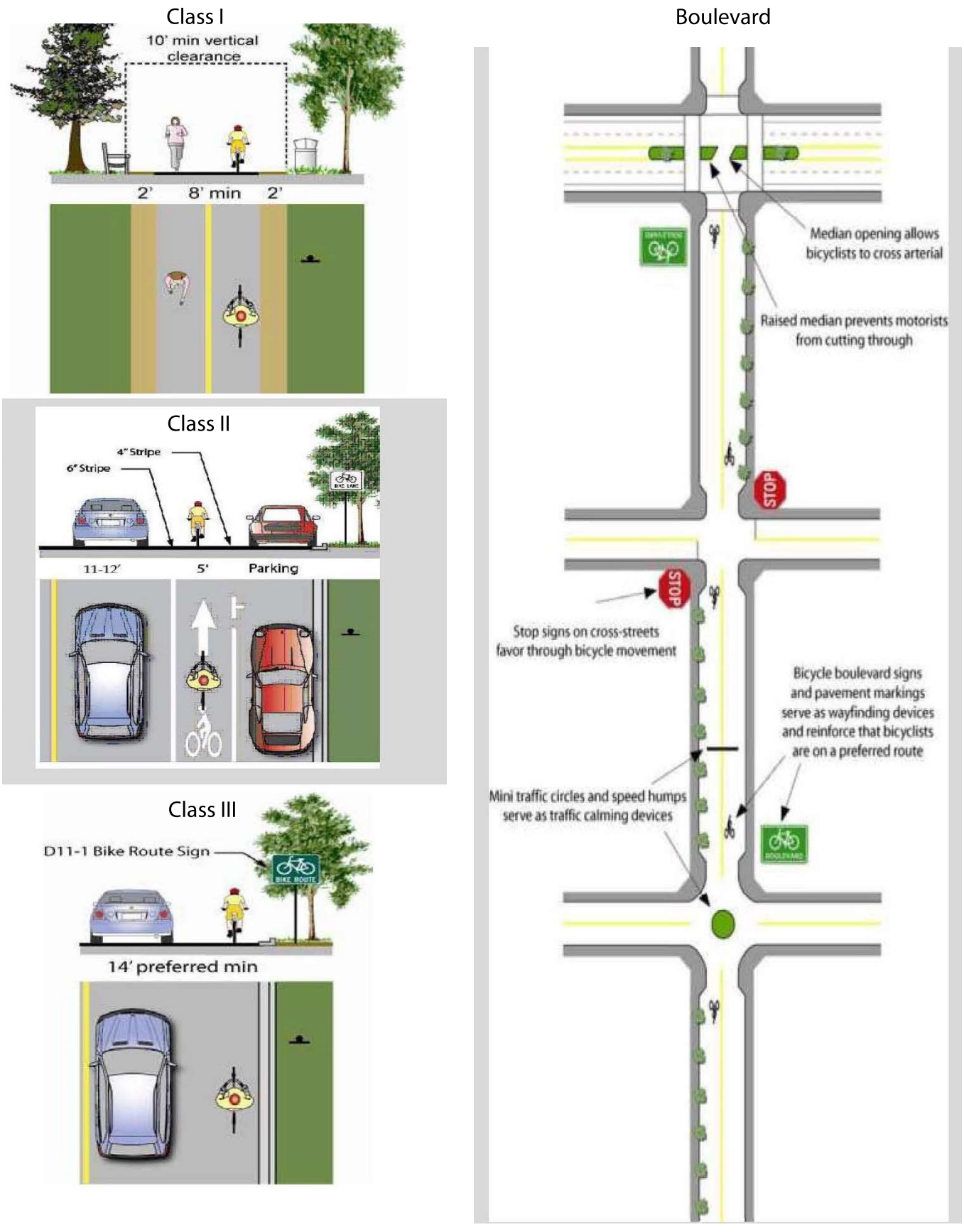
FIGURE 4.17-3C

Metro Bus and Rail System

Los Angeles County Housing Element Update

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SOURCE: Los Angeles County 2020

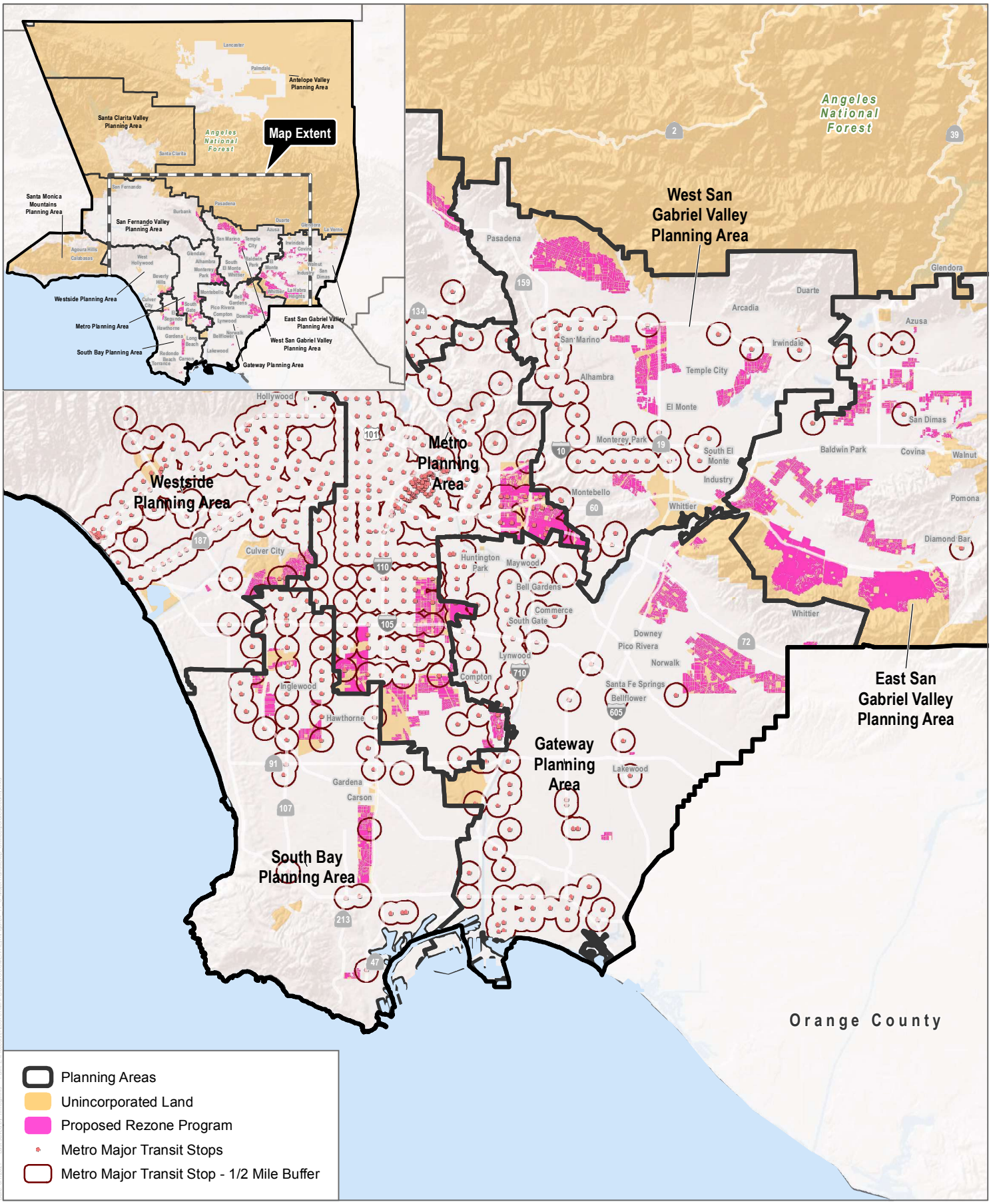
FIGURE 4.17-4

Types of Bikeway Facilities

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

FIGURE 4.17-5

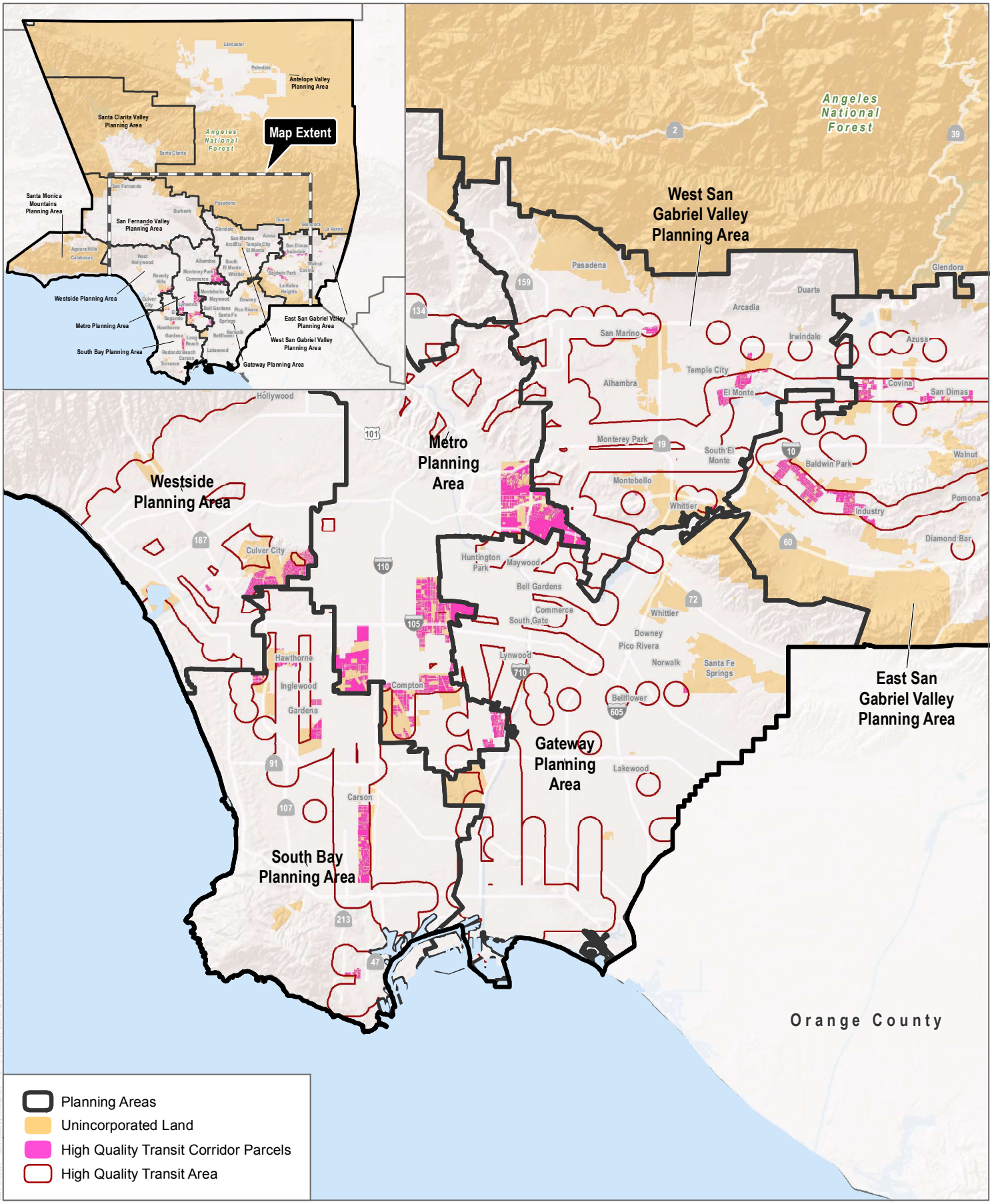
Transit Proximity Screening Map for Unincorporated County - Major Transit Stop

Los Angeles County Housing Element Update

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0 3.25 6.5 Miles

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SOURCE: ESRI 2021; LA County 2021

FIGURE 4.17-6

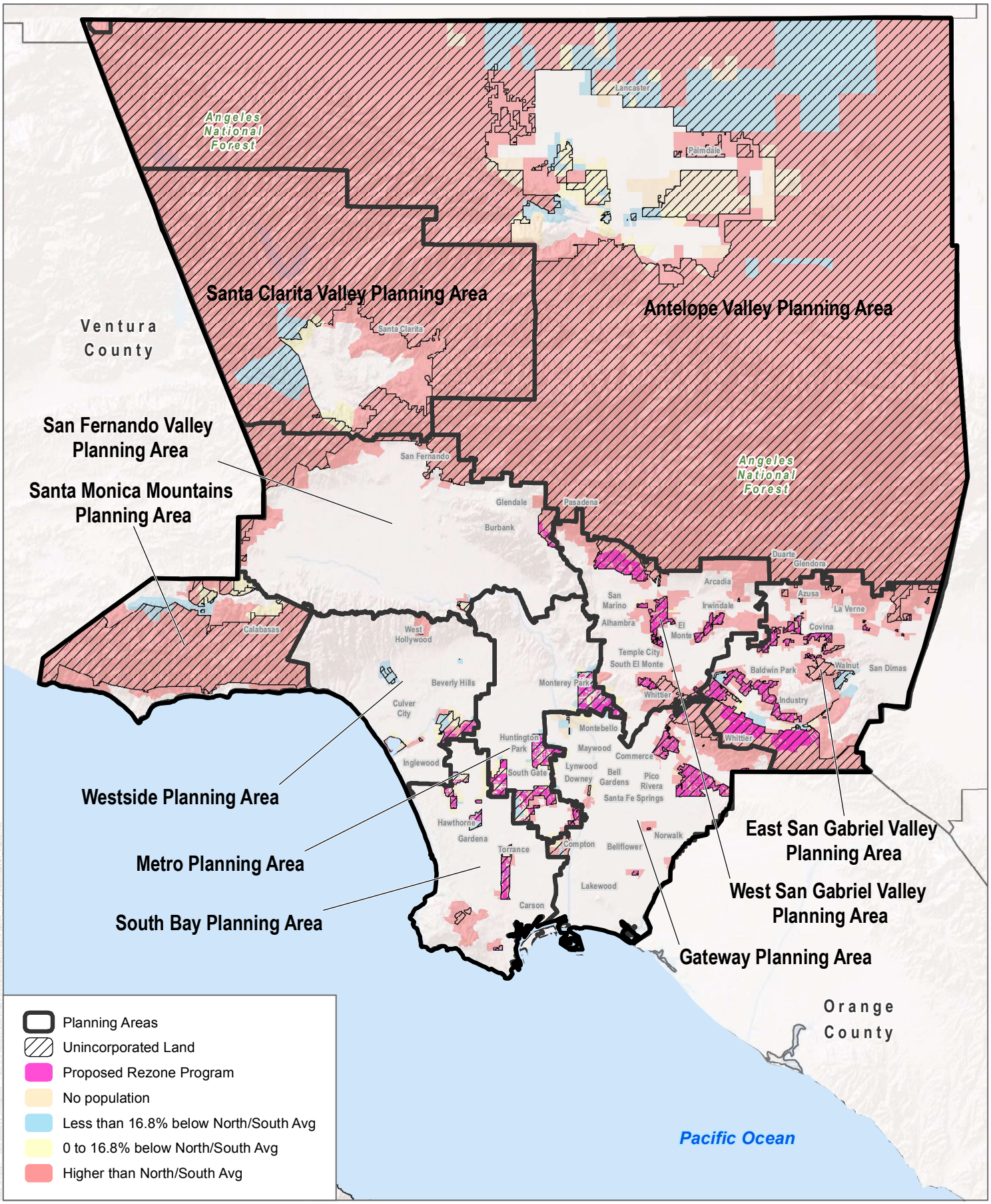
Transit Proximity Screening Map for Unincorporated County - High Quality Transit Corridor

Los Angeles County Housing Element Update

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0 3.5 7 Miles

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SOURCE: ESRI 2021; LA County 2021

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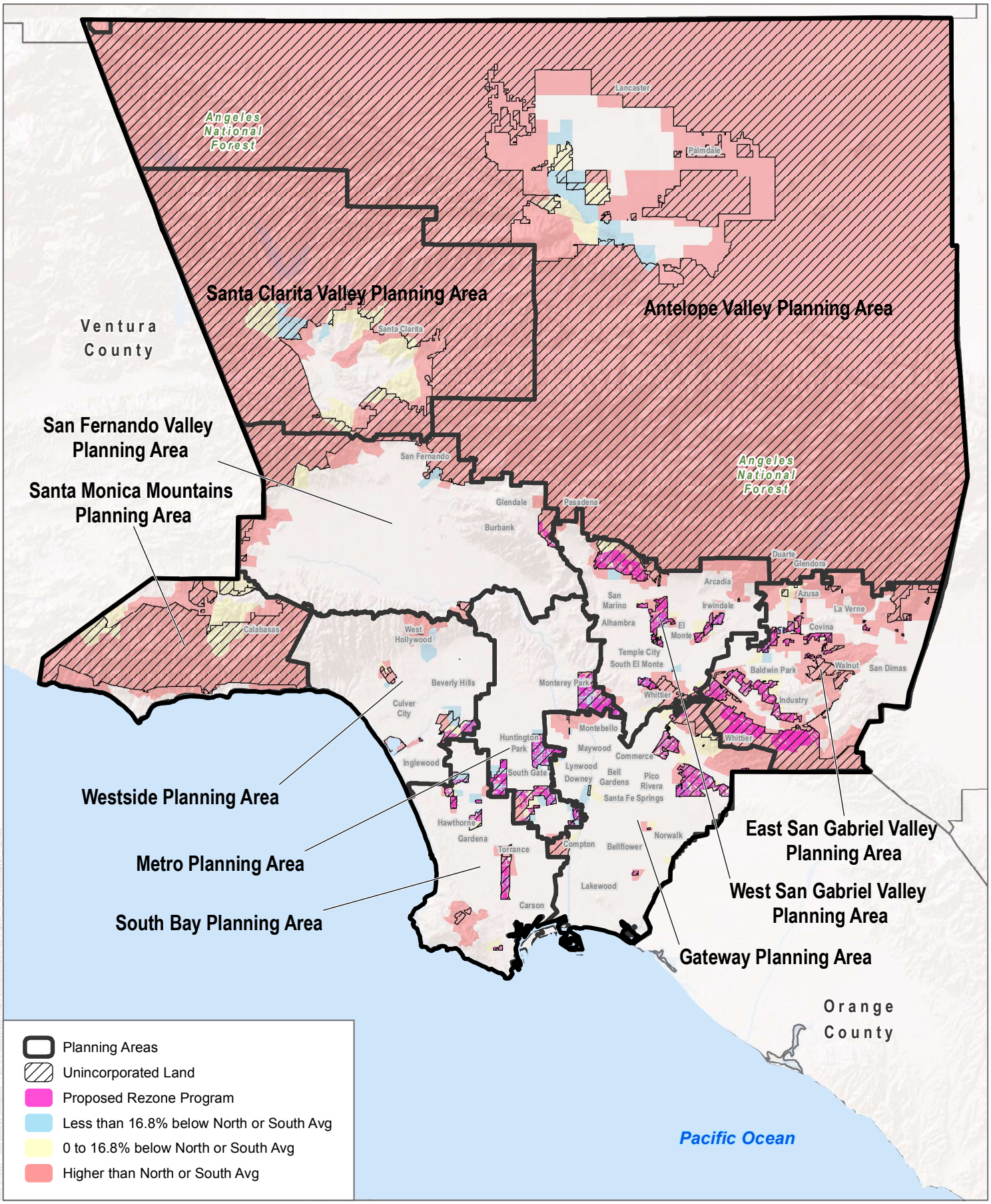
0 5 10 Miles

FIGURE 4.17-7

Screening Maps for Residential VMT Per Capita

Los Angeles County Housing Element Update

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SOURCE: ESRI 2021; LA County 2021

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0 5 10 Miles

FIGURE 4.17-8

Screening Maps for Residential VMT Per Service Population

Los Angeles County Housing Element Update

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4.18 Tribal Cultural Resources

This section describes the existing tribal cultural resources of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures that could result from implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project).

4.18.1 Environmental Setting

This section discusses the existing environmental setting relative to tribal cultural resources. As described in Chapter 3.0, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section describes generally the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program as those are the areas that may result in changes to the environment that weren't already considered in previous environmental analyses or studies.

Cultural Setting

Prehistoric Setting

Evidence for continuous human occupation in Southern California spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad period have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. To be more inclusive, this research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (before 7500 BP)[1], Archaic (10,000–1500 BP), Late Prehistoric (1500 BP–AD 1769), and Ethnohistoric (post-AD 1769).

Ethnographic Setting

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the region brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Bean and Shipek 1978; Geiger and Meighan 1976; Harrington 1935; Sparkman 1908; Laylander 2000; Boscana 1846).The principal intent of these researchers was to record the precontact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as "salvage ethnography," was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber

[1] "BP" indicates calibrated, calendar years before present (specifically, prior to AD 1950). Ages presented herein have been calibrated from the original age estimates wherever possible; ranges of general phenomena (e.g. cultural periods are approximate).

applied his "memory culture" approach (Lightfoot 2005) by recording languages and oral histories within the region. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities.

It is important to note that even though there were many informants for these early ethnographies who were able to provide information from personal experiences about native life before the Europeans, a significantly large proportion of these informants were born after 1850 (Heizer and Nissen 1973); therefore, the documentation of pre-contact, aboriginal culture was being increasingly supplied by individuals born in California after considerable contact with Europeans. As Robert F. Heizer (1978) stated, this is an important issue to note when examining these ethnographies, since considerable culture change had undoubtedly occurred by 1850 among the Native American survivors of California. This is a particularly important consideration for studies focused on tribal cultural resources (TCRs), where concepts of "cultural resource" and the importance of traditional cultural places are intended to be interpreted based on the values expressed by present-day Native American representatives and may vary from archaeological values (Giacinto 2012).

Gabrielino / Tongva

The archaeological record indicates that the majority of the area of this Proposed Project and vicinity was occupied by the Gabrielino. Surrounding cultural groups included the Chumash and Tataviam to the north and west, the Serrano and Cahuilla to the north and east, and the Juaneño and Luiseño to the south and east.

The name "Gabrielino" (also spelled "Gabrieliño" and "Gabrieleño") denotes those people who were administered by the Spanish from the San Gabriel Mission, which included people from the Gabrielino area proper as well as other social groups (Kroeber 1925; Bean and Smith 1978). Therefore, in the post-Contact period, the name does not necessarily identify a specific ethnic or tribal group. The names by which Native Americans in southern California identified themselves have, in some cases, been lost. Many modern Gabrielino identify themselves as the Tongva (King 1994), within which there are a number of regional bands. Though the names "Tongva" or "Gabrielino" are the most common names used by modern Native American groups, and are recognized by the Native American Heritage Commission (NAHC), there are groups within the region that self-identify differently, such as the Gabrielino Band of Mission Indians - Kizh Nation. In order to be inclusive of the majority of tribal entities within the region, the name "Tongva" or "Gabrielino" are used within this report.

Tongva lands encompassed the greater Los Angeles Basin and three Channel Islands, San Clemente, San Nicolas, and Santa Catalina. The Tongva established large, permanent villages in the fertile lowlands along rivers and streams, and in sheltered areas along the coast, stretching from the foothills of the San Gabriel Mountains to the Pacific Ocean. A total tribal population has been estimated of at least 5,000, but recent ethnohistoric work suggests a number approaching 10,000 (O'Neil 2002). Houses constructed by the Tongva were large, circular, domed structures made of willow poles thatched with tule that could hold up to 50 people (Bean and Smith 1978). Other structures served as sweathouses, menstrual huts, ceremonial enclosures, and probably communal granaries. Cleared fields for races and games were created adjacent to Tongva villages (McCawley 1996). Archaeological sites composed of villages with various sized structures have been identified.

The largest, and best documented, ethnographic Tongva village in the vicinity was that of *Yanga* (also known as *Yaangna*, *Janga*, and *Yabit*), which was in the vicinity of the Downtown Los Angeles (McCawley 1996; NEA and King 2004). This village was reportedly first encountered by the Portola expedition in 1769. In 1771, Mission San Gabriel was established. Yanga provided a large number of the recruitments to this mission; however, following the founding of the Pueblo of Los Angeles in 1781, opportunities for local paid work became increasingly common, which had

the result of reducing the number of Native American neophytes from the immediately surrounding area (NEA and King 2004). Mission records indicate that 179 Gabrielino inhabitants of Yanga were recruited to San Gabriel Mission (NEA and King 2004; King 2000). Based on this information, Yanga may have been the most populated village in the Western Gabrielino territory. Second in size, and less thoroughly documented, the village of Cahuenga was located slightly closer, just north of the Cahuenga Pass.

Father Juan Crespí passed through the area near Yanga on August 2-3, 1769. The pertinent sections from his translated diary are provided here:

> Sage for refreshment is very plentiful at all three rivers and very good here at the Porciúncula [the Los Angeles River]. At once on our reaching here, eight heathens came over from a good sized village encamped at this pleasing spot among some trees. They came bringing two or three large bowls or baskets half-full of very good sage with other sorts of grass seeds that they consume; all brought their bows and arrows but with the strings removed from the bows. In his hands the chief bore strings of shell beads of the sort that they use, and on reaching the camp they threw the handfuls of these beads at each of us. Some of the heathens came up smoking on pipes made of baked clay, and they blew three mouthfuls of smoke into the air toward each one of us. The Captain and myself gave them tobacco, and he gave them our own kind of beads, and accepted the sage from them and gave us a share of it for refreshment; and very delicious sage it is for that purpose.
>
> We set out at a half past six in the morning from this pleasing, lush river and valley of Our Lady of Angeles of La Porciúncula. We crossed the river here where it is carrying a good deal of water almost at ground level, and on crossing it, came into a great vineyard of grapevines and countless rose bushes having a great many open blossoms, all of it very dark friable soil. Keeping upon a westerly course over very grass-grown, entirely level soils with grand grasses, on going about half a league we came upon the village belonging to this place, where they came out to meet and see us, and men, women, and children in good numbers, on approaching they commenced howling at us though they had been wolves, just as before back at the spot called San Francisco Solano. We greeted them and they wished to give us seeds. As we had nothing at hand to carry them in, we refused (Brown 2001: 339-343).

The Portola party passed westward through the La Brea Tar Pits area (CA-LAN-159) the following day. This was a known area of Native American use for hunting and the gathering of tar and other area-specific resources. A pertinent excerpt from Father Juan Crespí's August 3, 1769 diary entry is provided here:

> The Captain told me that when they scouted here, in a ravine about half a league to the westward they came upon about forty springs of pitch, or tar, boiling in great surges up out of the ground, and saw very large swamps of this tar, enough to have caulked many ships. (Brown 2001: 341)

Upon leaving the La Brea Tar Pits, the Portola expedition continued westward, camping on August 4, 1769 near what is now the route Interstate 405 before heading northward into the mountains. Details of the day's travels are provided below:

> At a quarter past six in the morning we set out from this copious spring at the San Esteban Sycamores .... We pursued our way northwestward and on going about a quarter-league [0.85 mile], we came into a little flat hollow between small knolls, and then onward across level tablelands of dark friable soil....we turned west-northwestward and on going two hours, all over level soil, came

> to the watering place: two springs rising at the foot of a high tableland, their origin being higher up on the large plain here….At this spot we came upon a village at the aforesaid tableland and as soon as we arrived and set up camp, six very friendly, compliant tractable heathens came over, who had their little houses roofed with grass, the first we have been seeing of this sort. They brought four or six bowls of the usual seeds and good sage which they presented to our Captain. On me they bestowed a good-sized string of the sort of beads they all have, made of white seashells and red ones, though not very bright-colored, that look to be coral. (Brown 2001: 345-349)

The name of this village referenced to be near the August 4, 1769 Portola camp is unknown, and would have been located approximately 3 miles from the named village near Santa Monica (*Kuruvunga*) and 5 miles from *Sa'anga* near the mouth of Ballona Creek. Sa'anga, likely within a mile of the Proposed Project's rezoning program areas, has also been commonly referred to as *Guaspet* or *Guashna*, (NEA and King 2004), *Saan* (Kroeber 1925), or *Saa'anga* or *Waachnga* (McCawley 1996). Ethnohistoric research completed by John Johnson (1988) pertaining to the inhabitants of San Clemente Island and Santa Catalina Island has indicated that there were many marriage ties between these islands and this village in the vicinity of the Ballona wetlands. Mission records indicate that a total of 95 neophytes came from this village; 87 of these individuals at Mission San Gabriel and the remaining eight at Mission San Fernando (NEA and King 2004). These records further suggest that marriage was common with the surrounding outside villages, but perhaps most often occurring with members of the large village of Yanga.

The Tongva subsistence economy was centered on gathering and hunting. The surrounding environment was rich and varied, and the tribe exploited mountains, foothills, valleys, deserts, riparian, estuarine, and open and rocky coastal eco-niches. Like that of most native Californians, acorns were the staple food (an established industry by the time of the early Intermediate Period). Acorns were supplemented by the roots, leaves, seeds, and fruits of a wide variety of flora (e.g., islay, cactus, yucca, sages, and agave). Fresh water and saltwater fish, shellfish, birds, reptiles, and insects, as well as large and small mammals, were also consumed (Bean and Smith 1978: 546; Kroeber 1925; McCawley 1996).

A wide variety of tools and implements were used by the Tongva to gather and collect food resources. These included the bow and arrow, traps, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks. Groups residing near the ocean used oceangoing plank canoes and tule balsa canoes for fishing, travel, and trade between the mainland and the Channel Islands (McCawley 1996).

Tongva people processed food with a variety of tools, including hammerstones and anvils, mortars and pestles, manos and metates, strainers, leaching baskets and bowls, knives, bone saws, and wooden drying racks. Food was consumed from a variety of vessels. Catalina Island steatite was used to make ollas and cooking vessels (Blackburn 1963; Kroeber 1925; McCawley 1996).

At the time of Spanish contact, the basis of Tongva religious life was the Chinigchinich cult, centered on the last of a series of heroic mythological figures. Chinigchinich gave instruction on laws and institutions, and also taught the people how to dance, the primary religious act for this society. He later withdrew into heaven, where he rewarded the faithful and punished those who disobeyed his laws (Kroeber 1925). The Chinigchinich religion seems to have been relatively new when the Spanish arrived. It was spreading south into the Southern Takic groups even as Christian missions were being built and may represent a mixture of native and Christian belief and practices (McCawley 1996).

Deceased Tongva were either buried or cremated, with inhumation more common on the Channel Islands and the neighboring mainland coast and cremation predominating on the remainder of the coast and in the interior (Harrington 1942; McCawley 1996). Cremation ashes have been found in archaeological contexts buried within stone bowls and in shell dishes (Ashby and Winterbourne 1966), as well as scattered among broken ground stone implements (Cleland, York, and Willey 2007). Archaeological data such as these correspond with ethnographic descriptions of an elaborate mourning ceremony that included a wide variety of offerings, including seeds, stone grinding tools, otter skins, baskets, wood tools, shell beads, bone and shell ornaments, and projectile points and knives. Offerings varied with the gender and status of the deceased (Johnston 1962; McCawley 1996). At the behest of the Spanish missionaries, cremation essentially ceased during the post-Contact period (McCawley 1996).

Tataviam

Portions of the Proposed Project area fall within the ethnographic boundary of the Tataviam (King and Blackburn 1978; Johnson and Earle 1990; Kroeber 1925). Tataviam territories included the upper reaches of the Santa Clara River drainage east of Piru Creek, but also encompassed the Sawmill Mountains to the north and the southwestern portion of the Antelope Valley (King and Blackburn 1978). Tataviam territory is bound by various branches of Chumash to the north and west (including the Ventureño to the west, and Castac and Emigdiano to the northwest), Kitanemuk to the northeast, Serrano to the east, and Gabrielino to the south (King and Blackburn 1978).

Ethnographic data (i.e., data acquired by means of observation and/or direct communication) on the Tataviam and their traditional lifeways are limited. Most of what is known today about the Tataviam comes in the form of ethnohistory (i.e., historical accounts developed through examination of historical records and oral histories) as presented by anthropologists Alfred L. Kroeber (1925, 1915) and John P. Harrington (1935). Their accounts are based largely on interviews conducted in the early 1900s with a Native American consultant named Juan José Fustero, a man who spoke Kitanemuk and claimed that his grandparents were born near the town of Newhall and spoke a language that is no longer extant (Bright 1975). Most of the subsequent works published on the Tatatviam (King and Blackburn 1978; Bright 1975; Hudson 1982), including discussions of their cultural and geographic affiliations, were based on the Kroeber and Harrington interviews with Fustero and several other Kitanemuk consultants. Other studies have analyzed Spanish mission baptismal, marriage, and burial registers in an attempt to better understand the distribution of historic village settlements and kinship ties between settlements (NEA and King 2004; Johnson 1978, 1997).

Early ethnologies referred to the Tataviam as Ataplili'ish (Kroeber 1915), but Kroeber found this name to be too general since it had already been used to describe other indigenous groups (namely the Gabrielino). Kroeber (1925) changed the term to Alliklik which was noted to be a Ventureño Chumash name for the group (although it is believed to be a derogatory term for the sound of the language) but offered almost no information concerning their traditional lifeways. One account of the Tataviam, provides a narrative that they held the river up from a point between Sespe and Piru, most of Piru Creek, Castaic Creek, and probably Pastoria Creek across the mountains in the San Joaquin Valley drainage and adjacent to the Yokuts (Kroeber 1925: 613-614).

The Tataviam language is grouped in the Takic branch of the Uto-Aztecan language family along with neighboring languages and dialects such as Kitanemuk, Serrano (including Vanyume), Tongva, and the Cupan group of Luiseño, Juaneño (Ajachemem), Cahuilla, and Cupeño (Golla 2011; Sutton 1980). William Bright has suggested that Tataviam was actually a separate language with Takic affinities, or perhaps a "remnant, influenced by Takic, of a language family otherwise unknown in southern California" (Bright 1975: 230). However, the current and most widely accepted view is that Tataviam is in fact a Takic language (King and Blackburn 1978; Johnson and Earle 1990; Golla 2011; Sutton et al. 2007).

King and Blackburn (1978: 536) noted several Tataviam settlements based on information provided by Harrington and other sources, including mission registers. Among these is the putative village of *tsawayung* (also referred to as *Chaguayabit*, *Chaguayanga*, *takuyama'm*), which some believe was located near Castaic Junction at the site of Rancho San Francisco. However, there is little consensus as to its exact location. Harrington's own notes reflect this uncertainty: "Jose Juan Olivas thinks it is over by San Francisquito [Rancho San Francisco] but does not know and never did know just where" (NEA and King 2004: 119). Based on diary entries from the Portolá Expedition (Perkins 1957), some have hypothesized that Estancia San Francisco de Xavier (often incorrectly referred to as an asistencia) was placed at the location of the village of *tsawayang*, but this is based on descriptive diary entries and has never been confirmed by archaeological or other historic evidence. In fact, no physical evidence of the village has ever been found. Other Tataviam villages mapped outside of the Project area include *tikatsing* located on upper Castaic Creek, and *pi'ing* located where Castaic Creek meets Elizabeth Lake Canyon. The village of *Tochonaga*, was recorded on an 1843 land grant map. This site appears to be located to the southeast of Newhall, but it's precise location has also never been confirmed: "Tochononga was located in the mountains northwest of San Fernando…over by Los Alamos somewhere here in the Tejon Ranch" (NEA and King 2004: 117). Other villages and seasonal camp sites identified by Harrington include *akure'eng*, which was located at the original Newhall town site; *apatsitsing*, located on upper Castaic Creek; and *naqava'atang*, located east of Townsend Peak. Piru Creek also contained several village and rancheria sites, located on the northern edge of Tataviam territory (Johnson and Earle 1990).

Pedro Fage's account of the 1769 Portola expedition indicates that the first Chumash settlement encountered upon leaving Tataviam territory was located west of the mouth of Piru Creek. The village of *kamulus* (Camulos), located east of Piru Canyon, bears a Chumash name (Johnson and Earle 1990), leading to speculation that this village consisted of a mixed Chumash-Tataviam population. There has been much discussion regarding Chumash ties to areas generally accepted as Tataviam territory (Beeler and Klar 1977).

More recent studies have examined additional Tataviam investigations conducted by Harrington with neighboring groups (Johnson and Earle 1990). These studies support the original Kroeber and Harrington findings that the Tataviam were a distinct group:

> The correspondence between (1) ancestral villages traced using genealogical evidence and (2) independently elicited information regarding Tataviam territoriality builds confidence in the reliability of the ethnographic record compiled by Kroeber and Harrington. The distinctiveness of the Tataviam as an ethnic entity, separate from the Kitanemuk and Fernandeño, is supported by our research (Johnson and Earle 1990: 209).

In 1996, as the result of a Caltrans District 7 highway widening project for SR-126, archaeologists discovered and excavated 45 burials from CA-LAN-2233, a prehistoric village site dating from approximately 2000 to 1640 years before present (BP) and located within Tataviam territory. Examination of mitochondrial DNA (mtDNA) from five burials at CA-LAN-2233 found that these individuals were genetically linked to modern Uto-Aztecan speaking groups, such as the Tataviam (Miller, Lopez, and Walker 2003).

4.18.2 Relevant Plans, Policies, and Ordinances

Federal

No federal regulations are known pertain to this Proposed Project.

State

California State Assembly Bill 52

Assembly Bill (AB) 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that TCRs must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency. Section 21074 describes a TCR as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American Tribe and that is either:

- On or determined to be eligible for the California Register of Historical Resources or a local historic register; or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project site, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

Section 1 (a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on TCRs should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

Senate Bill 18

The Local and Tribal Intergovernmental Consultation process, commonly known as Senate Bill (SB) 18 was signed into law September of 2004 and took effect March 1, 2005. SB 18 refers to PRC Section 5097.9 and 5097.995, which defines cultural places as:

- Native American sanctified cemetery place of worship, religious or ceremonial site, or sacred shrine (PRC Section 5097.9).
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historic Resources pursuant to Section 5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site (PRC Section 5097.993).

SB 18 established responsibilities for local governments to contact, provide notice to, refer plans to, and consult with California Native American tribes that have been identified by the NAHC and if that tribe requests consultation after local government outreach as stipulated in Government Code Section 65352.3. The purpose of this consultation process is to protect the identity of the cultural place and to develop appropriate and dignified treatment of the cultural place in any subsequent project. The consultation is required whenever a general plan, specific plan, or open space designation is proposed for adoption or to be amended. Once local

governments have sent notification, tribes are responsible for requesting consultation. Pursuant to Government Code Section 65352.3(a)(2), each tribe has 90 days from the date on which they receive notification to respond and request consultation.

In addition to the requirements stipulated previously, SB 18 amended Government Code Section 65560 to "allow the protection of cultural places in open space element of the general plan" and amended Civil Code Section 815.3 to add "California Native American tribes to the list of entities that can acquire and hold conservation easements for the purpose of protecting their cultural places."

California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the county coroner has examined the remains (Section 7050.5(b)). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact NAHC within 24 hours (Section 7050.5(c)). NAHC will notify the "most likely descendant." With the permission of the landowner, the most likely descendant may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the most likely descendant by NAHC. The most likely descendant may recommend means of treating or disposing of, with appropriate dignity, the human remains, and items associated with Native Americans.

4.18.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment with respect to tribal cultural resources if the project would:

TC-1 Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

4.18.4 Methodology

As described in Chapter 3.0, Project Description, the general areas included as part of the Proposed Project's rezoning program were evaluated in this PEIR at a programmatic level based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be

considered. Further analysis was not conducted because the County had no further information and would be too speculative to base an analysis of potential impacts resulting from future housing development per the Proposed Project. As such, potential changes beyond that are considered speculative or unlikely to occur and therefore, not reasonably foreseeable.

Additionally, while the general rezoning program is included as part of the Proposed Project, no specific rezoning would occur or be adopted as part of the Proposed Project. Rezoning would be adopted and implemented as a part of future discretionary actions such as area plan updates, transit-oriented district (TOD) specific plans, or other projects. Any future development facilitated by the Proposed Project, including development as part of the rezoning program, would be subject to future discretionary permits and CEQA evaluation.

Records Search Results

On April 5, 2021, staff at the South Central Coast Information Center (SCCIC), located on the campus of California State University, Fullerton, provided the results of a California Historical Resources Information System (CHRIS) records search for a sample study area within the proposed rezoning program. Due to COVID-19, the SCCIC notified researchers that they are only providing data for Los Angeles County that have already been digitized. As such, though a complete record search was conducted, not all available PDF reports known to CHRIS were provided in the records search. The CHRIS record search results provided by the SCCIC included their digitized collections of mapped prehistoric and historic archaeological resources and historic built-environment resources; Department of Parks and Recreation site records; technical reports; archival resources; and ethnographic references. Dudek reviewed the SCCIC records to determine whether the implementation of the Proposed Housing Element Update would have the potential to impact known cultural resources.

As a result of the CHRIS records search, twelve (12) cultural resources have been previously identified, which includes eleven (11) historic built environment resources and one historic road. Forty-eight (48) previously conducted studies have been undertaken, between 1977 and 2014. None of the previously conducted cultural resource studies identified prehistoric cultural resources in the sample study area generally located within the proposed rezoning program.

Native American Consultation

NAHC Sacred Lands File Search

A search of the NAHC's SLF, to determine the presence of any Native American cultural resources within the proposed rezone areas, was requested on March 16, 2021, was completed on March 29, 2021 (Andrew Green, Cultural Resources Analyst) with positive results. The SLF record is maintained at a public land survey system (PLSS) Section level, which indicates a recorded sacred site could be anywhere within one square mile area of a proposed rezone areas and as such, the NAHC did not specify whether Native American resources were located within the proposed rezone areas. The NAHC suggested contacting fifteen (15) Native American individuals and/entities who would potentially have specific knowledge of the cultural resources identified within the proposed rezone areas. No additional tribal outreach was conducted by Dudek; however, in compliance with Assembly Bill (AB) 52 and Senate Bill (SB) 18, the County contacted all NAHC-listed traditionally geographically affiliated tribal representatives that have requested project notification via email and certified mail. Documents related to the NAHC SLF search are included in Appendix C-1.

Assembly Bill 52 Consultation

The Proposed Project is subject to compliance with AB 52 (PRC 21074), which requires consideration of impacts to TCRs as part of the CEQA process, and that the lead agency notify California Native American Tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the Proposed Project. Five NAHC-listed California Native American Tribal representatives that have requested project notification pursuant to AB 52 were sent letters via email and certified mail by the County on January 19, 2021. The Tribes that requested notification pursuant to AB 52 include San Gabriel Band of Mission Indians, Gabrieleno Band of Mission Indians-Kizh Nation, San Manuel Band of Mission Indians, Tejon Indian Tribe, and Fernandeño Tataviam Band of Mission Indians. The letters contained a project description, outline of AB 52 timing, an invitation to consult, a map of unincorporated Los Angeles County, and contact information for the appropriate lead agency representative. AB 52 allows tribes 30 days after receiving notification to request consultation. If a response is not received within the allotted 30 days, it is assumed that consultation is declined.

Senate Bill 18 Consultation

The Proposed Project is subject to compliance with SB 18 (Government Code Section 65352.3), which requires local governments to invite California Native American Tribal representatives to participate in consultation about proposed General Plan and Specific Plan adoptions or amendments. The Housing Element Update is an amendment to the General Plan and as such, initiated SB 18 consultation. The NAHC identified 10 Native American individuals/entities who would potentially have specific knowledge of the cultural resources identified within the proposed rezone areas, five of whom were also notified pursuant to AB 52. All SB 18 California Native American Tribal representatives, who have requested notification, were sent notification letters via email on February 10, 2021, and via certified mail on February 11 and 18, 2021. On March 1, 2021, the County sent email reminders to the Santa Rosa Band of Cahuilla Indians and Gabrieleno/Tongva San Gabriel Band of Mission Indians, since the U.S. Postal Service indicated the letter had not been picked up. Pursuant to Government Code Section 65352.3(a)(2), each tribe has 90 days from the date on which they receive notification to respond and request consultation.

To date, five responses have been received as a result of the County's AB 52 and SB 18 consultation notification. An account of all communication thus far can be found in Table 4.18-1. Documents related to AB 52 and SB 18 consultation are on file with the County.

Table 4.18-1. Assembly Bill 52 and SB 18 Native American Tribal Consultation Results

Native American Tribal Representatives	Method and Date of Notification	Response to County Notification Letters	Consultation Date and Results
Gabrieleno/Tongva San Gabriel Band of Mission Indians; Anthony Morales, Chief	**AB 52**: January 19, 2021, Letter sent via email and certified mail to Chief Anthony Morales **SB 18:** February 10, 2021 – invitation to consult sent via email. February 11, 2021 –	**AB 52**: No Response received to date. As no response was received, consultation was concluded. **SB 18:** No Response received to date. As no response was received, consultation was concluded.	N/A

Table 4.18-1. Assembly Bill 52 and SB 18 Native American Tribal Consultation Results

Native American Tribal Representatives	Method and Date of Notification	Response to County Notification Letters	Consultation Date and Results
	invitation to consult sent via certified mail. March 1, 2021 –The Los Angeles County Department of Regional Planning followed up with Chief Morales as the postal office showed that the notification letter was not picked up. April 14, 2021 – The Los Angeles County Department of Regional Planning followed up again with a phone call.		
Gabrieleno Band of Mission Indians - Kizh Nation (Kizh Nation); Andrew Salas, Chairman	**AB 52**: January 19, 2021, Letter sent via email and certified mailing to Chairman Andrew Salas **SB 18:** February 10, 2021, invitation to consult sent via email. February 11, 2021 – invitation to consult sent via certified mail.	**AB 52**: February 19, 2021 – Chairman Salas from the Kizh Nation requested consulting party status. Ms. Ayala Scott from Los Angeles County Department of Regional Planning responded to schedule a consultation date. March 1, 2021 – Ms. Scott called and emailed to schedule consultation with the Kizh Nation and was informed that Chairman Salas was on leave. Ms. Scott emailed the Kizh Nation to suggest April 9, 2021 for a consultation meeting. March 16, 2021- the Kizh Nation confirmed that no further consultation is required. **SB 18:** February 12, 2021 – a Tribal representative from the Kizh Nation asked if there would	**AB 52**: Not requested **SB 18**: Not requested.

Table 4.18-1. Assembly Bill 52 and SB 18 Native American Tribal Consultation Results

Native American Tribal Representatives	Method and Date of Notification	Response to County Notification Letters	Consultation Date and Results
		be any ground disturbance for the Proposed Project. February 12, 2021 – the Los Angeles County Department of Regional Planning responded via email and informed the Kizh Nation that the Proposed Project does not approve specific housing developments and explained the rezoning priority areas and that subsequent projects would need to obtain permits and conduct environmental review if they are subject to CEQA. February 15, 2021 – The Kizh Nation responded via email stating that if there will not be any type of ground disturbance, then no consultation would be needed and requested to be notified if ground disturbing activities are anticipated. February 16, 2021 –The Los Angeles County Department of Regional Planning responded stating that the HEU does not include ground disturbance and that the Kizh Nation would be notified of future ground disturbance when entitlements are applied for if those projects are subject to CEQA and requested confirmation of whether the Kizh Nation wanted to consult. March 11, 2021 – The Kizh Nation responded via email stating that given that there is no ground disturbance, no consultation is required and requested to be notified in the future if ground disturbance is anticipated.	

Table 4.18-1. Assembly Bill 52 and SB 18 Native American Tribal Consultation Results

Native American Tribal Representatives	Method and Date of Notification	Response to County Notification Letters	Consultation Date and Results
		March 16, 2021 – The Los Angeles County Department of Regional Planning reached out to the Kizh Nation via email to confirm that no further consultation is required under either AB 52 or SB 18. March 17, 2021 – The Kizh Nation responded via email that since no ground disturbance will take place for the Proposed Project, there is no further need for consultation.	
Chumash Council of Bakersfield; Julio Quair, Chairperson	**SB 18:** February 10, 2021 – invitation to consult sent via email. The notification sent via email was not successfully submitted and likely due to the fact that the email address provided by the NAHC is inactive. February 11, 2021 – The Los Angeles County Department of Regional Planning sent notification and invitation to consult via certified mail.	**SB 18:** No Response received to date. As no response was received, consultation was concluded.	N/A
Fernandeño Tataviam Band of Mission Indians (FTBMI); Jairo Avila, Tribal Historic and Cultural Preservation Officer	**AB 52**: January 19, 2021, Letter emailed and sent via certified mail to Mr. Jairo Avila **SB 18:** February 10, 2021 – invitation to consult sent via email February 11, 2021 – invitation to consult sent via certified mail	**AB 52**: January 26, 2021 – email from FTBMI Tribal Historic and Cultural Preservation Officer, Jairo Avila requesting formal consultation. February 4, 2021 – Ayala Scott from the Los Angeles County Department of Regional Planning left a voicemail message for Mr. Avila and followed-up via email on February 5, 2021 to further explain the Proposed Project.	**AB 52**: February 25, 2021 – consultation between the County and the FTBMI is conducted. March 15, 2021 – The County emailed the FTBMI a link to the County's interactive "story map," which provides information about the Proposed Project utilizing a

Table 4.18-1. Assembly Bill 52 and SB 18 Native American Tribal Consultation Results

Native American Tribal Representatives	Method and Date of Notification	Response to County Notification Letters	Consultation Date and Results
		February 6, 2021 – Mr. Avila called Ms. Scott and followed up via email to state that the FTBMI would like to see the EIR. Ms. Scott informed Mr. Avila that the EIR would be provided when available. February 19, 2021 – Mr. Avila requests consulting party status. A consultation is scheduled between the County and the FTBMI for February 25, 2021. **SB 18**: February 19, 2021 – Mr. Avila requests consultation and to review the EIR. February 19, 2021 – Ms. Scott from the Los Angeles County Department of Regional Planning responded via email to schedule the consultation meeting for February 25, 2021.	combination of text and images, to Mr. Avila. No additional record of consultation has been provided to date. **SB 18:** February 25, 2021 – consultation between the County and the FTBMI is conducted March 15, 2021 – the County provides Mr. Avila from the FTBMI a link to the interactive story map on the County's website, as described above. No additional record of consultation has been provided to date.
Quechan Tribe of the Fort Yuma Reservation; Jill McCormick, Historic Preservation Officer	**SB 18:** February 10, 2021 – invitation to consult sent via email February 11, 2021 – invitation to consult sent via certified mail	**SB 18:** February 12, 2021 - Representative from the Quechan Tribe responded via email stating that they had no comment for the Proposed Project. The Los Angeles County Department of Regional Planning responded via email to acknowledge receipt of the message.	**SB 18**: Not requested.
Rincon Band of Luiseno Indians; Deneen Pelton, Administrative Assistant II for Cheryl Madrigal, Tribal Historic Preservation Officer	**SB 18:** February 10, 2021 – invitation to consult sent via email February 11, 2021 – invitation to consult sent via certified mail	**SB 18:** February 19, 2021 - Representative from the Rincon Band of Luiseno Indians, Deneen Pelton, responded via email stating that the Proposed Project is outside of their area of interest and recommended that the Los Angeles County Department of Regional Planning contact a Tribe that is closer to the Proposed Project.	**SB 18**: Not requested.

Table 4.18-1. Assembly Bill 52 and SB 18 Native American Tribal Consultation Results

Native American Tribal Representatives	Method and Date of Notification	Response to County Notification Letters	Consultation Date and Results
San Manuel Band of Mission Indians (SMBMI); Lee Clauss	AB 52: January 19, 2021, Letter sent via email and certified mail to Lee Clauss. SB 18: February 10, 2021 – invitation to consult sent via email February 11, 2021 – invitation to consult sent via certified mail	AB 52: January 26, 2021 – email from SMBMI Cultural Resource Analyst Ryan Nordness requesting the cultural report, geotechnical report (if required for the Proposed Project) and project plans showing the depth of proposed disturbance so that the SMBMI can determine whether they will proceed with requesting formal consultation. No formal request for consultation has been provided. February 3, 2021 – phone call between SMBMI Cultural Resource Analyst Ryan Nordness and Ms. Ayala Scott from Los Angeles County Department of Regional Planning; the SMBMI requested the draft EIR when it is available. February 19, 2021 – Ms. Ayala responded to the Mr. Nordess to schedule a date for consultation. SB 18: February 19, 2021 - Ryan Nordness from San Manuel responded via email requesting zoning maps. February 22, 2021 - Ms. Ayala Scott from Los Angeles County Department of Regional Planning responded via email to schedule a time in early March 2021 to look at rezoning story map. Consultation scheduled for March 16, 2021. March 16, 2021 – Ms. Ayala Scott from Los Angeles County Department of Regional Planning followed-	AB 52 and SB 18: March 16, 2021 – a consultation call between the County and tribal representatives from the SMBMI was conducted. March 19, 2021 - As a result of the consultation call, the SMBMI determined that the Proposed Project is outside of ancestral Serrano territory and therefore, the SMBMI requested conclusion of consultation via email.

Table 4.18-1. Assembly Bill 52 and SB 18 Native American Tribal Consultation Results

Native American Tribal Representatives	Method and Date of Notification	Response to County Notification Letters	Consultation Date and Results
		up with Ryan Nordess via email to confirm the consultation date of March 16, 2021. Mr. Nordess responded that same day via email confirming. Ms. Ayala responded via email and provided a link to the maps of the proposed zoning areas in preparation for the consultation call.	
Santa Rosa Band of Cahuilla Indians; Lovina Redner	**SB 18:** February 10, 2021 – invitation to consult sent via email February 11, 2021 – invitation to consult sent via certified mail. March 1, 2021 –The Los Angeles County Department of Regional Planning followed up with Ms. Redner as the postal office showed that the notification letter was not picked up.	**SB 18:** No Response received to date. As no response was received, consultation was concluded.	N/A
Santa Ynez Chumash Indians; Kenneth Kahn, Chairperson	**SB 18:** February 10, 2021 – invitation to consult sent via email February 11, 2021 – invitation to consult sent via certified mail.	**SB 18:** March 22, 2021 – Representative from the Santa Ynez Chumash Tribe, Kelsie Merrick, responded via email stating that no consultation for the Proposed Project is requested.	**SB 18**: Not requested.
Tejon Indian Tribe; Mr. Octavio Escobedo, Tribal Chair	**AB 52**: January 19, 2021, Letter sent via email and certified mail to Tribal Chair Octavio Escobedo Los Angeles County Department of Regional Planning received a return of the mailed	**AB 52**: March 3, 2021 – Ms. Ayala Scott from Los Angeles County Department of Regional Planning left a message with the receptionist for Tribal Chair Escobedo, inviting the Tribe to consult under AB 52. The receptionist confirmed receipt of the mailed letter.	N/A

Table 4.18-1. Assembly Bill 52 and SB 18 Native American Tribal Consultation Results

Native American Tribal Representatives	Method and Date of Notification	Response to County Notification Letters	Consultation Date and Results
	notification letter as the address provided by the NAHC for Tribal Chair Escobedo was not current. February 25, 2021 – the notification letter was re-mailed to Tribal Chair Escobedo via certified mail. March 3, 2021 – the letter was delivered. **SB 18:** February 10, 2021 – invitation to consult sent via email to Colin Rambo, B.A., Cultural Resource Management Technician, Curator of Archaeology, Tejon Indian Tribe; The notification sent via email was not successfully submitted and likely due to the fact that the email address provided by the NAHC is inactive. February 11, 2021 - The Los Angeles County Department of Regional Planning also sent notification via certified mail.	April 14, 2021 – The Los Angeles County Department of Regional Planning followed up again with a phone call. No additional record has been provided to date. As no response was received, consultation was concluded. **SB 18**: As no response was received, consultation was concluded.	

4.18.5 Environmental Impacts

Threshold TC-1 **Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**

Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

The Proposed Project consists of a policy document update, and adoption of Proposed Project alone would not produce environmental impacts. The Proposed Project consists of updating the General Plan Housing Element, and no actual development is proposed as part of the update. Implementation of the programs contained in the updated document would accommodate development required to meet the County's 2021–2029 Regional Housing Needs Assessment (RHNA) allocation. Under the RHNA allocation, unincorporated Los Angeles County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It has been determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its RHNA gap; refer to Chapter 3, Project Description, for further details. While the Proposed Project consists of a policy document update, which is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

The rezoning program aims to focus growth and density increase in the unincorporated areas with access to services and infrastructure and outside of the County's environmentally sensitive and hazardous areas. While the proposed Project Area is County-wide, the areas affected by the rezoning program are limited to the following seven (7) Planning Areas: East San Gabriel Valley Planning Area, Gateway Planning Area, Metro Planning Area, San Fernando Valley Planning Area, South Bay Planning Area, West San Gabriel Valley Planning Area, and Westside Planning Area.

As previously discussed within this section chapter, a CHRIS records search was conducted for sample study area within the proposed rezoning program. No previously recorded prehistoric resources or TCRs listed in the CRHR or a local register were identified. While the SLF results were positive for the Proposed Project, the SLF maintained by the NAHC represent a curation of "ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California" (nahc.gov 2021) provided by Tribal entities and Native American representatives. For various reasons, Tribal entities and Native American representatives do no not always report sacred lands or TCRs to the NAHC; as such, the NAHC's SLF is not necessarily a comprehensive list of known TCRs and searches of the SLF must be considered in concert with other research and not used as a sole source of information regarding the presence of TCRs. Additionally, results of the SLF provided relate to the general regional area within and surrounding the proposed Planning Areas and don't necessarily equate to the existence of resources within the specific area occupied by the Proposed Project. Further, no specific TCRs have been identified by California Native American tribes as part of the County's AB 52 and SB 18 notification and consultation process. Therefore, the Proposed Project is not expected to adversely affect TCRs that are listed or eligible for listing in the state or local register. Additionally, future housing development facilitated by the Proposed Project, including development as part of the rezoning program, will be subject to

discretionary permits and compliance with all federal, State and local requirements for protecting tribal cultural resources. Impacts are considered **less than significant.**

Threshold TC-2 **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?**

A sample study within the rezoning program was evaluated and there were no resources that have been determined by the lead agency to be significant pursuant to the criteria set forth in PRC Section 5024.1. Further, no specific TCRs were identified within the generally proposed rezoning program areas by California Native American tribes, or by the County as part of the AB 52 and SB 18 notification and consultation process. As no information regarding TCRs has been received by the County, the County has determined that no TCRs are present within areas expected to accommodate future housing facilitated by the Proposed Project. Additionally, future housing development facilitated by the Proposed Project, including development as part of the rezoning program, will be subject to discretionary permits and compliance with all federal, State and local requirements for protecting tribal cultural resources. Impacts are considered **less than significant.**

4.18.6 Cumulative Impacts

The cumulative impacts analysis of TCRs considers whether impacts of the Proposed Project together with related projects identified within the vicinity of the proposed rezoning program areas, when taken as a whole, substantially diminish the number of TCRs within the same or similar context. As addressed above, the Proposed Project would have a less-than-significant impact on TCRs. There are no known TCRs within the areas generally proposed as part of the rezoning program, and the areas are not part of an existing or known grouping of TCRs that would add to any potential cumulative impact that might be caused by other projects. It is anticipated that unidentified or unknown TCRs that are potentially affected by related projects would be subject to the same requirements of CEQA as the Proposed Project and any impacts would comply with applicable regulatory requirements. Therefore, the Proposed Projects' contribution to cumulative impacts would not be cumulatively considerable, and cumulative impacts on TCRs would be **less than significant**.

4.18.7 Mitigation Measures

No mitigation is required.

4.18.8 Level of Significance After Mitigation

Impacts to TCRs as a result of implementation of the Proposed Project are **less than significant**.

4.18.9 References

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4.19 Utilities and Service Systems

This section of the Draft Program Environmental Impact Report (PEIR) evaluates the Proposed Los Angeles County Housing Element Update (Proposed Project) to impact utilities and service systems.

4.19.1 Environmental Setting

As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to Los Angeles County (County) where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analyses or studies.

Wastewater Treatment Process

Sanitary wastewater is treated in the following three phases:

- **Primary treatment:** Removal of solids using settling tanks
- **Secondary treatment:** Reduction of organic matter using bacteria and oxygen; followed by further removal of solids
- **Tertiary treatment:** Filtration of wastewater to remove any solids remaining after the first two phases of treatment

Most wastewater that undergoes tertiary treatment is disinfected after tertiary treatment. Disinfection methods include chlorine bleach and ultraviolet light. Tertiary-treated wastewater is often reused (i.e., recycled) for landscape and agricultural irrigation, groundwater recharge, and industrial purposes.

Wastewater Treatment Providers for Unincorporated Areas of Los Angeles County

The Los Angeles County Sanitation Districts (LACSD) provide wastewater treatment to many unincorporated areas of Los Angeles County (unincorporated areas), as well as to 78 cities in Los Angeles County.

The City of Los Angeles Bureau of Sanitation (LABS) provides wastewater treatment to several unincorporated areas in and adjacent to the City of Los Angeles, including unincorporated areas west of the City of Los Angeles in the Santa Susana Mountains, Simi Hills, and Santa Monica Mountains; Marina del Rey; and La Crescenta-Montrose.

The Las Virgenes Municipal Water District operates the Tapia Water Reclamation Facility in the unincorporated areas within the Santa Monica Mountains Planning Area.

The Los Angeles County Department of Public Works operates three wastewater treatment plants in the City of Malibu that also serve nearby unincorporated areas.

Wastewater Treatment Facilities

Each of the wastewater treatment facilities described below provides primary, secondary, and tertiary treatment, except where otherwise noted. The facilities are mapped in Figure 4.19-1, Wastewater Treatment Facilities.

San Fernando Valley Planning Area

- The LABS Tillman Water Reclamation Plant (WRP) is located southwest of the intersection of Interstate (I) 405 with Victory Boulevard, in the City of Los Angeles. The plant serves the unincorporated areas west of the City of Los Angeles and has an 80 million gallons per day (mgd) capacity (City of Los Angeles 2020a).
- The LABS Los Angeles-Glendale WRP is located immediately east of the Los Angeles River, and south of Colorado Street, in the City of Los Angeles. The plant serves east San Fernando Valley communities within Los Angeles City limits and has a 20 mgd capacity (City of Los Angeles 2020b).

West San Gabriel Valley Planning Area

- The LACSD San Jose Creek WRP, immediately east of the intersection of I-605 and State Route 60, in an unincorporated area, serves a population of 1 million in the San Gabriel Valley. The facility has a 100 mgd capacity and treated average flows of 100 mgd in 2021 (LACSD 2021).
- The LACSD Whittier Narrows WRP, on Rosemead Boulevard in the City of El Monte, has a 15 mgd capacity and treated average flows of 15 mgd in 2021 (LACSD 2021).

East San Gabriel Valley Planning Area

- The LACSD Pomona WRP, near the northwest corner of Mission Boulevard and Humane Way in the City of Pomona, has a 15 mgd capacity and treated average flows of 15 mgd in 2021 (LACSD 2021).
- The San Jose Creek WRP also provides wastewater treatment for part of the East San Gabriel Valley Planning Area.

Metro Planning Area and South Bay Planning Area

- Most of the unincorporated areas in the Metro and South Bay Planning Areas are in the service area of the Joint Water Pollution Control Plant, near the intersection of I-110 and Lomita Boulevard, in the City of Carson. The plant has a 400 mgd capacity for primary and secondary treatment and treated average flows of 260 mgd in 2021 (LACSD 2021).

Westside Planning Area

- Marina del Rey is in the service area of the LABS Hyperion Treatment Plant, on Vista Del Mar in the Community of Playa Del Rey, in the City of Los Angeles. The plant has a 450 mgd capacity and treats average wastewater flows of 450 mgd (City of Los Angeles 2020c).

Gateway Planning Area

- The LACSD Long Beach WRP, on Willow Street west of I-605 in the City of Long Beach, has a 25 mgd capacity and treated average flows of 25 mgd in 2021 (LACSD 2021).
- The LACSD Los Coyotes WRP, near the junction of the I-605 and State Route 91 freeways in the City of Cerritos, has a 37.5 mgd capacity and treated average flows of 37.5 mgd in 2021 (LACSD 2021).

Estimated Wastewater Generation, Existing Conditions

Estimated existing wastewater generation in the unincorporated areas is provided in Table 4.19-1, Estimated Wastewater Generation and Capacity by Planning Area. Wastewater generation is estimated as 60% of total water demand for unincorporated areas of about 177,024,890 gallons per day, which is 106,214,934 gallons per day. Wastewater generation by planning area is estimated by prorating total wastewater generation in the unincorporated areas by the population of a given planning area as a proportion of the total population of the unincorporated areas.

Table 4.19-1. Total Wastewater Generation and Capacity by Planning Area

Water Reclamation Plant by Planning Area	Total Wastewater Generation (mgd)	Total Wastewater Capacity (mgd)
San Fernando Valley Planning Area		
LABS Tillman	80	80
LABS Los Angeles-Glendale	20	20
Total	**100**	**100**
West San Gabriel Planning Area		
LACSD San Jose Creek	100	100
LACSD Whittier Narrows	15	15
Total	**115**	**115**
East San Gabriel Planning Area		
LACSD Pomona	15	15
San Jose Creek	100	100
Total	**115**	**115**
Metro Planning Area and South Bay Planning Area		
Joint Water Pollution Control Plant	260	400
Total	**260**	**400**
Westside Planning Area		
LABS Hyperion Treatment Plant	450	450
Total	**450**	**450**
Gateway Planning Area		
LACSD Long Beach	25	25
LACSD Los Coyotes	37.5	37.5
Total	**62.5**	**62.5**

Sources: City of Los Angeles 2020a, 2020b, 2020c; LACSD 2021
Notes: mgd = million gallons per day; LABS = City of Los Angeles Bureau of Sanitation; LACSD = Los Angeles County Sanitation District

Wastewater Collection

The Consolidated Sewer Maintenance District of Los Angeles County, administered by the Department of Public Works, operates and maintains more than 4,600 miles of sanitary sewers serving the unincorporated areas (except for Marina del Rey) and 40 cities.

The LACSD owns, operates, and maintains about 1,400 miles of sewers ranging from 8 to 144 inches in diameter that convey 453 mgd to 11 wastewater treatment plants (LACSD 2021).

LABS operates and maintains more than 6,700 miles of sewers.

4.19.2 Relevant Plans, Policies, and Ordinances

Federal

The federal Clean Water Act, United States Code, Title 33, Sections 1251 et seq. requires that wastewater be treated prior to being discharged to waters of the United States. The Clean Water Act is described in further detail in Section 4.10, Hydrology and Water Quality, of this Draft PEIR.

State

The following state regulations pertaining to utilities and service systems would apply to the Proposed Project.

Porter-Cologne Water Quality Control Act

In California, the State Water Resources Control Board and nine Regional Water Quality Control Boards (RWQCBs) are responsible for implementing the Clean Water Act and the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The Porter-Cologne Act authorizes the State Water Resources Control Board to implement programs to control polluted discharges into state waters. In compliance with the Porter-Cologne Act, the nine RWQCBs establish the wastewater concentrations of a number of specific hazardous substances in treated wastewater discharge.

Sanitary Sewer General Waste Discharge Requirements

On May 2, 2006, the State Water Resources Control Board adopted a General Waste Discharge Requirement (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California with more than 1 mile of sewer pipe. The order provides a consistent statewide approach to reducing sanitary sewer overflows by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system in order to prevent sanitary sewer waste from entering the storm sewer system, and to develop a Sewer System Management Plan. The General Waste Discharge Requirements also requires that storm sewer overflows be reported to the State Water Resources Control Board using an online reporting system.

Local

The following local/regional regulations pertaining to utilities and service systems would apply to the Proposed Project.

Water Quality Control Plans (Basin Plans)

The Porter-Cologne Act, Section 13000, directs each RWQCB to develop a water quality control plan (Basin Plan) for all areas within its region. The Basin Plan is the basis for each RWQCB's regulatory program. The Project Area is within the purview of the Los Angeles RWQCB (Region 4), and the Proposed Project must comply with applicable elements of the Basin Plan for Region 4. The Basin Plan gives direction on the beneficial uses of state waters, describes the water quality that must be maintained, and provides programs necessary to achieve the standards established in the Basin Plans.

County Sanitation Districts of Los Angeles County – Sewer Connection Fees

Capital improvements to LACSD water reclamation plants are funded from connection fees charged to new developments, redevelopments, and expansions of existing land uses. The connection fee is a capital facilities fee used to provide additional conveyance, treatment, and disposal facilities (capital facilities) required by new users connecting to the LACSD sewerage system or by existing users that significantly increase the quantity or strength of their wastewater discharge.

Los Angeles County 2035 General Plan

The Public Services and Facilities Element of the Los Angeles County 2035 General Plan (General Plan) provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal PS/F 4: Reliable sewer and urban runoff conveyance treatment systems

- **Policy PS/F 4.1:** Encourage the planning and continued development of efficient countywide sewer conveyance treatment systems.
- **Policy PS/F 4.2:** Support capital improvement plans to improve aging and deficient wastewater systems, particularly in areas where the General Plan encourages development, such as TODs.
- **Policy PS/F 4.3:** Ensure the proper design of sewage treatment and disposal facilities, especially in landslide, hillside, and other hazard areas.
- **Policy PS/F 4.4:** Evaluate the potential for treating stormwater runoff in wastewater management systems or through other similar systems and methods.

4.19.3 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project would normally have a significant effect on the environment with respect to utilities and service systems if the project:

U-1: Would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

U-2: Would require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

U-3: Would result in a determination by the wastewater treatment provider which serves or may serve the project that is has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

4.19.4 Methodology

This section addresses existing wastewater systems that the Proposed Project would have the potential to impact. This analysis addresses potential impacts on the capacity of the local wastewater conveyance and treatment facilities with implementation of the Proposed Project.

4.19.5 Environmental Impacts

Threshold U-1 Would the Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The Proposed Project is a policy document and adoption of the Proposed Project alone would not produce environmental impacts. The Proposed Project consists of an updated housing program; no actual development is proposed as part of the update. Implementation of the program contained in the document would accommodate development required to meet County's 2021–2029 Regional Housing Needs Assessment allocation. Under the Regional Housing Needs Assessment allocation, unincorporated Los Angeles County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It was determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its Regional Housing Needs Assessment gap; refer to Chapter 3 for further details. While the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

The areas of the rezoning program would be located in various planning areas throughout the County. Depending upon the planning area(s) in which individual projects would be located, the applicable local WRP would be evaluated for treatment capacity and ability to treat increased wastewater generation, in accordance with Los Angeles RWQCB requirements. Each planning area WRP is governed in accordance with Los Angeles RWQCB orders, which establish performance criteria and effluent limitations to ensure that treated effluent discharges do not violate Basin Plan objectives. As a result, wastewater generation within the rezoning program area would discharge to a treatment plant that is in compliance with a permit issued by the RWQCB and has the capacity to accept the increased waste stream. Additionally, compliance with applicable federal, state, and local regulations would ensure that would ensure that potential impacts to wastewater treatment requirements associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations, and would not provide any goals, policies, or programs that would significantly exceed wastewater treatment requirements. Therefore, the Proposed Project would not exceed wastewater treatment requirements of the Los Angeles RWQCB and impacts would be **less than significant**.

Threshold U-2 Would the Project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

As described in Threshold U-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. However, the Proposed Project would be consistent with the growth planned for the unincorporated areas of Los Angeles County, and would also be consistent with the planned growth for Los Angeles County as a whole. Additionally, parcels within the rezoning program area would have access to existing infrastructure, including public water and sewer.

The Proposed Project would comply with applicable federal, state, and local regulations to avoid potential impacts to existing water or wastewater treatment facilities. Approval of the Proposed Project itself, as a policy document, would not change these regulations, and would not provide any goals, policies, or programs that would result in the expansion of existing facilities. Therefore, impacts related to existing or future water or wastewater treatments would be **less than significant**.

Threshold U-3 **Would the Project result in a determination by the wastewater treatment provider which serves or may serve the project that is has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

As described in Threshold U-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

As noted in Threshold U-2 above, although the Proposed Project would encourage development with greater intensities than previously permitted in the unincorporated areas of Los Angeles County, such growth would be consistent with the planned growth for the unincorporated Los Angeles County region where the parcels reside, and consistent with the planned growth for Los Angeles County as a whole. As indicated in Threshold U-1, depending upon the planning area(s) within the rezoning program , the applicable local water reclamation plant would be evaluated for treatment capacity, including capacity to provide existing commitments. Each planning area water reclamation plant is governed in accordance with Los Angeles RWQCB orders, which establish performance criteria and effluent limitations to ensure that treated effluent discharges do not violate Basin Plan objectives.

The Proposed Project would comply with applicable federal, state, and local regulations to avoid potential impacts related to the capacity of existing water or wastewater treatment facilities. Approval of the Proposed Project itself, as a policy document, would not change these regulations, and would not provide any goals, policies, or programs that would result in an inadequate capacity of wastewater treatment providers. Therefore, impacts related to future wastewater treatment capacity would be **less than significant**.

4.19.6 Cumulative Impacts

Cumulative projects are those that would be developed cumulatively within the Los Angeles County region and surrounding area. Cumulative projects could cause significant impacts if such combined projects exceeded existing wastewater conveyance infrastructure (i.e., sewer infrastructure), existing wastewater treatment capacity, and/or exceeded treatment requirements of the Los Angeles RWQCB.

The Proposed Project would include the rezoning program that would allow for greater intensities than previously permitted in the unincorporated areas of Los Angeles County. Any future development would be subject to goals, policies, and regulations that reduce impacts to utilities and service systems. Required compliance with these regulations would ensure impacts related to wastewater treatment requirements and/or water or wastewater treatment facilities would be less than significant. Therefore, impacts of the Proposed Project related to utilities and service systems would be **less than significant**.

4.19.7 Mitigation Measures

No mitigation is required.

4.19.8 Level of Significance After Mitigation

No significant impacts related to wastewater infrastructure have been identified; therefore, impacts would be less than significant.

4.19.9 References

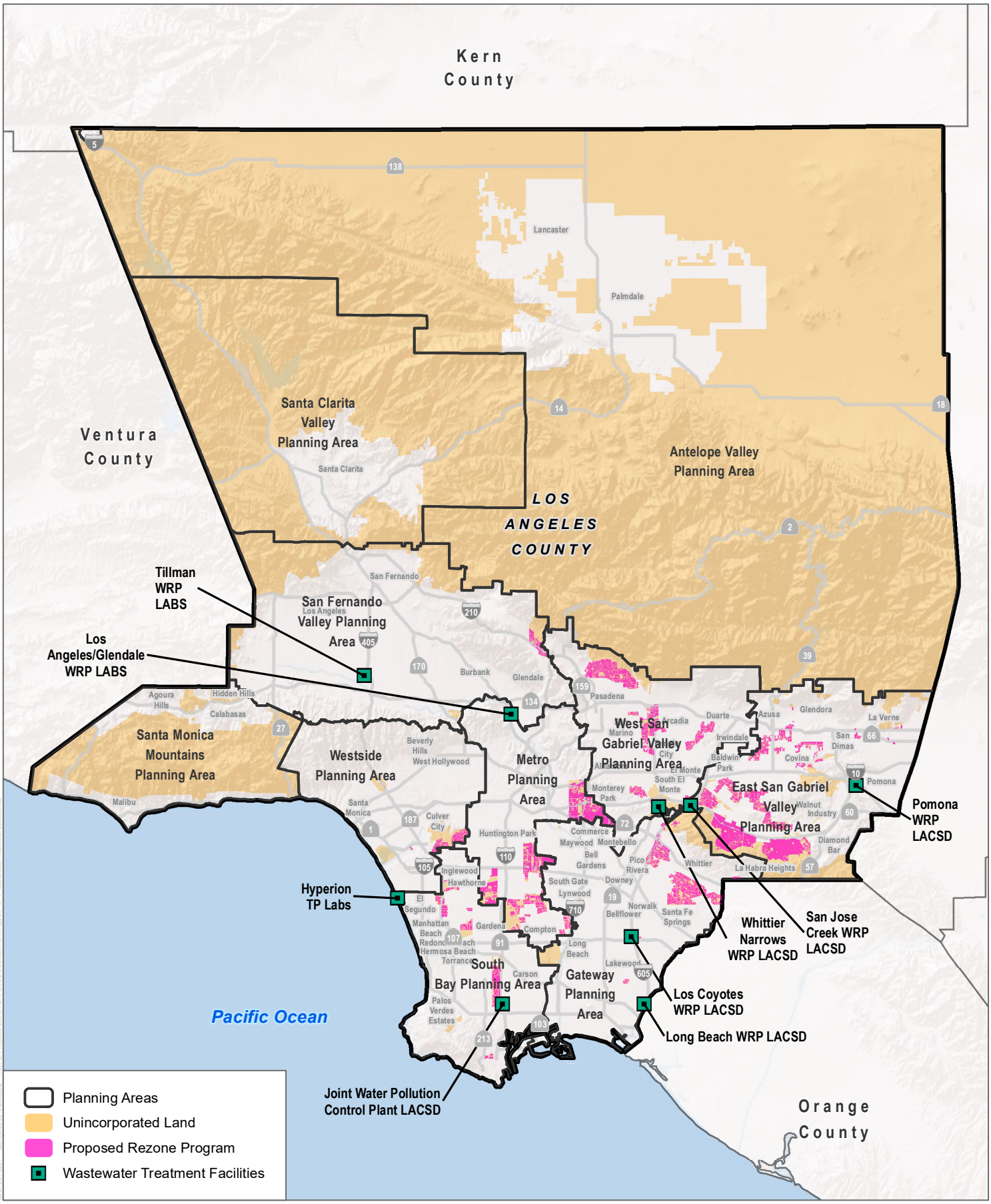
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SOURCE: ESRI 2021; LA County 2021

DUDEK

0 5 10 Miles

FIGURE 4.19-1

Wastewater Treatment Facilities

Los Angeles County Housing Element Update

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4.20 Wildfire

This section describes the existing wildfire conditions within the vicinity of the Project Area, identifies associated regulatory requirements, and evaluates potential impacts associated with wildfire and contribution to regional wildfire conditions related to implementation of the Proposed Los Angeles County Housing Element Update (Proposed Project).

4.20.1 Environmental Setting

This section discusses the existing environmental setting related to wildfire. As described in Chapter 3, Project Description, the Proposed Project is evaluated at a programmatic level and the analysis is based on information available to the County where reasonably foreseeable, direct, and indirect physical changes in the environment could be considered. As a result, this section generally describes the Project Area and, where applicable, the general areas of future potential housing sites as part of the Proposed Project's rezoning program, as those are the areas that may result in changes to the environment that were not already considered in previous environmental analysis or studies.

The Los Angeles County Fire Department (LACoFD) serves the unincorporated areas of Los Angeles County as well as 59 cities that choose to have the County of Los Angeles (County) provide fire and emergency medical services. The LACoFD provides fire suppression and emergency medical services to over four million residents within the County. The LACoFD operates 175 fire stations within 9 divisions and 22 battalions (LACoFD 2019). The LACoFD operates multiple divisions including Air and Wildland, Fire Prevention, Forestry, and Health Hazardous Materials. The LACoFD had a total of 5,901 personnel in 2019 (LACoFD 2019). In addition to fire suppression, the LACoFD also provides fire prevention services, emergency medical services, hazardous materials services, and urban search and rescue services.

The LACoFD is a special district and receives most of its revenue from the unincorporated areas from a portion of the ad valorem property tax paid by the owners of all taxable properties. Major issues associated with fire hazards include the increase in the frequency and duration of wildfires; the increasing cost and danger to residents, property, and the environment; and urban fire considerations due to the intensity of development, the number of potentially affected populations, and the difficulties of containment (County of Los Angeles 2014).

Under a mutual aid pact covering federal forestlands, responsibility for non-structure fires within the National Forest belongs to the U.S. Forest Service (USFS), while LACoFD has the primary mission of suppressing structure fires. Although these responsibilities are stated in the mutual aid pact, each agency fights both wild and structure fires in actual fire emergencies. In addition, an automatic aid agreement, which is an agreement that allows the closest municipality to provide an initial response to fires that may occur in a part of another municipality, exists between USFS and LACoFD. Firefighting, however, is not the primary function of USFS, and the agency is on duty at only certain times of the day. As a result, LACoFD would be called upon to provide fire service if fires involving structures or brushlands near the National Forest boundary occur outside of USFS's hours of service (County of Los Angeles 2014).

The LACoFD has several standards to maintain adequate fire protection within their service area. The current standards for response times are as follows (County of Los Angeles 2014):

- 5 minutes or less for response times for urban areas
- 8 minutes or less for suburban areas
- 12 minutes or less for rural areas

Wildland Fire Hazards

LACoFD has designated lands in the County with regard to their potential for wildland fires. These designations, determined by the County Forester, are based on an area's accessibility, amount and type of vegetative cover, water availability, and topography. LACoFD uses three wildland fire hazard designations: Moderate Fire Hazard, High Fire Hazard, and Very High Fire Hazard. Areas in the County that are not designated within a fire hazard zone are not considered to be subject to wildland fire hazards (County of Los Angeles 2014). Areas in the County that are designated within a fire hazard zone are shown in Figure 4.20-1, Fire Hazard Severity Zones.

Highly combustible natural vegetation types include chaparral, coastal sage, riparian, and oak woodlands. These plant communities include plant species such as ceanothus, chamise, sumac, sages, and wildland grasses. These plant species, which have adapted to periodic wildland fire conditions, maintain a healthy ecosystem in the region. These plant communities pose the greatest fire threat to expanding urban development due to their high combustibility and their dense biomass. However, in the area where these plant communities border urban development, the frequency of fire events may be diminished as a result of proactive fire prevention and fire suppression measures. Fire prevention measures include prescribed burns, vegetation thinning/removal, and creation of fuel modification zones, whereas fire suppression measures involve controlling fires once they have started through the use of fuel breaks, fire-fighting equipment, water drops, and other techniques (County of Los Angeles 2014).

4.20.2 Relevant Plans, Policies, and Ordinances

Federal

The following federal regulations pertaining to wildfire would apply to the Proposed Project.

Federal Response Plan

The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a presidential declaration of a major disaster or emergency (County of Los Angeles 2014).

State

The following state regulations pertaining to wildfires would apply to the Proposed Project.

California Health and Safety Code Section 13000 et seq.

State fire regulations are set forth in Section 13000 et seq. of the California Health and Safety Code, which include regulations concerning building standards (as also set forth in the California Building Code [CBC] noted below), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and child care facility standards, and fire suppression training. The State Fire Marshal enforces these regulations and building standards in all state-owned buildings, state-occupied buildings, and state institutions throughout California.

California Code of Regulations Title 24, Part 2

The State of California provided a minimum standard for building design through the 2019 CBC, which is located in Part 2 of Title 24 of the California Code of Regulations. This part incorporates by adoption the 2018 International Building Code of the International Code Council with necessary California amendments. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local city and county building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all 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 wildlife hazard areas.

California Code of Regulations Title 24, Part 9

Part 9 of Title 24 of the California Code of Regulations refers to the 2019 California Fire Code, which contains fire-safety-related building standards referenced in other parts of Title 24. This code is preassembled with the 2000 Uniform Fire Code of the Western Fire Chiefs Association. This part incorporates by adoption the 2018 California Fire Code of the International Code Council with necessary California amendments.

California Public Resources Code Sections 4201–4204

This section of the California Public Resources Code was amended in 1982 to require the California Department of Forestry to classify all State Responsibility Areas (SRAs) into fire hazard severity zones (FHSZs). The purpose of this code is to provide classification of lands within SRAs in accordance with the severity of fire hazard present for the purpose of identifying measures to be used to retard the rate of spreading and to reduce the potential intensity of uncontrolled fires that threaten to destroy resources, life, or property.

State Responsibility Area Fire Safe Regulations (Title 14 Natural Resources, Department of Forestry and Fire Protection)

These regulations constitute the basic wildland fire protection standards of the California Board of Forestry. They have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction, and development in SRAs. Title 14 mandates that the future design and construction of structures, subdivisions, and developments in an SRA provide for basic emergency access and perimeter wildfire protection measures.

Local

The following local/regional regulations pertaining to wildfire would apply to the Proposed Project.

Fire Hazard Severity Zones

Fire hazard severity zones in the County are designated by the California Department of Forestry and Fire Prevention, and by the LACoFD within cities. Fire hazard severity zone levels range from moderate to very high. Fire hazard severity ones are designated in three types of areas based on what level of government is financially responsible for preventing and suppressing wildfires (County of Los Angeles 2014):

- **Federal Responsibility Areas:** The federal government is financially responsible for wildfire suppression. Within the County, the Angeles National Forest and federal land in the Santa Monica Mountains National Recreation Area are Federal Responsibility Areas.
- **State Responsibility Areas:** The state is financially responsible for wildfire suppression. Within the County, SRAs are in outlying areas such as the Santa Susana Mountains, foothills of the San Gabriel Mountains, and parts of the Santa Monica Mountains.
- **Local Responsibility Areas:** Cities or the County are financially responsible for wildfire suppression. Local Responsibility Areas in the County include foothills of the Santa Susana and San Gabriel Mountains; the Verdugo Mountains, Santa Monica Mountains, Hollywood Hills, San Rafael Hills, and Puente Hills; and other hills in the central Los Angeles area (see Figure 5.8-1, Fire Hazard Severity Zones, in County of Los Angeles 2014).

Los Angeles County Fire Department

County programs for wildland fire prevention include the adoption of the State Fire Code for regulations and standards to be applied toward new development in "hazardous fire areas." Fire prevention items addressed in the County Fire Code include provision of fire apparatus access roads, adequate road widths, all-weather access requirement, fire flow requirement, fire hydrant spacing, and clearance of brush around structures located in hillside areas that are considered primary wildland fire risk areas (County of Los Angeles 2014).

For areas located within a very high fire hazard severity zone (VHFHSZ), County Fire Code Sections 325.2.1.2, 328.10, 1117.2.1, and 4908.1 require completion and approval of a land development plan and fuel modification plan. Appendices B and C of the County Fire Code specify that for single-family dwellings located on a lot of 1 acre or more in a VHFHSZ, the minimum fire flow must be 1,000 gallons per minute for a duration of 2 hours, and hydrants must be spaced not more than 600 feet apart and serviced from a public water system.

The LACoFD Fuel Modification Unit provides guidelines for the VHFHSZ to create a defensible space for effective fire protection in newly constructed and/or remodeled homes. Fuel modification zones in the Project Area are strategically placed strips of land where combustible native or ornamental vegetation has been modified or replaced with drought-tolerant, low-fuel-volume plants, creating a buffer between areas of natural vegetation surrounding the perimeter of a single-family dwelling. A fuel modification plan identifies specific zones within a property which are subject to fuel modification. Plans vary in complexity, and fuel modification distances are estimated based on fire history, amount and type of vegetation, arrangement of the fuels, topography, local weather patterns, and construction, design, and placement of structures. The plan must also include an irrigation plan; a landscape plan; zone delineation for setbacks, irrigation, and thinning; and the identification of responsible parties for the plan's installation and maintenance (County of Los Angeles 2014).

Developer Fees

In response to increasing demands for new facilities, equipment, and staffing created by new development, the County has implemented a Developer Fee Program to fund the purchase of fire station sites, the construction of new stations, and certain capital equipment in the high-growth areas of the County. The developer fees, which are currently $0.9705 per square foot of new development in the Malibu/Santa Monica Mountains Area, $1.2831 per square foot of new development in the Santa Clarita Valley Area, and $0.9180 in the Antelope Valley Area (all land uses), are paid to the Consolidated Fire Protection District of Los Angeles County (LACoFD 2020a). This Fire District developer fee is adjusted annually and is charged on all new development, including residential buildings, new detached residential accessory structures, new commercial buildings, and new additions over 2,000 square feet, prior to building permit issuance.

Emergency Response Plans

Emergency response plans include elements to maintain continuity of government, emergency functions of governmental agencies, mobilization and application of resources, mutual aid, and public information. Emergency response plans are maintained at the federal, state, and local level for all types of disasters, including human-made and natural. It is the responsibility of government to undertake an ongoing comprehensive approach to emergency management to avoid or minimize the effects of hazardous events. Local governments have the primary responsibility for preparedness and response activities.

The Los Angeles County Office of Emergency Management (OEM) maintains the Los Angeles County Operational Area Emergency Response Plan and the County of Los Angeles All-Hazard Mitigation Plan. OEM leads and coordinates disaster plans and disaster preparedness exercises for all cities and 288 special districts in Los Angeles County.

Los Angeles County 2035 General Plan

The Land Use Element of the Los Angeles County 2035 General Plan (General Plan) provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal LU 3 A development pattern that discourages sprawl, and protects and conserves areas with natural resources and SEAs.

- **Policy LU 3.2** Discourage development in areas with high environmental resources and/or severe safety hazards.

Goal LU 11 Development that utilizes sustainable design techniques

Goal LU 11 Development that utilizes sustainable design techniques

- **Policy LU 11.6** Ensure that subdivisions in VHFHSZs site open space to minimize fire risks, as feasible.

The Safety Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal S 3 An effective regulatory system that prevents or minimizes personal injury, loss of life, and property damage due to fire hazards.

Policy S 3.1 Discourage high density and intensity development in VHFHSZs.

Policy S 3.2 Consider climate change implications in planning for FHSZs.

Policy S 3.4 Reduce the risk of wildland fire hazards through the use of regulations and performance standards, such as fire-resistant building materials and vegetation.

Policy S 3.5 Encourage the use of fire-resistant vegetation that is compatible with the area's natural vegetative habitats in fuel modification activities.

Policy S 3.6 Ensure adequate infrastructure, including ingress, egress, and peak load water supply availability for all projects located in FHSZs.

Policy S 3.7 Consider siting and design for developments located within FHSZs, particularly in areas located near ridgelines and on hilltops, to reduce the wildfire risk.

Policy S 3.9 Adopt by reference the County of Los Angeles Fire Department Strategic Fire Plan, as amended.

Goal S 4 Effective County emergency response management capabilities.

Policy S 4.1 Ensure that residents are protected from the public health consequences of natural or manmade disasters through increased readiness and response capabilities, risk communication, and the dissemination of public information.

Policy S 4.2 Support County emergency providers in reaching their response time goals.

Policy S 4.3 Coordinate with other County and public agencies, such as transportation agencies, and health-care providers on emergency planning and response activities, and evacuation planning.

Policy S 4.4 Encourage the improvement of hazard prediction and early warning capabilities.

Policy S 4.5 Ensure that there are adequate resources, such as sheriff and fire services, for emergency response.

Policy S 4.6 Ensure that essential public facilities are maintained during natural disasters, such as flooding.

The Conservation and Natural Resources Element of the General Plan provides the following goals and policies potentially relevant to the Proposed Project (County of Los Angeles 2015):

Goal C/NR 13 Protected visual and scenic resources.

Policy C/NR 13.8 Manage development in HMAs to protect their natural and scenic character and minimize risks from natural hazards, such as fire, flood, erosion, and landslides.

4.20.3 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act Guidelines, a project would normally have a significant effect on the environment with respect to wildfire if the project would:

WF-1: Substantially impair an adopted emergency response plan or emergency evacuation plan.

WF-2: 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.

WF-3: 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.

WF-4: 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.

4.20.4 Methodology

This analysis of impacts of the Proposed Project on fire protection services and wildfire hazards is based on review of California Department of Forestry and Fire Protection's Fire Hazard Severity Zone Map for Los Angeles County (CAL FIRE 2020).

4.20.5 Environmental Impacts

Threshold WF-1 Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

LACoFD provides fire, safety, and emergency medical services to the Project Area. Additionally, many cities within the County use LACoFD services. LACoFD operates multiple divisions including Air and Wildland, Fire Prevention, and Forestry. In addition, the Health Hazardous Materials Division's mission is to "protect the public health and the environment from accidental releases and improper handling, storage, transportation, and disposal of hazardous materials and wastes through coordinated efforts of inspections, emergency response, enforcement, and site mitigation oversight" (LACoFD 2020b).

The Los Angeles region's first responders currently use a patchwork of often incompatible radio technologies and frequencies. This uncoordinated system means that neighboring agencies and systems cannot easily communicate with one another. The Los Angeles Regional Interoperable Communication System uses the Land Mobile Radio system, which allows first and second responders to communicate directly with one another on a day-to-day basis, replacing a patchwork of 40+ aging radio networks as the County's primary means of public safety communications. The system provides increased coverage and capacity and eliminates barriers to multijurisdictional responses by allowing police, firefighters, and paramedics in the field to communicate directly with users outside of their agency (LARICS 2021).

The Environmental Health Division is a division within the Los Angeles County Department of Public Health that is responsible for the enforcement and education of federal, state, and local laws and regulations relating to environmental factors that affect public health and safety. The Environmental Health Divisions serves County residents and visitors; the food industry; housing and institution operators; water, sewage, and solid waste industries; and other public and private industries. The mission of the Environmental Health Division is to assess environmental conditions and reduce exposure to health risks and to educate the public on sources of environmental risk so they are empowered to protect themselves, their families, and their communities (County of Los Angeles Department of Public Health 2021).

The Proposed Project is a policy document and adoption of the Proposed Project alone would not produce environmental impacts. The Proposed Project consists of an updated housing program for which no actual development is proposed as part of the update. Implementation of the program contained in the document would accommodate development required to meet County's 2021–2029 Regional Housing Needs Assessment allocation. Under the Regional Housing Needs Assessment allocation, unincorporated Los Angeles County is required to provide the zoned capacity to accommodate the development of at least 90,052 units using various land use planning strategies. It was determined that the County's inventory of residential sites will be insufficient to accommodate future housing needs. As such, as part of the Proposed Project, the County includes a rezoning program in the Housing Element to accommodate its Regional Housing Needs Assessment gap; refer to Chapter 3, Project Description, for further details. While the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County.

The Proposed Project includes a rezoning program that would allow for greater intensities than previously permitted in the unincorporated areas of the County. However, the Proposed Project would concentrate rezoning efforts in urban and suburban areas, and the majority are located along commercial corridors. As shown in Figure 4.20-1, Fire Hazard Severity Zones, the general areas of the rezoning program are not located in FHSZs. The entities proposing growth and development associated with implementation of the Proposed Project would be required to coordinate among various County departments, as further described below, to ensure adequate emergency response.

As explained in Section 4.20.2, Relevant Plans, Policies, and Ordinances, of this Environmental Impact Report, OEM is responsible for organizing and directing the preparedness efforts of the emergency management organization of the County. The OEM is the day-to-day Los Angeles County Operational Area coordinator. The emergency response plan for the Project Area is the Operational Area Emergency Response Plan, which is prepared by OEM (County of Los Angeles 2012). The Operational Area Emergency Response Plan strengthens short- and long-term emergency response and recovery capability and identifies emergency procedures and emergency management routes in the County.

In addition to aspects of the existing regulatory framework that would lessen potential impacts of the Proposed Project on emergency response, a number of goals and policies in the County's General Plan, listed in Section 4.20.2 (specifically Goal S 4 and Policies S 4.1, S 4.2, S 4.3, S 4.4, S 4.5 and S 4.6), would also serve to minimize potential impacts to emergency response.

While the rezoning program would allow for greater intensities than previously permitted in the unincorporated areas of the County, the existing regulatory setting, the goals and policies contained in the General Plan, and general location of the rezoning areas within urban areas would ensure that potential impacts to emergency response associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations and would not provide any goals, policies, or programs that would significantly impact emergency response and/or evacuation. Therefore, impacts to an adopted emergency response plan or emergency evacuation plan would be **less than significant.**

Threshold WF-2 Due to slope, prevailing winds, and other factors, would the Project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The County faces major wildland fire threats due to its hilly terrain, dry weather conditions, and the nature of its plant coverage. The at-risk areas are designated as FHSZs per Government Code Sections 51175–51189.

As described in Threshold WF-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. As shown in Figure 4.20-1, parcels within the rezoning program are not located in FHSZs. The rezoning program would be located within urban and suburban areas, many of which would be located along commercial corridors; the program would encourage infill development in areas with existing infrastructure.

Additionally, the rezone parcels would be located outside of wildland areas. Nonetheless, wildfires may potentially occur in wildland areas adjacent to the rezoning parcels. The fuel modification plan identifies specific zones within a property that are subject to fuel modification. Vegetation management, as it relates to wildland fire, refers to the total or partial removal of high-fire-hazard grasses, shrubs, or trees. This includes thinning to reduce the amount of fuel and modification of vegetation arrangement and distribution to disrupt fire progress. The Vegetation Management Program is a cost-sharing program that focuses on the use of prescribed fire, hand crews, and mechanical, biological, and chemical means for addressing wildland fire fuel hazards, habitat restoration, and other resource management issues on SRA and Local Responsibility Area lands.

In addition to aspects of the existing regulatory framework that would lessen potential impacts related to wildfire risk, the County's General Plan contains goals and policies, as listed in Section 4.20.2, that help to reduce the risk of wildfires (specifically Goal S 3 and Policies S 3.1, S 3.4, S 3.5, S 3.6, and S 3.7).

While the rezoning program would allow for greater intensities than previously permitted in the unincorporated areas of Los Angeles County, the existing regulatory setting, the goals and policies contained in the General Plan, and general location of the rezoning areas within urban areas would ensure that potential impacts related to wildfire risk associated with implementation of the Proposed Project would be less than significant. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations and would not provide any goals, policies, or programs that would significantly increase the risk of wildfires. Compliance with applicable regulations, goals, and policies as previously described would ensure that the Proposed Project would not result in a significant increase to wildfire risks. minimize impacts related to wildland fires. Therefore, the Proposed Project would have a **less-than-significant impact** associated with wildfire risks.

Threshold WF-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?

As noted in Threshold WF-2, the Proposed Project would encourage infill development in urban areas with existing infrastructure. Although the Proposed Project would encourage population growth in these areas which could increase the need and use of existing infrastructure, the Proposed Project would not install fuel breaks or emergency water sources that may exacerbate fire risk. Compliance with applicable regulations, goals, and policies would ensure that the Proposed Project would not result in a significant increase in fire risk through the installation or maintenance of associated infrastructure. Additionally, approval of the Proposed Project itself, as a policy document, would not change these regulations, and would not provide any goals, policies, or programs

that would require the installation or maintenance of associated infrastructure. Therefore, the Proposed Project would have a **less-than-significant impact** associated with fire risk through the installation or maintenance of associated infrastructure

Threshold WF-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?

As described in Threshold WF-1, while the Proposed Project is a policy document that is not anticipated to produce environmental impacts, the rezoning program as part of the Proposed Project would allow for greater densities than currently allowed within the County. However, as noted in Threshold WF-2, the Proposed Project would allow for infill development in urban areas with existing infrastructure. These areas do not have a high risk of fire and associated runoff (including runoff from hazardous substances) as they are developed. In general, the rezoning areas exclude Hillside Management Areas and are therefore not located on steep slopes and would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Additionally, compliance with applicable regulations, goals, and policies would ensure that the Proposed Project would not result in a significant increase in exposure of people or structures to significant risks resulting from runoff. Furthermore, approval of the Proposed Project itself, as a policy document, would not change these regulations and would not provide any goals, policies, or programs that would require the installation or maintenance of associated infrastructure. Therefore, the Proposed Project would have a **less-than-significant impact** associated with fire risk resulting from runoff.

4.20.6 Cumulative Impacts

Any future development would be required to comply with applicable federal, state, and local regulations related to emergency response and wildland fires. Required compliance with these regulations would ensure impacts related to emergency response and wildfire would be less than significant. Therefore, impacts related to emergency response and wildfires **would not be cumulatively considerable**.

4.20.7 Mitigation Measures

No mitigation measures are required.

4.20.8 Level of Significance After Mitigation

No significant unavoidable adverse impacts relating to wildfire have been identified.

4.20.9 References

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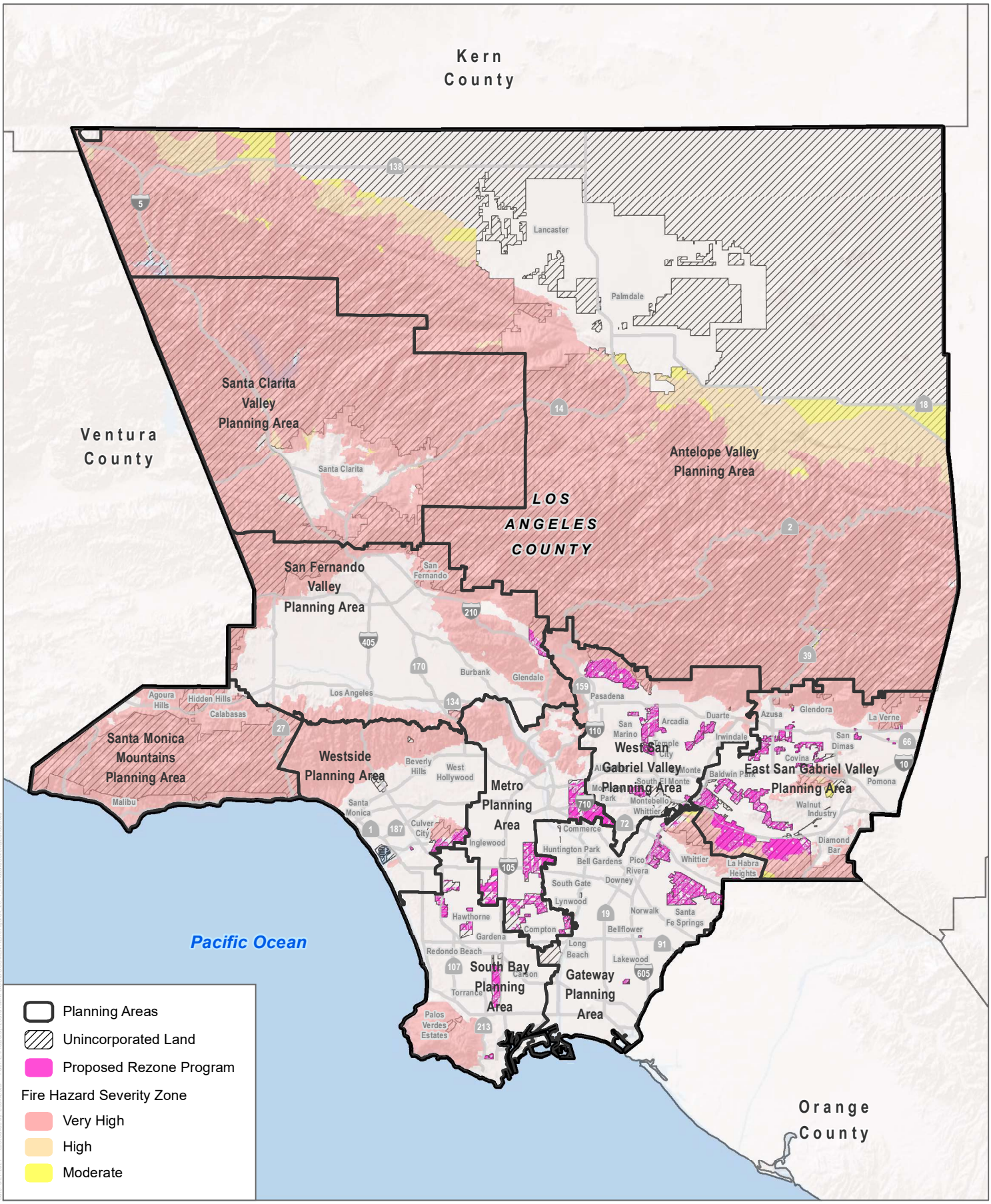
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SOURCE: ESRI 2021; LA County 2021

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FIGURE 4.20-1

Fire Hazard Severity Zones

Los Angeles County Housing Element Update

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5 Other CEQA Considerations

Chapter 5 of the Draft Program Environmental Impact Report (PEIR) for the Proposed Los Angeles County Housing Element Update (Proposed Project) has been prepared in furtherance of the content requirements set forth in the California Environmental Quality Act (CEQA) Guidelines Section 15126.2. As such, this chapter discusses the following:

- Significant and Unavoidable Environmental Impacts (Section 5.1)
- Significant and Irreversible Environmental Effects (Section 5.2)
- Growth-Inducing Impacts (Section 5.3)
- Effects Found Not to Be Significant (Section 5.4)

5.1 Significant and Unavoidable Environmental Impacts

Section 15126.2(c) of the CEQA Guidelines requires than an EIR describe any significant impacts which cannot be avoided. Specifically, Section 15126.2(c) states the following:

> Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.

Implementation of the program-level mitigation measures identified in Chapter 4, Environmental Analysis, of this Draft PEIR would reduce all potentially significant impacts to below a level of significance, with the exception of air quality, cultural resources, noise, and transportation.

5.2 Significant and Irreversible Environmental Impacts

The CEQA Guidelines (14 CCR 15000 et seq.) require an EIR to address any significant irreversible environmental changes that would result from the Proposed Project should it be implemented. Pursuant to Section 15126.2(d), significant irreversible environmental impacts could involve any of the following:

- Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely;
- The primary and secondary impacts of the project would generally commit future generations of people to similar uses;
- Irreversible damage from environmental accidents associated with the project;
- The proposed consumption of resources is not justified (e.g., the project results in wasteful use of energy).

Determining whether the Proposed Project could result in significant and irreversible effects requires a determination of whether key resources would be degraded or destroyed in such a way that there would be little possibility of restoring them.

Large Commitment of Non-Renewable Resources

Examples of irretrievable commitments provided in the State CEQA Guidelines include the use of nonrenewable resources (e.g., natural gas and other fossil fuels, lumber, and steel) during construction and operation of any future housing developments. With regard to building materials, future housing developments would be constructed with durable materials with a significant lifespan, such as cast in place concrete and precast concrete, which would improve building longevity. As such, even though construction would result in the commitment of building materials, the materials are not expected to require replacement during the future housing development's estimated operational lifespan. Furthermore, per California Green Building Standards Code, 65% of all demolition and construction materials must be recycled. This regulation would ensure that portions of the existing materials on site are reused. In the event that the future housing developments were to be demolished at a future time, this regulation would ensure that a majority of the materials are recycled.

Nonrenewable resources would also be consumed during operations of future housing developments. Resources used during operation would consist primarily of water, natural gas, and other fossil fuels required for off-site electrical generation and vehicles. While some building materials may be consumed for building maintenance purposes, such use would be limited and would be reduced by the use of durable materials, as described above. The use of fossil fuels during operation of development facilitated by the Proposed Project is discussed in detail in Section 4.6, Energy, of this Draft PEIR. As concluded in that section, the Proposed Project would be required to comply with the applicable Title 24 standards which would further ensure that the Proposed Project energy demands and natural gas usage would not be inefficient, wasteful, or otherwise unnecessary. Additionally, the location of the rezoning program parcels proximate to regional and local roadway systems tends to reduce vehicle miles traveled within the region, acting to reduce regional vehicle energy demands.

As described in Section 4.19, Utilities and Service Systems, future housing development-related increases in water demand would be evaluated on a project-by-project basis. Further, the Proposed Project serves as the guiding planning document for sewer, wastewater, and water system provides to identify future population growth.

In addition to the above considerations, state and local laws and regulations would further reduce the Proposed Project's use of nonrenewable resources over time. Specifically, electricity consumed would be increasingly sourced from renewable energy, pursuant to Senate Bill 100. Senate Bill 100, which passed in 2018, states that 44% of the total electricity sold to retail customers in California per year must be secured from qualifying renewable energy sources by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. SB 100 also sets forth a state policy that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California and requires that achieving 100% zero-carbon electricity does not increase carbon emissions elsewhere in the western grid or is not fulfilled through resource shuffling. As such, consumption of nonrenewable energy by development facilitated by the Proposed Project is anticipated to significantly decrease over time, as Senate Bill 100 is implemented statewide and overall nonrenewable energy consumption decreases.

Similarly, the vehicles that would travel to and from the future housing developments would be subject to increasingly stringent emissions standards over time, which would reduce the amount of fossil fuel consumed per vehicle (see Section 4.6 for additional details). Furthermore, the County of Los Angeles (County) and state have policies in place to support decreased use of personal vehicles, to be replaced with alternative modes such as transit, walking, and biking- policies. The Proposed Project itself seeks to rezone areas in high-amenity areas and within existing Transit Oriented District Specific Plan areas to promote use of alternative modes. As such policies are carried out, the number of vehicles traveling to and from future sites may decrease over time.

Future housing development would also be subject to compliance with the California Building Energy Efficiency Standards and California Green Building Standards Code. In conclusion, while the Proposed Project would result in the use of nonrenewable resources, such use would be limited primarily to building materials, fossil fuels, and water. During operation, use of such resources is expected to decrease, as increasingly stringent efficiency requirements are implemented at the local and state level. Therefore, although the Proposed Project would require the use of nonrenewable resources, it would not construct a new land use that required the commitment of a large amount of nonrenewable resources, such as a new fossil fuel consuming power plant. The replacement of underutilized buildings and surface parking lots would result in changes to the current land uses in a manner that is consistent with the County's General Plan goals and policies (see Section 4.11, Land Use and Planning). Such development encouraged in areas near urban centers and transit nodes and would not result in a large commitment of nonrenewable resources such that removal or nonuse thereafter would be unlikely.

Commitment to Future Uses

The Proposed Project involves the creation of a long-range planning document, with future action programs identified including amendments to the General Plan and Zoning Code. The Proposed Project would inform future housing development consistent with State housing law. The Proposed Project does not directly commit future generations to similar uses since the intention of the Proposed Project is to provide an update to the County's Housing Element for the 2021–2029 planning period. As the housing needs of the County may change over the course of the planning period, future generations would be able to reassess their housing needs and make necessary adjustments during the next anticipated housing cycle (2029–2037).

Irreversible Damage from Environmental Accidents

The Proposed Project has the potential to expose the public and the environment to hazards associated future housing developments. As discussed in Section 4.9, Hazards and Hazardous Materials, implementation of the Proposed Project would result in land uses in the Project Area that typically involve the use, storage, disposal and transportation of hazardous materials, such as fuels, lubricants, solvents and degreasers, and paints. Hazardous materials in various forms can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Varying quantities of hazardous materials are manufactured, used, or stored at facilities in the Project Area, from manufacturing facilities to local dry-cleaning establishments or gardening supply stores. Hazardous materials come in the form of explosives, corrosives, flammable and combustible substances, poisons, and radioactive materials. Additionally, the transportation of hazardous materials/waste may increase because of increased hazardous materials/waste usage within Los Angeles County.

Numerous federal, state and local regulations exist that require strict adherence to specific guidelines regarding the use, transportation, and disposal of hazardous materials. Regulations that would be required of those transporting, using or disposing of hazardous materials include Resource Conservation and Recovery Act, which provides the 'cradle to grave' regulation of hazardous wastes; Comprehensive Environmental Response, Compensation, and Liability Act, which regulates closed and abandoned hazardous waste sites; the Hazardous Materials Transportation Act, which governs hazardous materials transportation on U.S. roadways; International Fire Code, which creates procedures and mechanisms to ensure the safe handling and storage of hazardous materials; California Code of Regulations Title 22, which regulates the generation, transportation, treatment, storage and disposal of hazardous waste; California Code of Regulations Title 27, which regulates the treatment, storage and disposal of solid wastes; and the County Consolidated Fire Code, which regulates hazardous materials and hazardous substance releases. For development within the State of California, Government Code Section 65850.2 requires that no final certificate of occupancy or its substantial equivalent be issued unless there is verification that the owner or authorized agent has met, or is meeting, the applicable requirements of the Health and Safety Code, Division 20, Chapter 6.95, Article 2, Sections 25500 through 25520.

These laws and regulations are designed to reduce and/or eliminate exposure of hazardous materials to the public and the environment. Overall, compliance with permitting and associated regulations would protect future residents and others within the Project Area from exposure to hazardous materials.

Consumption of Resources Justified

While the Proposed Project would increase resource consumption during construction and operation, the Proposed Project would also result in some benefits related to long-term resource consumption in the region. According to the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy, the County will continue to experience growth in population, jobs, and housing. The Proposed Project provides a long-range planning framework to identify adequate sites for future housing developments to meet the housing needs to the region. Specifically, to meet this need, the County is proposing a rezoning program to focus on parcels located in areas served by existing amenities and proximity to transit. Therefore, the Proposed Project would provide the ability of future housing developments to be in closer proximity to existing jobs, thereby facilitating a more balanced jobs-housing profile. The Proposed Project would help accommodate growth within existing developed areas, as opposed to accommodating growth through development in previously undeveloped areas. The latter development pattern generally results in permanent loss of naturalized lands and open space, as well as increased fossil fuel consumption attributable to longer commuting distances and lack of transit options. Further, the Proposed Project identifies sites for very-low and low-income units to support a mix of housing income types, which further contributes to a development pattern that focuses on diverse growth and reduced vehicular travel. While the Proposed Project would result in some irretrievable commitment of nonrenewable resources, it would also help accommodate growth in a manner that would reduce irreversible environmental changes in the region. For these reasons, the irretrievable commitment of resources attributable to the Proposed Project would not be considered significant.

5.3 Growth-Inducing Impacts

CEQA requires a discussion of ways in which the Proposed Project could be growth inducing. The CEQA Guidelines identify a project as growth inducing if it fosters economic or population growth or results in the construction of additional housing, either directly or indirectly, in the surrounding environment (14 CCR 15126.2[e]). New employees from commercial or industrial development and new population from residential development represent direct forms of growth. These direct forms of growth have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area. A project could indirectly induce growth by reducing or removing barriers to growth or by creating a condition that attracts additional population or new economic activity. However, a project's potential to induce growth does not automatically result in growth. Growth can only happen through capital investment in new economic opportunities by the private or public sectors.

Direct growth-inducing impacts are commonly associated with the extension of new public services, utilities, and roads into areas that have previously been undeveloped. The extension of such infrastructure into a non-serviced area can represent the elimination of a growth-limiting factor, thereby inducing growth. Increases in the population may tax existing community service facilities, requiring construction of new facilities and ultimately resulting in an increase in the pace of development or the density of the existing surrounding development. Indirect growth-inducing impacts include an increased demand for housing, commodities, and services that new development causes or attracts by increasing the population or job growth in an area.

Remove Obstacles to Growth

As discussed in Section 4.19, the purpose of the Proposed Project is to guide growth and development in the unincorporated areas of the County. The County, as well as the entire Southern California region, has experienced dramatic growth in the past two decades. Similar growth is expected to continue for the next two decades. The Proposed Project could potentially indirectly induce growth through the removal of obstacle to additional growth and development, such as removing a constraint on a required public service. The Housing Element Update does not, however, propose any specific infrastructure improvements that would result in growth.

The Proposed Project does not approve the construction of specific development projects and would largely accommodate growth based on market conditions. However, in some locations, it would allow increased development intensity and/or a more inclusive mix of land uses compared to existing conditions. Therefore, the Proposed Project removes regulatory obstacles to growth, and is considered to be growth-inducing.

Population Growth

Future development consistent with the Proposed Project would create a number of temporary construction jobs during development of individual projects. This would be a direct, growth-inducing effect of the Proposed Project.

The rezoning program associated with the Proposed Project would increase the number of dwelling units that could occur under buildout conditions and accommodate a greater population than was envisioned for the General Plan. The Proposed Project is intended to accommodate the County's fair-share of RHNA and facilitate the construction of affordable housing. It is anticipated that population growth in the County will continue to be driven by market conditions an the RHNA allocation will be revisited with each new planning period. Therefore, the Proposed Project would have indirect growth- inducing effects.

Environmental Effects of Growth

Approval of the Proposed Project would not set a precedent that could encourage and facilitate other activities that could significantly affect the environment. Cities and counties in California periodically update their general plans elements pursuant to California Government Code Sections 65300 et seq.

As discussed in Chapter 3, Project Description, the Proposed Project consists of the preparation of the Housing Element update. The purpose of the Proposed Project is to address the housing needs and objectives of the County to meet state housing law requirements. Pressures to develop in the surrounding cities may derive from regional economic conditions and market demands for housing, commercial, office and industrial land uses that may be directly or indirectly influenced by the Proposed Project.

Although the Proposed Project does not include approval of physical development, it creates additional development capacity in the Project Area compared to existing conditions. Much of this development capacity is either available under existing conditions or is limited to targeted areas. Furthermore, development projects would be induced more by market demands than by new development capacity created by land use changes included in the rezoning program. However, because approval of the Proposed Project would ultimately result in subsequent projects that would have their own environmental impacts—including potentially significant impacts—the Proposed Project is a precedent-setting and growth-inducing action.

5.4 Effects Found Not to Be Significant

Section 15128 of the CEQA Guidelines requires that an EIR briefly describe potential environmental effects that were determined not to be significant and therefore were not discussed in detail in the EIR. No environmental impact categories are identified here as not being significantly affected by, or affecting, the Proposed Project.

6 Alternatives

This chapter describes and evaluates alternatives to the Proposed Los Angeles County Housing Element Update (Proposed Project) for the County of Los Angeles's (County's) 2021-2029 planning period. This chapter implements the requirements set forth in the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.), and identifies the Environmentally Superior Project Alternative, as required by CEQA Guidelines Section 15126.6(e)(2).

6.1 Introduction

CEQA requires that Environmental Impact Reports (EIRs) "describe a range of reasonable alternatives to the project, or to the location of the 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" (14 CCR 15126.6[a]). The CEQA Guidelines direct that the selection of alternatives be governed by "a rule of reason" (14 CCR 15126.6[a] and [f]). As defined by the CEQA Guidelines (14 CCR 15126.6[f]):

> The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the Lead Agency determines could feasibly attain most of the basic objectives of the project.

As presented in prior sections of this Draft Program EIR (PEIR), the Proposed Project would not result in significant and unavoidable impacts after implementation of all mitigation measures in the categories of air quality, noise, and transportation. Consistent with CEQA, the analysis presented in this chapter considers a reasonable range of alternatives to the Proposed Project and evaluates their comparative environmental impacts. The selection of alternatives and their discussion must "foster informed decision making and public participation" (14 CCR 15126.6[a]). Therefore, this chapter identifies potential alternatives to the Proposed Project and evaluates them, as required by CEQA.

The inclusion of an alternative in an EIR does not constitute definitive evidence that the alternative is in fact "feasible." The final decision regarding the feasibility of alternatives lies with the decision maker(s) for a given project, who must make the necessary findings addressing the potential feasibility of an alternative, including whether it meets most of the basic project objectives (further described in Section 6.2, Project Objectives) or reduces the severity of significant environmental effects pursuant to CEQA (California Public Resources Code, Section 21081; see also 14 CCR 15091).

This Draft PEIR includes the analysis of two alternatives to the Proposed Project:

- Alternative A – No Project Alternative
- Alternative B – Reduced Buffer Alternative

6.2 Project Objectives

The purpose of the Proposed Project is to address the housing needs and objectives of the County to meet state housing law requirements. The following goals have been established for the Proposed Project:

- **Goal 1:** A wide range of housing types in sufficient supply to meet the needs of current and future residents, particularly for persons with special needs, including but not limited to extremely low, very low and lower income households, seniors, persons with disabilities (including those with developmental disabilities), large households, female-headed households, people experiencing homelessness and at risk of homelessness, and farmworkers.
- **Goal 2:** Communities with equitable access to employment opportunities, community facilities and services, and amenities.
- **Goal 3**: A housing supply that ranges broadly in costs to enable all households, regardless of income, to secure adequate housing.
- **Goal 4:** A comprehensive system of support services and housing that prevents and ends homelessness.
- **Goal 5**: Opportunities for extremely low, very low, low and moderate income households and those with special needs to attain and maintain affordable and adequate housing.
- **Goal 6**: Neighborhoods with a stable supply of housing that is affordable to residents of all income levels and facilitates aging in place.
- **Goal 7**: Protection against residential displacement.
- **Goal 8**: Neighborhoods and housing environments that are livable, healthy, and safe for all residents.
- **Goal 9**: An adequate supply of housing preserved and maintained in sound condition.
- **Goal 10:** Accessibility to adequate housing for all persons without discrimination in accordance with state and federal fair housing laws.
- **Goal 11:** Alignment of housing production with state and local sustainability goals in order to protect natural resources, reduce greenhouse gas emissions, and foster climate resilience.
- **Goal 12:** Planning for and monitoring the long-term affordability of adequate housing.

6.3 Significant and Unavoidable Impacts

The following impacts related to the Proposed Project have been determined to be significant and unavoidable after implementation of all feasible mitigation measures:

- Air Quality (see Section 4.3 for details)
- Cultural Resources (see Section 4.5 for details)
- Noise (see Section 4.13 for details)
- Transportation (see Section 4.17 for details)

6.4 Alternatives Considered and Eliminated During the Project Planning Process

CEQA Guidelines Section 15126.6(c) recommends that an EIR identify any alternatives that were considered by the lead agency but were rejected as infeasible and briefly explain the reasons for their rejection. Among the factors described by CEQA Guidelines Section 15126.6 in determining whether to exclude alternatives from detailed consideration in an EIR are failure to meet most of the basic objectives of a project, infeasibility, or inability to avoid significant environmental impacts.

With respect to the feasibility of potential alternatives to a project, CEQA Guidelines Section 15126.6(t)(l) states the following:

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries … and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site.

In determining what alternatives should be considered in the PEIR, it is important to acknowledge the objectives of the project, the project's significant effects, and unique project considerations.

In determining an appropriate range of Proposed Project alternatives to be evaluated in this PEIR, a number of possible alternatives were initially considered and then rejected. Two alternatives for the Proposed Project was considered, but ultimately rejected from further analysis in the Draft PEIR, consistent with Section 15126.6(c) of the CEQA Guidelines. A description of the potential alternative considered, but not carried forward, and the rationale for rejection is provided below.

Alternative Location/Alternative Sites

Pursuant to Section 15126.6(f)(2) of the CEQA Guidelines, the County considered the potential for alternative locations to the Proposed Project. As stated in Section 15126.6(f)(2)(A), the key question and first step in analyzing alternative sites is whether any of the significant effects of a project would be avoided or substantially lessened by putting that project in another location. Only locations that would avoid or substantially lessen any of the significant effects of a project need to be considered in the PEIR.

Alternate housing sites for the Proposed Project were considered through the planning process. As discussed in Chapter 3, Project Description, the sites selected for the rezoning program were based on a mapping application that sought to remove areas with environmental and hazards constraints. The methodology for the selection of potential areas as part of the rezoning program excluded the following sites based on several factors including feasibility, regulations, site constraints, State law requirements and avoiding potential environmental impacts:

- Sites that are already in the Adequate Sites Inventory;
- Sites that are currently designated Mixed Use (MU – 50-150 du/net ac) in the General Plan, since MU is the land use designation that allows the highest densities in the General Plan Land Use Legend;
- Sites that are currently designated Residential 9 (H9 – 0-9 du/net ac) in the General Plan (or an equivalent land use designation in an Area or Community Plan), or any other land use designations that allow less than 9 du/net ac;
- Sites in the Santa Clarita Valley or the Antelope Valley;

- Sites that are located in the Special Management Area (SMA) Class II or III of the General Plan's Hazard, Environmental and Resource Constraints Model. SMA Class II and III include various moderate and severe hazard, environmental and resource constraints on development, including but not limited to the following:
  - FEMA 100-year Flood Zone;
  - Significant Ecological Areas;
  - Environmentally Sensitive Habitat Areas;
  - Active Fault Trace;
  - Seismically Induced Landslide Zone; and
  - Agricultural Resource Areas;
- Sites in a Coastal Zone;
- Sites in a Moderate, High or Very High Fire Hazard Severity Zone;
- Sites in a Hillside Management Area;
- Sites in the 65 or above dB CNEL noise contour of an Airport Influence Area;
- Sites in an area covered by a Specific Plan; and
- Sites that are not within a water or a sewer district boundary.

As such, an alternative location was rejected and is not further analyzed in this Draft PEIR.

Reduced Project

The County considered an alternative that would reduce or eliminate proposed candidate housing sites proposed as part of the rezoning program. However, the reduction of total housing sites was rejected as it would not accommodate the County's share of the regional housing allocation established by the Southern California Association of Governments (SCAG) for the 2021-2029 planning period and would not meet the Housing Element Update Goals 1, 6, and 10. As such, an reduced project alternative was rejected and is not further analyzed in this Draft PEIR.

6.5 Alternatives Selected for Further Analysis

This section discusses a reasonable range of alternatives to the Proposed Project, including a no project alternative in compliance with CEQA Guidelines Section 15126.6(e). These alternatives include the following:

- Alternative A – No Project Alternative
- Alternative B – Reduced Buffer Alternative

Pursuant to Section 15126.6(d) of the CEQA Guidelines, each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less than, similar to, or greater than the corresponding impacts of the Proposed Project. Each alternative is also evaluated to determine whether the Project objectives would be substantially attained.

6.5.1 Alternative A – No Project Alternative

Alternative Description

Section 15126.6(e) of the CEQA Guidelines requires that an EIR evaluate the specific alternative of "no project" along with its impact. As stated in this section of the CEQA Guidelines, the purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving a proposed project. As specified in Section 15126.6(e)(3)(A), when a project is the revision of an existing land use or regulatory plan or policy or an ongoing operation, the no project alternative will be the continuation of the plan, policy, or operation into the future. Therefore, the no project alternative, as required by the State CEQA Guidelines, would analyze the effects of not closing the RHNA gap by the rezoning program and continuation of development under the current zoning.

Under the No Project Alternative, the County would continue to implement the adopted 2014 Housing Element adopted on February 4, 2014. No changes to the housing element would be made to address the requirements of state law. Since adoption of the 2014 Housing Element, the County has been issued a RHNA by the SCAG and is required by state law to address its housing needs in an updated Housing Element. The final RHNA consists of approximately 90,052 total units, including 39,339 very-low and low income. Approximately 19,071very-low- and low-income units would be achieved initially through current land use and zoning, resulting in a RHNA gap of approximately 20,268 very-low- and low-income units. The rezoning program ensures there are enough sites with sufficient densities to address the housing need identified through the RHNA, however the rezoning program would not be implemented under this alternative. Under the No Project Alternative, the RHNA gap of 39,339 very-low- and low-income units would not be closed by the rezoning program to address the County's housing needs. The rezoning program parcels (see Figures 3-4 and 3-5A through 3-5F in Chapter 3) would retain their adopted General Plan and zoning designations and the County would not meet the RHNA obligations required by state housing law.

The No Project Alternative would result in the continuation of existing conditions and planned development of the County. No new significant environmental impacts or an increased severity of environmental impacts identified in the General Plan EIR would occur under this alternative because it would retain the current General Plan land use designations and policy provisions.

Comparison of the Effects of Alternative A to the Project

Aesthetics

Alternative A would not result in impacts related to aesthetics that would be greater than the Proposed Project. As discussed in Section 4.1, Aesthetics, of this Draft PEIR, the Proposed Project would result in less-than-significant impacts related to changes in visual character and new sources of substantial light or glare. The Proposed Project would include a rezoning program that would facilitate housing, which would result in the addition of up to approximately 63,433 dwelling units. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designations. Thus, development of these areas in accordance with their existing zoning and land use designations would result in **less impacts than** the Proposed Project related to changes to the existing visual character of the area, as well as potentially result in new sources of nighttime lighting in the area.

Agriculture and Forestry Resources

Alternative A would not result in impacts related to agriculture and forestry resources that would be greater than the Proposed Project. As discussed in Section 4.2, Agriculture and Forestry Resources, of this Draft PEIR, the Project would not result in impacts related to the conversion and/or loss of farmland and forest land. The Proposed Project would be located within urban and suburban areas, many of which are located along commercial corridors and would not include areas zoned for agricultural use or a Williamson Act Contract. Under this alternative, development would occur within the same areas as the Proposed Project but would be in accordance with their existing zoning and land use designation. Therefore, impacts under Alternative A would be **the same as** those anticipated from the Proposed Project.

Air Quality

Alternative A would not result in impacts related to air quality that would be greater than the Proposed Project. As discussed in Section 4.3 of this Draft PEIR, the Project would result in significant and unavoidable impacts related to air emissions during construction and operation. The Proposed Project would include a rezoning program that would facilitate housing, which would result in the addition of up to approximately 63,433 dwelling units. Although the Proposed Project would reduce mobile source emissions associated with vehicle trips and VMT, the Proposed Project would increase dwelling unit density and dwelling units overall by 63,443 units.

The construction and operation of the Proposed Project would result in potentially significant cumulative air quality impacts from Project-generated construction and operational emissions. Specifically, Project-generated construction and operational emissions are anticipated to exceed the SCAQMD and AVAQMD thresholds (VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ during construction and VOC and CO during operation). Additionally, the Proposed Project would result in potentially significant impacts related to the potential placement of new sensitive receptors (i.e., residences) in close proximity to existing sources of TACs as well as exposing sensitive receptors to construction-generated TAC emissions, primarily DPM, resulting in a potential health risk to such receptors.

Under this alternative, the rezoning program would not be implemented a and areas affected by the proposed rezoning program would be built out according to their General Plan and zoning designations. Thus, development of these areas in accordance with their existing zoning and land use designations would not increase dwelling unit density and dwelling units and would result in **less impacts than** the Proposed Project related to air quality.

Biological Resources

Alternative A would not result in impacts related to biological resources that would be greater than the Proposed Project. As discussed in Section 4.4, Biological Resources, of this Draft PEIR, the Proposed Project would result in less-than-significant impacts related to biological resources. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation which would allow for construction of the same areas. Therefore, impacts to biological resources under Alternative A would be **the same as** those anticipated from the Proposed Project.

Cultural Resources

As discussed in Section 4.5, Cultural Resources, of this Draft PEIR, the Proposed Project would require implementation of mitigation measures to reduce impacts related to cultural resources to less than significant, except for historical resources which would remain significant and unavoidable. Under this alternative, areas

affected by the proposed rezoning program would retain their adopted General Plan and zoning designation which would allow for construction of the same areas. Therefore, impacts under Alternative A would be **the same as** those anticipated from the Proposed Project.

Energy

Alternative A would not result in impacts related to energy that would be greater than the Proposed Project. As discussed in Section 4.6, Energy, of this Draft PEIR, the construction and operation of the Proposed Project would result in less-than-significant impacts related to wasteful, inefficient, or unnecessary consumption of energy resources and would not conflict with or obstruct plans for renewable energy or energy efficiency. Areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designations under Alternative A. Therefore, under this alternative, areas that would be affected by the proposed rezoning program under the Proposed Project would not be rezoned to facilitate residential housing. As a result, Alternative A would have lower energy demands than that of the Proposed Project. Therefore, impacts under Alternative A would be **less than** those anticipated from the Proposed Project.

Geology and Soils

Alternative A would not result in erosion or loss of topsoil that would be greater than the Proposed Project. As discussed in Section 4.7, Geology and Soils, of this Draft PEIR, the Proposed Project would result in less-than-significant impacts related to geological resources, specifically strong seismic ground shaking, liquefaction, and landslides. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation, therefore construction of the same areas could occur. Therefore, impacts under Alternative A would be **the same as** those anticipated from the Proposed Project.

Greenhouse Gas Emissions

Alternative A would result in impacts related to GHGs that would be greater than the Proposed Project. As discussed in Section 4.8, Greenhouse Gas Emissions, of this Draft PEIR, the construction and operation of the Proposed Project would result in less-than-significant impacts related to the generation of GHG emissions (directly and indirectly) and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Under this alternative, the areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designations. Construction emissions from both the Proposed Project and Alternative A would be similar because the sites would have the same footprint. As noted in Section 4.8.5, Environmental Impacts, Threshold GHG-1, operation of the Proposed Project would result in an estimated net decrease (resulting from the net increase in residential development and the net decrease in non-residential development) of 34,531 metric tons of carbon dioxide equivalent per year. Therefore, Alternative A would have a higher amount of GHG emissions per year that the Proposed Project. As a result, Alternative A would result in greenhouse gas emissions that would be **greater than** the Proposed Project.

Hazards and Hazardous Materials

Alternative A would not result in impacts related to hazards and hazardous materials that would be greater than the Proposed Project. As discussed in Section 4.9, Hazards and Hazardous Materials, of this Draft PEIR, the Proposed Project would result in less-than-significant impacts related to hazards and hazardous materials. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designations which would allow for construction of the same areas. As with the Proposed Project,

development of this alternative would be required to evaluate the sites for potential contamination prior to approval of site disturbance, as well as adhere to all applicable federal, state, and local regulations regarding hazardous materials. Therefore, impacts on public health and safety related to hazardous materials or hazards under Alternative A would be **the same as** those anticipated from the Proposed Project.

Hydrology and Water Quality

Alternative A would not result in impacts related to hydrology and water quality that would be greater than the Proposed Project. As discussed in Section 4.10, Hydrology and Water Quality, of this Draft PEIR, the Proposed Project would result in less than significant impacts related to hydrology and water quality. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation which would allow for construction of the same areas. Therefore, this alternative would allow development of the same acreage, so impacts related to new impervious surfaces would be similar. However, under this alternative, the rezoning program would not facilitate housing within the vacant and/or disturbed sites within the Project Area. As such, it is expected that demand for groundwater would be less than under the Proposed Project. Therefore, impacts related to hydrology and water quality under Alternative A would be **less than** those anticipated from the Proposed Project.

Land Use and Planning

Alternative A would result in impacts related to land use and planning that would be greater than the Proposed Project. As discussed in Section 4.11, Land Use and Planning, of this Draft PEIR, the Proposed Project would result in less than significant impacts related to population growth or land use. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation. The shortfall of 51,045 housing units for the RHNA would not be met as mandated by state housing law. This alternative would allow development consistent with the General Plan. Development consistent with the General Plan would also have to be consistent with any ALUCPs. Although development under Alternative A would have to be consistent with ALUCPs, it would not close the RHNA housing gap mandated by state law and therefore land use and planning impacts associated with this alternative would be **greater than** the Proposed Project.

Mineral Resources

Alternative A would not result in impacts related to mineral resources that would be greater than the Proposed Project. As discussed in Section 4.12, Mineral Resources, of this Draft PEIR, the Proposed Project would result in less than significant impacts related to mineral resources. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation which would allow for construction of the areas. Therefore, this alternative would allow development of the same areas and impacts under Alternative A would be **the same as** those anticipated from the Proposed Project.

Noise and Vibration

Alternative A would not result in impacts related to noise and vibration that would be greater than the Proposed Project. As discussed in Section 4.13 of this Draft PEIR, the Proposed Project would result in significant and potentially unavoidable impacts related to noise and vibration. Construction of the Proposed Project would result in significant and potentially unavoidable impacts related to ambient noise levels in the Project vicinity. Construction emissions from both the Proposed Project and Alternative A would be similar because the sites would have the same footprint, operation of the Proposed Project would result in increases in traffic to sensitive noise receptors.

Under this alternative, the rezoning program which would facilitate housing would not be implemented and areas that are proposed to be rezoned would retain their adopted General Plan and zoning designation. As result, it is expected that noise and vibration impacts resulting from traffic noise associated from this alternative would be **less than** the Proposed Project.

Population and Housing

Alternative A would not result in impacts related to population and housing that would be greater than the Proposed Project. As discussed in Section 4.14, Population and Housing, of this Draft PEIR, the Proposed Project would result in less than significant impacts related to population growth and housing. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation and this alternative would not close the gap of the shortfall of 63,433 dwelling units for the RHNA, as mandated by state housing law. Therefore, areas would not be rezoned to allow for a higher density of available housing, which would increase the population within the Project Area. Therefore, impacts related to population and housing under Alternative A would be **less than** those anticipated from the Proposed Project.

Public Services

Alternative A would not result in impacts related to public services that would be greater than the Proposed Project. As discussed in Section 4.15, Public Services, of this Draft PEIR, the Proposed Project would result in less than significant impacts related to public services. The Proposed Project would include a rezoning program that would facilitate housing which would result in the addition of up to approximately 63,433 dwelling units. The high-density residential developments would increase the population in these urban areas which would increase the demands on LACoFD, law enforcement, school services, library services, and parks. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation and this alternative would not close the gap of the shortfall of 51,405 dwelling units for the RHNA, as mandated by state housing law. Therefore, this alternative would not increase the demand on public services and impacts would be **less than** those anticipated from the Proposed Project.

Recreation

Alternative A would not result in impacts related recreation that would be greater than the Proposed Project. As discussed in Section 4.16, Recreation, of this Draft PEIR, the Proposed Project would result in less than significant impacts related to recreation. The Proposed Project would include a rezoning program that would facilitate housing which would result in the addition of up to approximately 63,433 dwelling units. The high-density residential developments would increase the population in these urban areas which would have the potential to increase the demands on recreational facilities. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation. Therefore, this alternative would not increase the demand on recreational facilities and impacts would be **less than** those anticipated from the Proposed Project.

Transportation

Alternative A would not result in impacts related to transportation that would be greater than the Proposed Project. As discussed in Section 4.17 of this Draft PEIR, the Proposed Project would result in significant and unavoidable impacts to transportation, specifically CEQA Guidelines Section 15064.3(b) as it is not possible to show that the VMT impacts can be reduced to a less than significant level for all the projects within the rezone program. Under the Proposed Project, impacts related to plans, ordinances, or policies addressing the circulation system, increase in hazards due to a

geometric design feature, and inadequate emergency access would be less than significant. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation. Similar to the Proposed Project, development under this alternative would be subject to review by the County and responsible emergency service agencies including LACFD. In addition, construction under this alternative would also be in accordance with applicable roadway design standards and applicable General Plan policies. Since the Proposed Project would be replacing commercial uses with residential or mixed-use development, it would have a potential to increase overall VMT per capita or service population. Therefore, impacts related to transportation under this alternative would be **less than** those anticipated from the Proposed Project.

Tribal Cultural Resources

Alternative A would not result in impacts related to tribal cultural resources that would be greater than the Proposed Project. As discussed in Section 4.18, Tribal Cultural Resources, of this Draft PEIR, the Proposed Project would result in less than significant impacts related to tribal cultural resources. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation which would allow for construction of the same areas. Therefore, impacts under Alternative A would be **the same as** those anticipated from the Proposed Project.

Utilities and Service Systems

Alternative A would not result in impacts related to utilities and service systems that would be greater than the Proposed Project. As discussed in Section 4.19, Utilities and Service Systems, of this Draft PEIR, the Proposed Project would result in less than significant impacts related to utilities and service systems. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation Therefore, areas within the Project Area would not be rezoned allowing for a higher population density which would increase the demands on water and/or wastewater treatment facilities. Impacts to utilities and service systems under Alternative A would be **less than** those anticipated from the proposed Project.

Wildfire

Alternative A would not result in impacts related to wildfire that would be greater than the Proposed Project. As discussed in Section 4.20, Wildfire, of this Draft PEIR, the Proposed Project would result in less than significant impacts related to wildfire. Under this alternative, areas affected by the proposed rezoning program would retain their adopted General Plan and zoning designation which would allow for construction in the same areas that would have the same risk related to wildfire as the Proposed Project. However, under the Proposed Project, the rezoning program would allow for a higher population density which would have the potential to strain the emergency response and recovery capabilities of federal, state, and local governments. Therefore, impacts related to wildfire risk under Alternative A would be **less than** those anticipated from the proposed Project.

6.5.2 Alternative B – Reduced Buffer Alternative

Alternative Description

CEQA requires that EIRs "describe a range of reasonable alternatives to the project, or to the location of the 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" (14 CCR 15126[a]). As presented in prior sections of this PEIR, the Proposed Project would result in significant and unavoidable impacts

in the categories of air quality, noise, and transportation. As such, Alternative B proposes to include sufficient sites to meet the County's RHNA allocation but would reduce the extent of total housing sites that provides a buffer for the RHNA allocation.

The Proposed Project includes parcels identified based on the County's mapping application, which considers state law for eligible RHNA allocation sites and General Plan goals and policies. Upon review of sites selected through this process, the County reviewed maps to understand the distribution of the RHNA eligible sites. In some instances, the RHNA eligible sites resulted in gaps of parcels that were not RHNA eligible, but if not rezoned they would have resulted in spot-zoning. Additionally, the County considers the gap parcels to provide a 15-30% buffer for the RHNA allocation in the event the RHNA eligible sites are not developed as 100% affordable units. The County also considers the gap parcels for 17,785 units of moderate and above moderate-income housing units. As such, the County included the gap parcels to avoid spot zoning, provide a buffer for the RHNA allocation, and provide parcels for moderate and above moderate-income housing. Alternative B considers the removal of the buffer parcels for a reduction in overall dwelling units allowed through the Proposed Project's rezoning program.

Comparison of the Effects of Alternative B to the Project

Aesthetics

As discussed in Section 4.1 of this Draft PEIR, the Proposed Project would result in less-than-significant impacts related to changes in visual character and new sources of substantial light or glare. Alternative B would not result in impacts related to aesthetics that would be greater than the Proposed Project. Under this alternative, there would be a reduction in sites rezoned in comparison to the Proposed Project. The sites that would not be rezoned under this alternative would retain their existing zoning and General Plan designations. Future development of these sites would be in accordance with their existing zoning and land use designations. Therefore, impacts related to visual resources under Alternative B would be **less than** those anticipated from the Proposed Project.

Agriculture

Alternative B would not result in impacts related to agriculture and forestry resources that would be greater than the Proposed Project. As discussed in Section 4.2 of this Draft PEIR, the Proposed Project would not result in impacts related to the conversion and/or loss of farmland and forest land. The Proposed Project would be located within urban and suburban areas, many of which are located along commercial corridors and would not include areas zoned for agricultural use or a Williamson Act Contract. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning designation. Therefore, impacts under Alternative B would be **the same as** those anticipated from the Proposed Project.

Air Quality

As discussed in Section 4.3 and Section 6.3, Significant and Unavoidable Impacts, of this Draft PEIR, the Proposed Project would result in significant and unavoidable impacts related to air quality during construction and operation. Specifically, the Proposed Project would result in significant and unavoidable impacts related to the potential for the Proposed Project to conflict with an AQMP, violate air quality standards or contribute substantially to an air quality violation, result in a cumulatively considerable net increase in any criteria pollutant, and expose sensitive receptors to substantial pollutant concentrations. Although mitigation measures for air quality would reduce impacts associated with construction and implementation of the Proposed Project, the effectiveness of the mitigation measures is not accurately quantifiable given the nature of the Proposed Project. Alternative B would not

result in impacts related to air quality that would be greater than the Proposed Project. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning designation. However, this alternative would still include sufficient sites to meet the County's RHNA allocation. As a result, impacts to air quality under this alternative would be **less than** the Proposed Project but they would still be significant and unavoidable due to the nature of the project.

Biological Resources

Alternative B would not result in impacts related to biological resources that would be greater than the Proposed Project. As discussed in Section 4.4 of this Draft PEIR, the Proposed Project would result in less-than-significant impacts related to biological resources. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning designation, which would also allow for construction in these areas. Therefore, impacts to biological resources under Alternative B would be **the same as** those anticipated from the Proposed Project.

Cultural Resources

As discussed in Section 4.5 of this Draft PEIR, the Proposed Project would require implementation of mitigation measures to reduce impacts related to cultural resources to less than significant, except for historical resources which would remain significant and unavoidable. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning designation, which would also allow for construction in these areas. Although the intensity would be reduced at the buffer sites, site disturbance would be similar to the Proposed Project. Therefore, impacts under Alternative B would be **the same as** those anticipated from the Proposed Project.

Energy

Alternative B would not result in impacts related to energy that would be greater than the Proposed Project. As discussed in Section 4.6 of this Draft PEIR, the construction and operation of the Proposed Project would result in less-than-significant impacts related to wasteful, inefficient, or unnecessary consumption of energy resources and would not conflict with or obstruct plans for renewable energy or energy efficiency. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning designation. Therefore, sites removed from the buffer parcels would not be rezoned to facilitate housing under Alternative B. Therefore, Alternative B would require lower energy demands than that of the Proposed Project and impacts would be **less than** those anticipated from the Proposed Project.

Geology and Soils

Alternative B would not result in erosion or loss of topsoil that would be greater than the Proposed Project. As discussed in Section 4.7 of this Draft PEIR, the Proposed Project would result in less-than-significant impacts related to geological resources, specifically strong seismic ground shaking, liquefaction, and landslides. Construction activities under Alternative B would be similar to those under the Proposed Project because development would still be allowed for sites that would not be included in the buffer parcels under this alternative. In general, the likelihood of site development is not affected by the rezoning program. As a result, impacts related to geology and soils under Alternative B would be **similar to** those that would occur from the Proposed Project.

Greenhouse Gas Emissions

As discussed in Section 4.8 of this Draft PEIR, the construction and operation of the Proposed Project would result in less-than-significant impacts related to the generation of GHG emissions (directly and indirectly). Alternative B would not result in impacts to GHGs and climate change that would be greater than the Proposed Project. Construction activities under this alternative would be less intensive than the Proposed Project because the sites removed from the buffer parcels would be developed consistent with their General Plan land use designations. As a result, Alternative B would result in GHG emission impacts that would be **less than** the Proposed Project.

Hazards and Hazardous Materials

Alternative B would not result in impacts related to hazards and hazardous materials that would be greater than the Proposed Project. As discussed in Section 4.9 of this Draft PEIR, the Proposed Project would result in less-than-significant impacts related to hazards and hazardous materials. Under this alternative, areas removed from the buffer parcels would retain their adopted General Plan and zoning designation which would allow for construction of the areas. As with the Proposed Project, development of this alternative would be required to evaluate the sites for potential contamination prior to approval of site disturbance, as well as adhere to all applicable federal, state, and local regulations regarding hazardous materials. Therefore, impacts on public health and safety related to hazardous materials or hazards under Alternative B would be **the same as** those anticipated from the Proposed Project.

Hydrology and Water Quality

Alternative B would not result in impacts related to hydrology and water quality that would be greater than the Proposed Project. As discussed in Section 4.10 of this Draft PEIR, the Proposed Project would result in less than significant impacts related to hydrology and water quality. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning designation. Therefore, this alternative would allow for development of the same acreage, so impacts related to new impervious surfaces would be similar. However, under this alternative, sites removed from the buffer parcels would not be rezoned to facilitate housing. As such, it is expected that demand for groundwater would be less than under the Proposed Project. Therefore, impacts related to hydrology and water quality under Alternative B would be **less than** those anticipated from the Proposed Project.

Land Use and Planning

Alternative B would result in impacts related to land use and planning that would be greater than the Proposed Project. As discussed in Section 4.11 of this Draft PEIR, the Proposed Project would result in less than significant impacts related to population growth or land use. Under this alternative, sufficient sites to meet the County's RHNA allocation would be provided, however there would be reduction in the extent of total housing sites that would provide a buffer for the RHNA allocation. Although this alternative would meet the RHNA as mandated by state housing law, it would not provide the 10%–15% buffer for the RHNA allocation in the event the RHNA eligible sites are not developed as 100% affordable units. Therefore, Alternative B leaves the potential for the RHNA housing gap to not be closed as mandated by state law and therefore land use and planning impacts associated with this alternative would be **greater than** the Proposed Project.

Mineral Resources

Alternative B would not result in impacts related to mineral resources that would be greater than the Proposed Project. As discussed in Section 4.12 of this Draft PEIR, the Proposed Project would result in less than significant impacts related to mineral resources. Under this alternative, sites removed from the buffer parcels could be built according to their adopted General Plan and zoning designation, which would also allow for construction in these areas. Therefore, this alternative would allow development of the same areas and impacts under Alternative B would be **the same as** those anticipated from the Proposed Project.

Noise and Vibration

Alternative B would not result in impacts related to noise and vibration that would be greater than the Proposed Project. As discussed in Section 4.13 of this Draft PEIR, the Proposed Project would result in significant and potentially unavoidable impacts related to noise and vibration. Construction of the Proposed Project would result in significant and potentially unavoidable impacts related to ambient noise levels in the Project vicinity, specifically stationary noise associated with the high-density housing. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning designation. As result, it is expected that noise and vibration impacts resulting from this alternative would be **less than** the Proposed Project.

Population and Housing

Alternative B would not result in impacts related to population and housing that would be greater than the Proposed Project. As discussed in Section 4.14 of this Draft PEIR, the Proposed Project would result in less than significant impacts related to population growth and housing. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning designation. Therefore, sites removed from the buffer parcels would not be rezoned to allow for a higher density of available housing which would increase the population within the Project Area. Therefore, impacts related to population and housing under Alternative B would be **less than** those anticipated from the Proposed Project.

Public Services

Alternative B would not result in impacts related to public services that would be greater than the Proposed Project. As discussed in Section 4.15 of this Draft PEIR, the Proposed Project would result in less than significant impacts related to public services. The Proposed Project would include a rezoning program that would facilitate housing which would result in the addition of up to approximately 63,433 dwelling units. The high-density residential developments would increase the population in these urban areas which would increase the demands on LACoFD, law enforcement, school services, library services, and parks. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning designation. Since this alternative would still allow for areas that are not removed from the buffer parcels to facilitate housing, the potential to increase the demands on public services would occur but at a lower level than the Proposed Project. As a result, impacts to public services under this alternative would be **less than** those anticipated from the Proposed Project.

Recreation

Alternative B would not result in impacts related recreation that would be greater than the Proposed Project. As discussed in Section 4.16 of this Draft PEIR, the Proposed Project would result in less than significant impacts related to recreation. The Proposed Project would include a rezoning program that would facilitate housing which

would result in the addition of up to approximately 63,433 dwelling units. The high-density residential developments would increase the population in these urban areas which would have the potential to increase the demands on recreational facilities. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning designation. Since this alternative would still facilitate housing in the sites not removed from the buffer parcels, the potential to increase the demands on recreational facilities would occur but at a lower level than the Proposed Project. As a result, impacts to recreational facilities under this alternative would be **less than** those anticipated from the Proposed Project.

Transportation

Alternative B would result in impacts related to transportation that would be greater than the Proposed Project. As discussed in Section 4.17 of this Draft PEIR, the Proposed Project would result in significant and unavoidable impacts to transportation, specifically CEQA Guidelines Section 15064.3(b) as it is not possible to show that the VMT impacts can be reduced to a less than significant level for all the projects within the rezone program. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning. This alternative would not lessen VMT because the sites removed from the buffer parcels would not have a higher concentration of people compared to the sites that would be rezoned for a higher density of population. Under the Proposed Project, sites proposed for the rezone are focused within infill sites that have access to amenities and would not induce sprawl growth patterns. Thus, the rezoning program parcels seek to reduce VMT by concentrating housing in areas with other opportunities, as consistent with General Plan goals and policies. Therefore, under this alternative, VMTs would be greater in the sites removed from the buffer parcels. As a result, impacts related to transportation under this alternative would be **greater than** those anticipated from the Proposed Project.

Tribal Cultural Resources

Alternative B would not result in impacts related to tribal cultural resources that would be greater than the Proposed Project. As discussed in Section 4.18 of this Draft PEIR, the Proposed Project would result in less than significant impacts related to tribal cultural resources. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning designation, which would also allow for construction in these areas. Although the intensity would be reduced at the buffer sites, site disturbance would be similar to the Proposed Project Therefore, impacts under Alternative B would be **the same as** those anticipated from the Proposed Project.

Utilities and Service Systems

Alternative B would not result in impacts related to utilities and service systems that would be greater than the Proposed Project. As discussed in Section 4.19 of this Draft PEIR, the Proposed Project would result in less than significant impacts related to utilities and service systems. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning. Therefore, sites removed from the buffer parcels would not be rezoned allowing for a higher population density which would increase the demands on water and/or wastewater treatment facilities. As a result, impacts to utilities and service systems under Alternative B would be **less than** those anticipated from the proposed Project.

Wildfire

Alternative B would not result in impacts related to wildfire that would be greater than the Proposed Project. As discussed in Section 4.20 of this Draft PEIR, the Proposed Project would result in less than significant impacts related to wildfire. Under this alternative, sites removed from the buffer parcels would be built according to their adopted General Plan and zoning, which would allow for construction in the same areas that would have the same risk related to wildfire as the Proposed Project. However, under this alternative, sites removed from the buffer parcels would not experience a higher population density which would have the potential to strain the emergency response and recovery capabilities of federal, state, and local governments. Therefore, impacts related to wildfire risk under Alternative B would be **less than** those anticipated from the proposed Project.

6.6 Summary of Alternatives to the Proposed Project

Project are considered and evaluated in this Draft PEIR. To summarize these Project alternatives, as suggested in CEQA Guidelines Section 15126.6(d), a matrix was prepared to summarize and compare the impacts of each Project alternative (see Table 6-1).

Table 6-1. Comparison of Project and Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative A - No Project/Existing Development	Alternative B - Reduced Development Alternative: Exclusion of PCC – North
Aesthetics	LTS	▼	▼
Agriculture	No Impact	–	–
Air Quality	SU	▼	▼
Biological Resources	LTS-MM	–	–
Cultural Resources	SU	–	–
Energy	LTS	▼	▼
Geology and Soils	LTS	–	–
Greenhouse Gas Emissions	LTS	▲	▼
Hazards and Hazardous Materials	LTS	–	–
Hydrology and Water Quality	LTS	▼	▼
Land Use and Planning	LTS	▲	▲
Mineral Resources	LTS	–	–
Noise	SU	▼	▼
Population and Housing	LTS	▼	▼
Public Services	LTS	▼	▼
Recreation	LTS	▼	▼
Transportation	SU	▼	▲
Tribal Cultural Resources	LTS-MM	–	–
Utilities and Service Systems	LTS	▼	▼
Wildfire	LTS	▼	▼
Number of Reduced Impacts		**12**	**11**

Notes:

– Alternative is likely to result in similar impacts when compared to Project.
▼ Alternative is likely to result in reduced impacts when compared to Project.

▲ Alternative is likely to result in greater impacts when compared to Project.
+ Alternative is likely to result in greater environmental benefits when compared to Project.
LTS = less than significant impact; LTS-MM= less than significant impact with mitigation

Table 6-2 compares the alternatives in terms of whether they meet the Project objectives.

Table 6-2. Comparison of Alternatives – Meeting the Project Objectives

Does the Project Meet the Following Project Objectives?	Alternative A	Alternative B
Goal 1: A wide range of housing types in sufficient supply to meet the needs of current and future residents, particularly for persons with special needs, including but not limited to extremely low, very low and lower income households, seniors, persons with disabilities, large households, single-parent households, people experiencing homelessness and at risk of homelessness, and farmworkers.	No	Yes
Goal 2: Communities with equitable access to employment opportunities, community facilities and services, and amenities.	No	Yes
Goal 3: A housing supply that ranges broadly in housing costs to enable all households, regardless of income, to secure adequate housing.	No	Yes
Goal 4: A comprehensive system of support and housing that prevents and ends homelessness.	No	Yes
Goal 5: A housing delivery system that provides assistance to extremely low, very low, lower and moderate income households and those with special needs.	No	Yes
Goal 6: Neighborhoods with a stable supply of housing that is affordable in the long term to residents of all income levels and facilitates aging in place.	No	Yes
Goal 7: Neighborhoods and housing environment that are livable, healthy, and safe for all residents.	No	Yes
Goal 8: An adequate supply of housing preserved and maintained in sound condition.	No	Yes
Goal 9: Accessibility to adequate housing for all persons without discrimination in accordance with state and federal fair housing laws.	No	Yes
Goal 10: Planning for and monitoring the long-term affordability of adequate housing.	No	Yes
How many project objectives are met?	**0**	**10**

6.7 Environmental Superior Alternative

An EIR must identify an "environmentally superior" alternative; and, where the no project alternative is environmentally superior, the EIR is then required to identify an alternative from among the others evaluated as environmentally superior (14 CCR 15126.6[e][2]).

As shown in Table 6-1, Alternative A would result in reduced environmental impacts to all environmental topics, with the exception of agriculture, biological resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, land use and planning, and mineral resources. Since Alternative A would not rezone all parcels identified in the Proposed Project for higher density residential uses, this alternative would not generate new construction in the same manner as the Proposed Project and development would occur as analyzed in the General Plan EIR. However, under Alternative A, growth within the County would not occur within planned infill areas as proposed under the Proposed Project; thus, additional housing opportunities would not be provided in areas with transit and job opportunities.

Alternative B would have similar, albeit reduced, impacts compared to the Proposed Project. However, Alternative B would not eliminate any mitigation measures required under the Proposed Project. Alternative B would result in reduced environmental impacts to all environmental topics, with the exception of agriculture, biological resources, cultural resources, geology and soils, hazards and hazardous materials, land use and planning, mineral resources, and transportation.

Because Alternative A would reduce impacts in a greater number of resource areas when compared to Alternative B, then Alternative A is considered the environmentally superior alternative. However, as required under CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the "no project" alternative, the EIR must also identify an environmentally superior alternative among the other alternatives. Since Alternative B would reduce impacts when compared to the Proposed Project and would meet most of the Project objectives, then Alternative B is considered the environmentally superior alternative.

While Alternative B would reduce impacts by reducing the total amount of dwelling units allowed through the Proposed Project's rezoning program, Alternative B would not eliminate significant and unavoidable impacts. Further, state guidance on implementation of Government Code section 65863 (Senate Bill 166, No Net Loss Law) recommends that jurisdictions create a buffer in the Housing Inventory of at least 15% to 30% more capacity than required, especially for capacity to accommodate the lower-income RHNA. Alternative B would remove this a portion of this buffer, and thus, would not align with the State's guidance ensure maintenance of identified sites. Finally, Alternative B would result in spot-zoning.

7 List of Preparers

7.1 County of Los Angeles (Lead Agency)

Department of Regional Planning

Tina Fung, Supervising Regional Planner
Ayala Scott, Senior Regional Planner
Elsa M. Rodriguez, Senior Regional Planner
Zoe Axelrod, Regional Planner
Heather Anderson, AICP, Regional Planner
Leon Freeman, AICP, Regional Planner
Daniel Hoffman, GISP, Principal GIS Analyst

Department of Parks and Recreation

Clement Lau, Departmental Facilities Planner
Julie Yom, Facilities Planner

7.2 Dudek

Asha Bleier, Project Manager
Sabrina Alonso, Environmental Analyst
Chelsea Ohanesian, Environmental Analyst
Carolyn Somvilay, Environmental Analyst
Mark Storm, Acoustic Services Manager
Connor Burke, Environmental Technical Group Analyst
Perry Russel, Senior Geologist
Sarah Siren, Paleontologist
Michael Williams, Archaeologist
Linda Kry, Archaeologist
Katie Haley, Architectural Historian
Sarah Corder, Architectural Historian
Jennifer De Alba, Associate Archaeologist
Heather McDevitt, Archaeologist
Patricia Schuyler, Biologist
Sabita Tewani, Technical Specialist
Lisa Valdez, Environmental Technical Group Senior Planner
Mark McGinnis, Mapping/Surveying Practice Director
Brayden Dokkestul, Mapping/Surveying Associate Analyst
Hannah Wertheimer-Roberts, Technical Editor
Laurel Porter, Senior Technical Editor
Rachel Dobrolenski, Publications Specialist

7.3 Subconsultants

Veronica Tam, Veronica Tam and Associates Inc.

Appendix A

Initial Study, Notice of Preparation, and Public Scoping Comments

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Amy J. Bodek, AICP
Director of Regional Planning

Dennis Slavin
Chief Deputy Director,
Regional Planning

NOTICE OF PREPARATION
OF A DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT
AND PUBLIC SCOPING MEETING

January 5, 2021

TO: Office of Planning and Research, Responsible Agencies, Trustee Agencies, Organizations, and Interested Parties

SUBJECT: **Notice of Preparation of a Program Environmental Impact Report and Public Scoping Meeting for the County of Los Angeles Housing Element Update**

LEAD AGENCY: County of Los Angeles

The County of Los Angeles (County) is the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and intends to prepare a Program Environmental Impact Report (PEIR) for the Housing Element of the County of Los Angeles General Plan (General Plan) for the 2021–2029 planning period (Housing Element Update). The County has prepared this Notice of Preparation to provide Responsible Agencies, Trustee Agencies, organizations, and other interested parties with information regarding this project and its potential environmental effects, and ***to solicit your input on the scope and content of the PEIR***. For more information on the project, please visit: http://planning.lacounty.gov/housing.

PROJECT DESCRIPTION: The County is updating the Housing Element of the General Plan for the 2021–2029 planning period. The Housing Element is one of the seven required elements of the General Plan per the California Government Code, beginning at Section 65583. Generally, state law mandates updates to the Housing Element every 8 years. The Housing Element serves as a policy guide to address the comprehensive housing needs of the unincorporated areas of Los Angeles County (unincorporated areas). The primary focus of the Housing Element is to ensure decent, safe, sanitary, and affordable housing for current and future residents of the unincorporated areas, including those with special needs. The County is required to ensure the availability of residential sites, at adequate densities and appropriate development standards, in the unincorporated areas to accommodate its fair share of the regional housing need, also known as the Regional Housing Needs Assessment (RHNA) allocation.

The Housing Element Update will consist of the following main components:

Adequate Sites Inventory

The RHNA is mandated by state law to quantify future housing growth throughout the state. This informs the local planning process by addressing existing and future housing need resulting from estimated growth in population, employment, and households. The Southern California Association of Governments (SCAG) is responsible for oversight of the RHNA process in the SCAG region, which encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities in an area covering more than 38,000 square miles. The RHNA allocation for the County for the 2021–2029 planning period is approximately 90,000 units, which is broken down by income category to accommodate the estimated growth need at various income levels. As required by state law, the Housing Element must identify the County's ability to accommodate this estimated growth through available sites and appropriate land use and zoning.

In order to demonstrate that there are enough sites within the unincorporated areas to accommodate the RHNA allocation, the Housing Element Update will include an Adequate Sites Inventory. In order to count toward the RHNA allocation, sites must meet several criteria, including residential zoning of a certain density, a minimum lot size, and that the site must be either vacant or underutilized. Underutilized means that the property is not built to its maximum capacity, so there is potential for more units on a site. If a local jurisdiction cannot demonstrate that there are enough sites to address the RHNA allocation, the local jurisdiction is required to develop a rezoning program. The rezoning ensures that there are enough sites with sufficient densities to address the housing need identified through the RHNA. As a part of the County's Housing Element Update, the County will include a rezoning program. The rezoning program aims to focus growth and density increase in the unincorporated areas with access to services and infrastructure and outside of the County's environmentally sensitive and hazardous areas.

Constraints and Barriers

Another component of the Housing Element Update is the identification and analysis of potential and actual governmental constraints to the maintenance, improvement, or development of housing for all income levels, including housing for people with disabilities. The Housing Element Update will identify the specific standards and processes of these constraints and evaluate their impact on the supply and affordability of housing. This analysis will determine whether local regulatory standards pose an actual constraint and must also demonstrate local efforts to remove constraints that hinder a local jurisdiction from meeting its housing needs. At a minimum, the analysis will address the following: codes and enforcement and on- and off-site improvement standards, constraints for people with disabilities, fees and exactions, land use controls, non-governmental constraints, and processing and permitting procedures. New state law requirements regarding lending, labor shortage, NIMBYism, and other private and environmental constraints will also be addressed.

Goals, Policies and Implementation Programs

The Housing Element Update will also include goals, policies, and implementation programs to address housing needs.

> ***Goals:*** General statements about the desired housing outcomes expressing the community's values.
>
> ***Policies:*** Specific statements that guide decision making.
>
> ***Implementation programs:*** Actions for carrying out the policies of the Housing Element. Each implementation program identifies lead/partner agencies and timelines. The Department of Regional Planning partners with other County agencies that oversee housing, such as the Los Angeles County Development Authority and the Los Angeles Homeless Services Authority, for the implementation and administration of these programs.

Other Project Elements and Required Approvals

The Housing Element Update will also include the following components:

> ***Amendments to the General Plan Land Use Element:*** The Land Use Legend will be amended to (1) add a minimum allowable residential density to certain land use designations; (2) establish that the allowable residential density specified by the General Commercial (CG) land use designation in the General Plan will also apply to the commercial land use designations in certain community-based plans, where such land use designations do not currently specify the allowable residential density; and (3) clarify that in designations that allow mixed uses (CR, CG, CM, MU and MU-R), the maximum Floor Area Ratio only applies to the commercial component, while the residential component is subject to the allowable density.
>
> ***Amendments to Title 22 (Planning and Zoning) of the County Code:*** The Zoning Code will be amended to add development standards pertaining to floor area dedicated to residential use in mixed use projects in the Mixed Use Development Zone (MXD).

Completion of the Housing Element Update and the local adoption process will include various public engagement opportunities, such as a survey (https://planning.lacounty.gov/housing/involved), public workshops and meetings, and public hearings. The Housing Element Update must be completed within the timeframe established by the State Department of Housing and Community Development (HCD). State law requires adoption by October 15, 2021, or allows a grace period through February 12, 2022. The State Department of Housing and Community Development will review the Housing Element Update for compliance with applicable statutory provisions.

A PEIR will provide the environmental determination required by CEQA and will be adopted by the County Board of Supervisors.

PROJECT NUMBER: 2020-000606

PROJECT NAME: County of Los Angeles Housing Element Update

PLAN NUMBERS: General Plan Amendment No. RPPL2020004333, Advance Planning Project No. RPPL2020001008, Environmental Assessment No. RPPL2020001009

PROJECT APPLICANT: County of Los Angeles Department of Regional Planning

PROJECT LOCATION: Unincorporated areas of Los Angeles County; see Figure 1

PROJECT APPROVALS: The County has sole approval authority over the project. No approvals are required by other public agencies.

POTENTIAL ENVIRONMENTAL EFFECTS: The County has determined that a PEIR will be required to satisfy environmental review for the proposed project. Therefore, as allowed under CEQA Guidelines Section 15060(d), the County has not prepared an Initial Study and will instead begin work directly on the PEIR. The PEIR will focus on the potentially significant effects of the project, discuss any effects found not to be significant, and assess the direct, indirect, and cumulative impacts, as well as growth-inducing effects. The PEIR will include an evaluation of the following environmental issues:

- Aesthetics
- Agriculture and forestry resources
- Air quality
- Biological resources
- Cultural resources
- Energy
- Geology/soils
- Greenhouse gas emissions
- Hazards and hazardous materials
- Hydrology/water quality
- Land use and planning
- Mineral resources
- Noise
- Population/housing
- Public services
- Recreation
- Transportation
- Tribal cultural resources
- Utilities and service systems
- Wildfire

PUBLIC REVIEW PERIOD: The County invites interested parties to provide written comments as to your specific concerns about the project's potential environmental effects. The County requests that any Responsible or Trustee Agency responding to this notice do so in a manner consistent with Section 15082(b) of the State CEQA Guidelines. **A 30-day Notice of Preparation review period starts on January 5, 2021, and ends on February 4, 2021**. Due to the time limits mandated by state law, please send your written response to the Department of Regional Planning at the address below at the earliest possible date, but **no later than February 4, 2021, at 5:00 p.m.** Please include your name and address for all written correspondence.

Please send by mail to the following address:

Tina Fung, Supervising Regional Planner
Housing Policy Section
County of Los Angeles Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, California 90012

For email submittal of your comment letter, send to: housing@planning.lacounty.gov.

Any comments provided should identify specific topics of environmental concern and your reason for suggesting the study of these topics in the PEIR. ***All written comment letters/emails will be included in an appendix in the Draft PEIR and the contents considered in the preparation of the PEIR.***

NOTICE OF PUBLIC SCOPING MEETING: On March 4, 2020, the Governor proclaimed a State of Emergency in California as a result of the threat of COVID-19. On March 17, 2020, the Governor issued Executive Order N-29-20 (superseding the Brown Act-related provisions of Executive Order N-25-20 issued on March 12, 2020), which allows a local legislative body to hold public meetings via teleconferencing and to make public meetings accessible telephonically or otherwise electronically to all members of the public seeking to observe and to address the local legislative body.

In accordance with the Safer at Home Orders by the State of California and County of Los Angeles, the County's Department of Regional Planning will conduct one virtual public scoping meeting to inform the public and interested agencies about the project and solicit oral and written comments as to the appropriate scope and content of the PEIR. All interested parties are invited to attend the virtual scoping meeting to assist in identifying issues to be addressed in the PEIR.

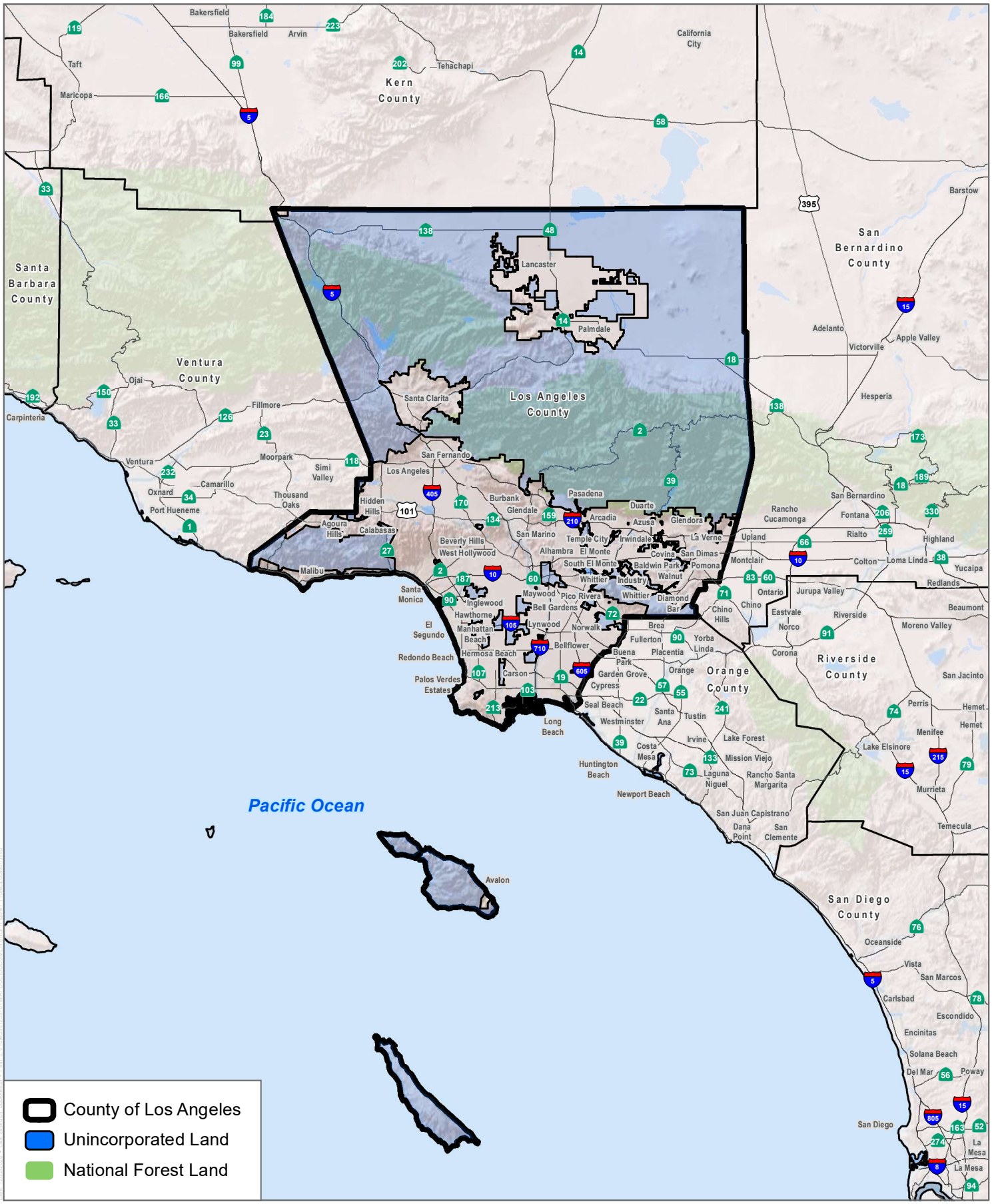
The virtual scoping meeting will include a brief presentation of the proposed components of the Housing Element Update to be addressed in the PEIR and a summary of the PEIR process, and will provide attendees with an opportunity to provide input on the scope and content of the PEIR. The virtual scoping meeting will be held **online via Zoom on Saturday, January 23, 2021, 10:00 a.m. – 11:30 a.m**. You may register for the virtual scoping meeting at https://planning.lacounty.gov/housing/involved.

Spanish translation and interpretation will be available. For more information please call 213-974-6427 or visit the following website: http://planning.lacounty.gov/housing.

Servicios de interpretación estarán disponibles. Para más información, llame a 213-974-6427 o visite http://planning.lacounty.gov/housing.

DOCUMENT AVAILABILITY AND PROJECT WEBSITE: For more information and to stay informed on the progress of the project and PEIR, please visit the project website at http://planning.lacounty.gov/housing. To view the Notice of Preparation online, please visit https://planning.lacounty.gov/housing/involved.

Attachment: Figure 1, Unincorporated Areas of Los Angeles County



SOURCE: ESRI 2020

FIGURE 1

Unincorporated Areas of Los Angeles County

Los Angeles County Housing Element Update

DUDEK

0 10 20 Miles

From: CONCEPCION AGUIRRE
To: DRP Housing
Subject: Homeless
Date: Monday, January 4, 2021 4:53:11 PM

CAUTION: External Email. Proceed Responsibly.

Dear Sirs
Would you please address the homeless encampments ?
Its a big problem in the whole city and near my home its very dangerous already .
The price of my home went down because of the homeless encampments near by , so much dirt all over and smell and
people attacking the pedestrians.
It is a very important issue .
Thank you
Regards
Concepcion Aguirre
6607 Cahuenga Ter
Los 90068

From: Adrienne Ortega
To: DRP Housing
Subject: EIR & Public scoping Meeting
Date: Wednesday, January 6, 2021 9:41:37 PM

CAUTION: External Email. Proceed Responsibly.

To whom it may concern,

My family & I are residents of the Unincorporated area of Los Angeles. We are wholeheartedly against the updating of the Housing element of the General plan for 2021-2029.

We are currently in a major and devastating Pandemic which was spread because of compact housing issues in China which led to a devastating impact on our Country.

If we continue to do the same in our .74 mile area of Walnut Park then I shiver to think of what the consequences will be to the current residents of our beloved city.

With the County allowing ADU's of ones garage many homeowners have chosen to convert their garages. Again, adding further to the density issue we are already experiencing.

We would respectfully request that a full report be performed with respect to the EIR and that it may be done in a transparent way because I believe there are a lot of residents who aren't really being counted due to their immigration status.

I personally know families of 8 living in a 2 bedroom apartment. That is just one apartment. Now multiple that by how many dwellings I have no doubt that the Census & the EIR will be grossly off.

Thank you for you time & consideration as I am just one resident of this community but I want nothing but the best for our tiny town.

Sincerely,

Adrienne Ortega

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

PUBLIC WORKS AGENCY
TRANSPORTATION DEPARTMENT
Traffic, Advance Planning & Permits Division

M E M O R A N D U M

DATE: January 13, 2021

TO: RMA Planning Division
Attention: Anthony Ciuffetelli

FROM: Glenn Derossett, Engineering Manager III

SUBJECT: **REVIEW OF DOCUMENT**
PROJECT NO.: RMA 21-001

Lead Agency: **COUNTY OF LOS ANGELES DEPARTMENT OF REGIONAL PLANNING**
APN# Various Properties in County of Los Angeles

Pursuant to your request, the Public Works Agency -- Transportation Department has reviewed the subject application and has determined that the application is for our areas of responsibility.

The County of Los Angeles is updating the Housing Element of the General Plan for the 2021-2029 planning period. The Housing Element is one of the seven required elements of the General Plan per the California Government Code, beginning at Section 655583. Generally, state law mandates updates to the Housing Element every 8 years. The Housing Element serves as a policy guide to address the comprehensive housing needs of the unincorporated areas of Los Angeles County (unincorporated areas). The primary focus of the Housing Element is to ensure decent, safe, sanitary, and affordable housing for current and future residents of the unincorporated areas, including those with special needs. The County is required to ensure the availability of residential sites, at adequate densities and appropriate development standards, in the unincorporated areas to accommodate its fair share of the regional housing need, also known as the Regional Housing Needs Assessment (RHNA) allocation.

The Housing Element Update will consist of the following main components:
- Adequate Site Inventory
- Constraints and Barriers
- Goals, Policies, and Implementation Programs
- Other Project Elements and Required Approvals

We offer the following comments:

1. The County of Ventura, Public Works Agency, Roads & Transportation would like to offer open communication with the County of Los Angeles if any of the re-zoned areas could have the potential of impacting the Regional Road Network for Ventura County and the Freeways and Highways within the County of Ventura.

2. The County of Ventura, Public Works Agency, Roads & Transportation request that the PEIR disclose the areas that are proposed to be re-zoned.

3. The County of Ventura, Public Works Agency, Roads & Transportation request that the PEIR for the County of Los Angeles General Plan Housing Element Update evaluate the potential Cumulative Impacts that the update could have on the County of Ventura's Regional Road Network and the Freeways and Highways within the County of Ventura. The County of Los Angles is proposing to change the zone of certain properties and allow development that could have the potential to cause a significant impact to the Road Network within the County of Ventura. This potential significant impact should be disclosed and mitigation measures discussed, in the PEIR, if the development would be allowed to occur.

4. The County of Ventura, Public Works Agency, Roads & Transportation request the right to review the Draft PEIR when it become available.

Our review is limited to the impacts this project may have on the County's Regional Road Network. Please contact me at 654-2087 if you have questions.

DEPARTMENT OF TRANSPORTATION
DISTRICT 7- OFFICE OF REGIONAL PLANNING
100 S. MAIN STREET, SUITE 100
LOS ANGELES, CA 90012
PHONE (213) 897-3574
FAX (213) 897-1337
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

January 15, 2021

Tina Fung, Supervising Regional Planner
Housing Policy Section
County of Los Angeles Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, California 90012

RE: County of Los Angeles Housing Element Update – Notice of Preparation (NOP)
SCH# 2021010016
GTS# 07-LA-2021-03466
Vic. LA Multiple

Dear Tina Fung,

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The County is updating the Housing Element of the General Plan for the 2021–2029 planning period. The Housing Element is one of the seven required elements of the General Plan per the California Government Code, beginning at Section 65583. Generally, state law mandates updates to the Housing Element every 8years. The Housing Element serves as a policy guide to address the comprehensive housing needs of the unincorporated areas of Los Angeles County (unincorporated areas). The primary focus of the Housing Element is to ensure decent, safe, sanitary, and affordable housing for current and future residents of the unincorporated areas, including those with special needs. The County is required to ensure the availability of residential sites, at adequate densities and appropriate development standards, in the unincorporated areas to accommodate its fair share of the regional housing need, also known as the Regional Housing Needs Assessment (RHNA) allocation.

After reviewing the NOP, Caltrans does not expect project approval to result in a direct adverse impact to the existing State transportation facilities. However, to accommodate the additional housing units and not induce demand for excessive Vehicle Miles Travelled (VMT), Caltrans recommends significantly reducing or eliminating car parking requirements. Research looking at the relationship between land-use, parking, and transportation indicates that car parking prioritizes driving above all other travel modes and undermines a community's ability to choose public transit and active modes of transportation. For any community or city to better support all modes of transportation and reduce vehicle miles traveled, we recommend the implementation of a TDM ordinance, as an alternative to requiring car parking.

Caltrans looks forward to reviewing the forthcoming Draft Environmental Impact Report (DEIR) to confirm that the updated Housing Element will result in a net reduction in VMT.

If you have any questions, please contact project coordinator Anthony Higgins, at anthony.higgins@dot.ca.gov and refer to GTS# 07-LA-2021-03466.

Sincerely,

Miya Edmonson

MIYA EDMONSON
IGR/CEQA Branch Chief
cc: Scott Morgan, State Clearinghouse

DocuSign Envelope ID: 2B3583C1-2BCA-4DD1-9893-9F6FC691FE66

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

February 2, 2021

Tina Fung
Los Angeles County Department of Regional Planning
320 W. Temple Street, 13th Floor
Los Angeles, CA 90012
TFung@planning.lacounty.gov

Subject: **Notice of Preparation of a Program Environmental Impact Report for the County of Los Angeles Housing Element Update, SCH #2021010016, Los Angeles County Department of Regional Planning, Los Angeles County**

Dear Ms. Fung:

The California Department of Fish and Wildlife (CDFW) has reviewed the Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) from the Los Angeles County Department of Regional Planning (County; Lead Agency) for the Los Angeles Housing Element Update (Project). Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW's Role

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & G. Code, §§ 711.7, subdivision (a) & 1802; Pub. Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect State fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 *et seq.*). Likewise, to the extent implementation of the Project as proposed may result in "take", as defined by State law, of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 *et seq.*), or CESA-listed rare plant pursuant to the Native Plant Protection Act (NPPA; Fish & G. Code, §1900 *et seq.*), CDFW recommends the Project proponent obtain appropriate authorization under the Fish and Game Code.

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Project Description and Summary

Objective: The Project proposes to update the Housing Element of Los Angeles County's General Plan for the 2021 through 2029 planning period. The Housing Element serves as a policy guide to address the housing needs of the unincorporated areas of Los Angeles County. The primary focus of the Housing Element is to ensure decent, safe, sanitary, and affordable housing for current and future residents of the unincorporated areas, including those with special needs. The County is required to ensure the availability of residential sites in the unincorporated areas to accommodate its share of the Regional Housing Needs Assessment (RHNA) allocation. The RHNA allocation for the County for the 2021–2029 planning period is approximately 90,000 units. As required by State law, the Housing Element must identify the County's ability to accommodate this estimated growth through available sites and appropriate land use and zoning.

The Project will consist of the following main components:

- Adequate Sites Inventory: The Project would include an Adequate Sites Inventory to demonstrate that there are enough sites within the unincorporated areas to accommodate the RHNA allocation. Sites must meet several criteria, including residential zoning of a certain density, a minimum lot size, and that the site must be either vacant or underutilized. If a local jurisdiction cannot demonstrate that there are enough sites to address the RHNA allocation, the local jurisdiction is required to develop a rezoning program. The Project would include a rezoning program. The rezoning program aims to focus growth and density increase in the unincorporated areas. These areas would also include access to services and infrastructure outside of the County's environmentally sensitive and hazardous areas.

- Constraints and Barriers: The Project would include identification and analysis of potential and actual governmental constraints to the maintenance, improvement, or development of housing for all income levels, including housing for people with disabilities. At a minimum, the analysis will address the following: codes and enforcement; on- and off-site improvement standards; constraints for people with disabilities; fees and exactions; land use controls; non-governmental constraints; and processing and permitting procedures.

Location: The Project is located within the unincorporated areas of Los Angeles County.

Comments and Recommendations

CDFW offers the comments and recommendations below to assist the County in adequately identifying, avoiding, and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources.

Specific Comments

1) Adequate Sites Inventory. Consistent with the State's 2030 Natural and Working Lands Climate Change Implementation Plan, CDFW recommends the County maximize development where it already exists in order to protect natural habitat from conversion to

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more intensified uses (CalEPA 2019). CDFW recommends the County consider the Project's potential impacts on the following areas where/if present within the Project boundary:

a) Conservation easements or mitigation lands;
b) U.S. Fish and Wildlife Service Threatened & Endangered Species Active Critical Habitat (USFWS 2020);
c) Los Angeles County Significant Ecological Areas (SEAs);
d) Sensitive Natural Communities, including (but not limited to) California walnut groves (*Juglans californica* Alliance), Coast live oak woodland (*Quercus agrifolia* Alliance), Canyon live oak forest (*Quercus chrysolepis* Alliance), and California bay forest (*Umbellularia californica* Alliance); and,
e) Aquatic and riparian resources including (but not limited to) rivers, channels, streams, wetlands, and vernal pools, and associated natural plant communities.

CDFW recommends the County avoid sites that may have a direct or indirect impact on conservation easements or lands set aside as mitigation. CDFW recommends the PEIR include measures where future housing development facilitated by the Project mitigate (avoid if feasible) for impacts on biological resources occurring within SEAs and critical habitat. CDFW also recommends that future development projects mitigate for impacts on sensitive natural communities and aquatic and riparian resource.

2) Impacts on Wildlife Corridors and Wildlife. The South Coast Missing Linkages Project is an inter-agency effort to identify and conserve the highest-priority linkages in the south coast ecoregion (SCW 2017). Based on review Figure 1 in the NOP, the County's unincorporated areas may overlap with wildlife corridors and linkages identified by the South Coast Missing Linkages Project. CDFW is concerned that the Project would impact wildlife corridors. Additionally, development occurring adjacent to natural habitat areas such as wildlife corridors could have direct or indirect impacts on wildlife. Impacts could result from increased human presence, traffic, noise, and artificial lighting. Increased human-wildlife interactions could lead to injury or mortality of wildlife. For instance, as human population and communities expand into wildland areas, there has been a commensurate increase in direct and indirect interaction between mountain lions and people (CDFW 2013). As a result, the need to relocate or humanely euthanize mountain lions (depredation kills) may increase for public safety.

   CDFW recommends the PEIR include measures where future housing development facilitated by the Project thoroughly analyze whether the project may impact wildlife corridors. Impacts include habitat loss and fragmentation, narrowing of a wildlife corridor, and introduction of barriers to wildlife movement. Additionally, CDFW recommends future development projects thoroughly analyze whether the project may have direct and indirect impacts wildlife resulting from increased human presence, traffic, noise, and artificial lighting.

3) Biological Resources Survey. CDFW recommends the PEIR include measures where future housing development facilitated by the Project provides a project-level biological resources survey [see General Comments #3 (Biological Baseline Assessment)]. A biological resources survey should include identification and delineation of any rivers, streams, and lakes and their associated natural plant communities/habitats. This includes any culverts,

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ditches, storm channels that may transport water, sediment, pollutants, and discharge into rivers, streams, and lakes.

4) Nesting Birds. CDFW recommends the PEIR include measures where future housing development facilitated by the Project avoids potential impacts to nesting birds. Project activities occurring during the bird and raptor breeding and nesting season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment.

   a) Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Code of Federal Regulations, Title 50, § 10.13). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). It is unlawful to take, possess, or needlessly destroy the nest or eggs of any raptor.

   b) CDFW recommends that measures be taken to fully avoid impacts to nesting birds and raptors. Ground-disturbing activities (e.g., mobilizing, staging, drilling, and excavating) and vegetation removal should occur outside of the avian breeding season which generally runs from February 15 through August 31 (as early as January 1 for some raptors) to avoid take of birds, raptors, or their eggs.

   c) If impacts to nesting birds and raptors cannot be avoided, CDFW recommends the PEIR include measures where future housing development facilitated by the Project mitigates for impacts. CDFW recommends surveys by a qualified biologist with experience conducting breeding bird and raptor surveys. Surveys are needed to detect protected native birds and raptors occurring in suitable nesting habitat that may be disturbed and any other such habitat within 300 feet of the project disturbance area, to the extent allowable and accessible. For raptors, this radius should be expanded to 500 feet and 0.5 mile for special status species. Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

5) Loss of Bird and Raptor Nesting Habitat. The biggest threat to birds is habitat loss and conversion of natural vegetation into another land use such as development (e.g., commercial, residential, industrial). In the greater Los Angeles, urban forests and street trees, both native and some non-native species, provide habitat for a high diversity of birds (Wood and Esaian 2020). Some species of raptors have adapted to and exploited urban areas for breeding and nesting (Cooper et al. 2020). For example, raptors (*Accipitridae*, *Falconidae*) such as red-tailed hawks (*Buteo jamaicensis*) and Cooper's hawks (*Accipiter cooperii*) can nest successfully in urban sites.

   a) CDFW recommends the PEIR provide measures where future housing development facilitated by the Project avoids removal of any native trees, large and dense-canopied native and non-native trees, and trees occurring in high density (Wood and Esaian 2020). CDFW also recommends avoiding impacts to understory vegetation (e.g., ground cover, subshrubs, and shrubs).

   b) If impacts to trees cannot be avoided, trees should be replaced to compensate for the

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temporal or permanent loss habitat within a project site. Depending on the status of the bird or raptor species impacted, replacement habitat acres should increase with the occurrence of a California Species of Special Concern. Replacement habitat acres should further increase with the occurrence of a CESA-listed threatened or endangered species.

c) CDFW recommends planting native tree species preferred by birds. This includes coast live oak (*Quercus agrifolia*) and California sycamore (*Platanus racemosa*) (Wood and Esaian 2020). CDFW recommends Audubon Society's Plants for Birds for more information (Audubon Society 2020).

6) Bats. Numerous bat species are known to roost in trees and structures throughout Los Angeles County (Remington and Cooper 2014). In urbanized areas, bats use trees and man-made structures for daytime and nighttime roosts. Accordingly, CDFW recommends the PEIR provide measures where future housing development facilitated by the Project avoids potential impacts to bats.

a) Bats are considered non-game mammals and are afforded protection by state law from take and/or harassment (Fish & G. Code, § 4150; Cal. Code of Regs., § 251.1). Project construction and activities, including (but not limited to) ground disturbance, vegetation removal, and any activities leading to increased noise levels may have direct and/or indirect impacts on bats and roosts.

b) CDFW recommends a project-level biological resources survey provide a thorough discussion and adequate disclosure of potential impacts to bats and roosts from project construction and activities including (but not limited to) ground-disturbing activities (e.g., mobilizing, staging, drilling, and excavating) and vegetation removal. If necessary, to reduce impacts to less than significant, a project-level environmental document should provide bat-specific avoidance and/or mitigation measures [CEQA Guidelines, § 15126.4(a)(1)].

General Comments

1) Disclosure. An environmental document should provide an adequate, complete, and detailed disclosure about the effect which a proposed project is likely to have on the environment (Pub. Resources Code, § 20161; CEQA Guidelines, §15151). Adequate disclosure is necessary so CDFW may provide comments on the adequacy of proposed avoidance, minimization, or mitigation measures, as well as to assess the significance of the specific impact relative to the species (e.g., current range, distribution, population trends, and connectivity).

2) Mitigation Measures. Public agencies have a duty under CEQA to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of feasible alternatives or mitigation measures [CEQA Guidelines, §§ 15002(a)(3), 15021]. Pursuant to CEQA Guidelines section 15126.4, an environmental document shall describe feasible measures which could mitigate for impacts below a significant level under CEQA.

a) Level of Detail. Mitigation measures must be feasible, effective, implemented, and fully enforceable/imposed by the lead agency through permit conditions, agreements, or

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other legally binding instruments (Pub. Resources Code, § 21081.6(b); CEQA Guidelines, §§ 15126.4, 15041). A public agency shall provide the measures that are fully enforceable through permit conditions, agreements, or other measures (Pub. Resources Code, § 21081.6). CDFW recommends that the County prepare mitigation measures that are specific, detailed (i.e., responsible party, timing, specific actions, location), and clear in order for a measure to be fully enforceable and implemented successfully via a mitigation monitoring and/or reporting program (CEQA Guidelines, § 15097; Pub. Resources Code, § 21081.6). Adequate disclosure is necessary so CDFW may provide comments on the adequacy and feasibility of proposed mitigation measures.

b) Disclosure of Impacts. If a proposed mitigation measure would cause one or more significant effects, in addition to impacts caused by the Project as proposed, the environmental document should include a discussion of the effects of proposed mitigation measures [CEQA Guidelines, § 15126.4(a)(1)]. In that regard, the environmental document should provide an adequate, complete, and detailed disclosure about a project's proposed mitigation measure(s). Adequate disclosure is necessary so CDFW may assess the potential impacts of proposed mitigation measures.

3) Biological Baseline Assessment. An adequate biological resources assessment should provide a complete assessment and impact analysis of the flora and fauna within and adjacent to a project site and where a project may result in ground disturbance. The assessment and analysis should place emphasis upon identifying endangered, threatened, sensitive, regionally, and locally unique species, and sensitive habitats. Impact analysis will aid in determining any direct, indirect, and cumulative biological impacts, as well as specific mitigation or avoidance measures necessary to offset those impacts. CDFW recommends avoiding any sensitive natural communities found on or adjacent to a project. CDFW also considers impacts to Species of Special Concern a significant direct and cumulative adverse effect without implementing appropriate avoid and/or mitigation measures. An environmental document should include the following information:

a) Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region [CEQA Guidelines, § 15125(c)]. An environmental document should include measures to fully avoid and otherwise protect Sensitive Natural Communities from project-related impacts. CDFW considers these communities as threatened habitats having both regional and local significance. Plant communities, alliances, and associations with a state-wide ranking of S1, S2, and S3 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by visiting Vegetation Classification and Mapping Program - Natural Communities webpage (CDFW 2020a);

b) A thorough, recent, floristic-based assessment of special status plants and natural communities following CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). Adjoining habitat areas should be included where project construction and activities could lead to direct or indirect impacts off site;

c) Floristic, alliance- and/or association-based mapping and vegetation impact assessments conducted at a project site and within the neighboring vicinity. The Manual

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of California Vegetation (MCV), second edition, should also be used to inform this mapping and assessment (Sawyer et al. 2009). Adjoining habitat areas should be included in this assessment where project activities could lead to direct or indirect impacts off site. Habitat mapping at the alliance level will help establish baseline vegetation conditions;

d) A complete, recent, assessment of the biological resources associated with each habitat type on site and within adjacent areas that could also be affected by a project. CDFW's California Natural Diversity Database (CNDDB) in Sacramento should be contacted to obtain current information on any previously reported sensitive species and habitat (CDFW 2020b). An assessment should include a nine-quadrangle search of the CNDDB to determine a list of species potentially present at a project site. A lack of records in the CNDDB does not mean that rare, threatened, or endangered plants and wildlife do not occur in the project site. Field verification for the presence or absence of sensitive species is necessary to provide a complete biological assessment for adequate CEQA review [CEQA Guidelines, § 15003(i)];

e) A complete, recent, assessment of rare, threatened, and endangered, and other sensitive species on site and within the area of potential effect, including California Species of Special Concern, and California Fully Protected Species (Fish & G. Code, §§ 3511, 4700, 5050, and 5515). Species to be addressed should include all those which meet the CEQA definition of endangered, rare, or threatened species (CEQA Guidelines, § 15380). Seasonal variations in use of a project site should also be addressed such as wintering, roosting, nesting, and foraging habitat. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, may be required if suitable habitat is present. See CDFW's Survey and Monitoring Protocols and Guidelines for established survey protocol for select species (CDFW 2020c). Acceptable species-specific survey procedures may be developed in consultation with CDFW and the U.S. Fish and Wildlife Service; and,

f) A recent wildlife and rare plant survey. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of a proposed project may warrant periodic updated surveys for certain sensitive taxa, particularly if build out could occur over a protracted time frame or in phases.

4) Data. CEQA requires that information developed in environmental impact reports be incorporated into a database which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special status species and natural communities detected by completing and submitting CNDDB Field Survey Forms (CDFW 2020e). The County should ensure data collected for the preparation of any Project-related environmental document be properly submitted, with all data fields applicable filled out. The data entry should also list pending development as a threat and then update this occurrence after impacts have occurred.

5) Biological Direct, Indirect, and Cumulative Impacts. CDFW recommends providing a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect

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biological resources, with specific measures to offset such impacts. The PEIR should address the following:

a) A discussion regarding Project-related indirect impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands [e.g., preserve lands associated with a Natural Community Conservation Plan (NCCP, Fish & G. Code, § 2800 et. seq.)]. Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the PEIR;

b) A discussion of both the short-term and long-term effects to species population distribution and concentration and alterations of the ecosystem supporting the species impacted [CEQA Guidelines, § 15126.2(a)];

c) A discussion of potential adverse impacts from lighting, noise, temporary and permanent human activity, and exotic species, and identification of any mitigation measures;

d) A discussion on Project-related changes on drainage patterns; the volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and, post-Project fate of runoff from the Project sites. The discussion should also address the potential water extraction activities and the potential resulting impacts on the habitat (if any) supported by the groundwater. Mitigation measures proposed to alleviate such Project impacts should be included;

e) An analysis of impacts from proposed changes to land use designations and zoning, and existing land use designation and zoning located nearby or adjacent to natural areas that may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the PEIR; and,

f) A cumulative effects analysis, as described under CEQA Guidelines section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant and wildlife species, habitat, and vegetation communities. If the County determines that the Project would not have a cumulative impact, the environmental document should indicate why the cumulative impact is not significant. The County's conclusion should be supported by facts and analyses [CEQA Guidelines, § 15130(a)(2)].

6) Project Description and Alternatives. To enable CDFW to adequately review and comment on the proposed Project from the standpoint of the protection of plants, fish, and wildlife, we recommend the following information be included in the PEIR:

a) A complete discussion of the purpose and need for, and description of, the proposed Project, including all staging areas and access routes to the construction and staging areas;

b) CEQA Guidelines section 15126.6(a) states that an environmental document shall describe a reasonable range of potentially feasible alternatives to the Project, or to the

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location of the 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. CEQA Guidelines section 15126.6(f)(2) states if the Lead Agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion and should include reasons in the environmental document; and,

c) A range of feasible alternatives to Project component location and design features to avoid or otherwise minimize direct and indirect impacts to sensitive biological resources and wildlife movement areas. CDFW recommends the County consider configuring Project construction and activities, as well as the development footprint, in such a way as to fully avoid impacts to sensitive and special status plants and wildlife species, habitat, and sensitive vegetation communities. CDFW also recommends the County consider establishing appropriate setbacks from sensitive and special status biological resources. Setbacks should not be impacted by ground disturbance or hydrological changes for the duration of the Project and from any future development. As a general rule, CDFW recommends reducing or clustering the development footprint to retain unobstructed spaces for vegetation and wildlife and provide connections for wildlife between properties and minimize obstacles to open space.

   Project alternatives should be thoroughly evaluated, even if an alternative would impede, to some degree, the attainment of the Project objectives or would be more costly (CEQA Guidelines, § 15126.6).

d) Where the Project may impact aquatic and riparian resources, CDFW recommends the County consider alternatives that would fully avoid impacts to such resources. CDFW also recommends alternatives that would allow not impede, alter, or otherwise modify existing surface flow; watercourse and meander; and water-dependent ecosystems and vegetation communities. Project-related designs should consider elevated crossings to avoid channelizing or narrowing of streams. Any modifications to a river, creek, or stream may cause or magnify upstream bank erosion, channel incision, and drop in water level and cause the stream to alter its course of flow.

7) CESA. CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or CESA-listed plant species that results from the Project is prohibited, except as authorized by state law (Fish & G. Code §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a consistency determination in certain circumstances, among other options [Fish & Game Code, §§ 2080.1, 2081, subds. (b) and (c)]. Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the

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requirements for a CESA ITP.

8) Jurisdictional Waters. As a Responsible Agency under CEQA, CDFW has authority over activities in streams and/or lakes that will divert or obstruct the natural flow, or change the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream, or use material from a streambed. For any such activities, the project applicant (or "entity") must provide written notification to CDFW pursuant to Fish and Game Code Section 1600 *et seq*.

   a) CDFW's issuance of a Lake and Streambed Alteration (LSA) Agreement for a project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the environmental document of the local jurisdiction (Lead Agency) for the project. To minimize additional requirements by CDFW pursuant to section 1600 *et seq.* and/or under CEQA, the environmental document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA Agreement. Please visit CDFW's Lake and Streambed Alteration Program webpage for information about LSA Notification (CDFW 2020d).

   b) In the event the project area may support aquatic, riparian, and wetland habitats; a preliminary delineation of the streams and their associated riparian habitats should be included in the environmental document. The delineation should be conducted pursuant to the U.S. Fish and Wildlife Service (USFWS) wetland definition adopted by CDFW (Cowardin et al. 1970). Be advised that some wetland and riparian habitats subject to CDFW's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers' Section 404 permit and Regional Water Quality Control Board Section 401 Certification.

   c) In project areas which may support ephemeral or episodic streams, herbaceous vegetation, woody vegetation, and woodlands also serve to protect the integrity of these resources and help maintain natural sedimentation processes; therefore, CDFW recommends effective setbacks be established to maintain appropriately-sized vegetated buffer areas adjoining ephemeral drainages.

   d) Project-related changes in upstream and downstream drainage patterns, runoff, and sedimentation should be included and evaluated in the environmental document.

   e) As part of the LSA Notification process, CDFW requests a hydrological evaluation of the 100, 50, 25, 10, 5, and 2-year frequency storm event for existing and proposed conditions. CDFW recommends the environmental document evaluate the results and address avoidance, minimization, and/or mitigation measures that may be necessary to reduce potential significant impacts.

9) Wetland Resources. CDFW, as described in Fish and Game Code section 703(a), is guided by the Fish and Game Commission's (Commission) policies. The Wetlands Resources policy the Commission "…seek[s] to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California (CFGC 2020). Further, it is the policy of the Fish and Game Commission to strongly discourage development in or

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conversion of wetlands. It opposes, consistent with its legal authority, any development or conversion that would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."

a) The Wetlands Resources policy provides a framework for maintaining wetland resources and establishes mitigation guidance. CDFW encourages avoidance of wetland resources as a primary mitigation measure and discourages the development or type conversion of wetlands to uplands. CDFW encourages activities that would avoid the reduction of wetland acreage, function, or habitat values. Once avoidance and minimization measures have been exhausted, a project must include mitigation measures to assure a "no net loss" of either wetland habitat values, or acreage, for unavoidable impacts to wetland resources. Conversions include, but are not limited to, conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks, which preserve the riparian and aquatic values and functions for the benefit to on-site and off-site wildlife populations. CDFW recommends mitigation measures to compensate for unavoidable impacts be included in an environmental document and these measures should compensate for the loss of function and value.

b) The Fish and Game Commission's Water policy guides CDFW on the quantity and quality of the waters of this State that should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife; to provide maximum protection and enhancement of fish and wildlife and their habitat; encourage and support programs to maintain or restore a high quality of the waters of this State; prevent the degradation thereof caused by pollution and contamination; and, endeavor to keep as much water as possible open and accessible to the public for the use and enjoyment of fish and wildlife. CDFW recommends avoidance of water practices and structures that use excessive amounts of water, and minimization of impacts that negatively affect water quality, to the extent feasible (Fish & G. Code, § 5650).

10) Translocation/Salvage of Plants and Animal Species. Translocation and transplantation is the process of moving an individual from a project site and permanently moving it to a new location. CDFW generally does not support the use of, translocation or transplantation as the primary mitigation strategy for unavoidable impacts to rare, threatened, or endangered plant or animal species. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving sensitive plants and animals and their habitats.

11) Compensatory Mitigation. An environmental document should include mitigation measures for adverse Project related direct or indirect impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of project-related impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site

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mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance and dedicated to a qualified entity for long-term management and monitoring. Under Government Code, section 65967, the Lead Agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.

12) Long-term Management of Mitigation Lands. For proposed preservation and/or restoration, an environmental document should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset the project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate non-wasting endowment should be set aside to provide for long-term management of mitigation lands.

Conclusion

We appreciate the opportunity to comment on the NOP for the County of Los Angeles Housing Element Update to assist the Los Angeles County Department of Regional Planning in identifying and mitigating Project impacts on biological resources. If you have any questions or comments regarding this letter, please contact Ruby Kwan-Davis, Senior Environmental Scientist (Specialist), at Ruby.Kwan-Davis@wildlife.ca.gov.

Sincerely,

DocuSigned by:
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South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
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SENT VIA E-MAIL: February 2, 2021
housing@planning.lacounty.gov
Tina Fung, Supervising Regional Planner
County of Los Angeles, Regional Planning Department
Housing Policy Section
320 West Temple Street, 13th Floor
Los Angeles, California 90012

Notice of Preparation of a Draft Program Environmental Impact Report for the County of Los Angeles Housing Element Update (Proposed Project)

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. Our comments are recommendations on the analysis of potential air quality impacts from the Proposed Project that should be included in the Draft Program Environmental Impact Report (PEIR). Please send a copy of the Draft PEIR upon its completion and public release directly to South Coast AQMD as copies of the Draft PEIR submitted to the State Clearinghouse are not forwarded. **In addition, please send all appendices and technical documents related to the air quality, health risk, and greenhouse gas analyses and electronic versions of all emission calculation spreadsheets, and air quality modeling and health risk assessment input and output files (not PDF files). Any delays in providing all supporting documentation for our review will require additional review time beyond the end of the comment period.**

CEQA Air Quality Analysis

Staff recommends that the Lead Agency use South Coast AQMD's CEQA Air Quality Handbook and website[1] as guidance when preparing the air quality and greenhouse gas analyses. It is also recommended that the Lead Agency use the CalEEMod[2] land use emissions software, which can estimate pollutant emissions from typical land use development and is the only software model maintained by the California Air Pollution Control Officers Association.

South Coast AQMD has developed both regional and localized significance thresholds. South Coast AQMD staff recommends that the Lead Agency quantify criteria pollutant emissions and compare the emissions to South Coast AQMD's CEQA regional pollutant emissions significance thresholds[3] and localized significance thresholds (LSTs)[4] to determine the Proposed Project's air quality impacts. The localized analysis can be conducted by either using the LST screening tables or performing dispersion modeling.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the Proposed Project and all air pollutant sources related to the Proposed Project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips, and

[1] South Coast AQMD's CEQA Handbook and other resources for preparing air quality analyses can be found at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook.
[2] CalEEMod is available free of charge at: www.caleemod.com.
[3] South Coast AQMD's CEQA regional pollutant emissions significance thresholds can be found at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.
[4] South Coast AQMD's guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

hauling trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers and air pollution control devices), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, such as sources that generate or attract vehicular trips, should be included in the analysis. Furthermore, emissions from the overlapping construction and operational activities should be combined and compared to South Coast AQMD's regional air quality CEQA *operational* thresholds to determine the level of significance.

If the Proposed Project generates diesel emissions from long-term construction or attracts diesel-fueled vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the Lead Agency perform a mobile source health risk assessment[5].

The California Air Resources Board's (CARB) *Air Quality and Land Use Handbook: A Community Health Perspective*[6] is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process with additional guidance on strategies to reduce air pollution exposure near high-volume roadways available in CARB's technical advisory[7].

The South Coast AQMD's *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*[8] includes suggested policies that local governments can use in their General Plans or through local planning to prevent or reduce potential air pollution impacts and protect public health. It is recommended that the Lead Agency review this Guidance Document as a tool when making local planning and land use decisions.

Mitigation Measures

In the event that the Proposed Project results in significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize these impacts. Any impacts resulting from mitigation measures must also be analyzed. Several resources to assist the Lead Agency with identifying potential mitigation measures for the Proposed Project include South Coast AQMD's CEQA Air Quality Handbook[1], South Coast AQMD's Mitigation Monitoring and Reporting Plan for the 2016 Air Quality Management Plan[9], and Southern California Association of Government's Mitigation Monitoring and Reporting Plan for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy[10].

South Coast AQMD staff is available to work with the Lead Agency to ensure that air quality, greenhouse gas, and health risk impacts from the Proposed Project are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at lsun@aqmd.gov.

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

LS
LAC210105-03 Control Number

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[5] South Coast AQMD's guidance for performing a mobile source health risk assessment can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis.
[6] CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* can be found at: http://www.arb.ca.gov/ch/handbook.pdf.
[7] CARB's technical advisory can be found at: https://www.arb.ca.gov/ch/landuse.htm.
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[9] South Coast AQMD's 2016 Air Quality Management Plan can be found at: http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2017/2017-mar3-035.pdf (starting on page 86).
[10] Southern California Association of Governments' 2020-2045 RTP/SCS can be found at: https://www.connectsocal.org/Documents/PEIR/certified/Exhibit-A_ConnectSoCal_PEIR.pdf.

City of
SANTA CLARITA

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February 4, 2021

VIA EMAIL TO housing@planning.lacounty.gov AND US MAIL

Tina Fung
Supervising Regional Planner, Housing Policy Section
County of Los Angeles, Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, CA 90012

Subject: Notice of Preparation of a Program Environmental Impact Report for the County of Los Angeles Housing Element Update

Dear Ms. Fung,

As a part of the One Valley One Vision (OVOV) planning process, the City of Santa Clarita (City) and the County of Los Angeles (County) mutually benefited from a partnership that resulted in the development of planning documents that created a shared vision for the future of the Santa Clarita Valley. The City appreciates the opportunity to review and comment on the Notice of Preparation (NOP) of a Draft Program Environmental Impact Report (PEIR) for the County of Los Angeles Housing Element Update (Housing Element Update).

The proposed project is an update to the Housing Element of the County of Los Angeles General Plan for the 2021-2029 planning period. The primary focus of the Housing Element Update is to ensure decent, safe, sanitary, and affordable housing for current and future residents of the unincorporated areas, including those with special needs. The County is required to ensure the availability of residential sites at adequate densities and appropriate development standards in the unincorporated areas to accommodate its fair share of the regional housing need, also known as the Regional Housing Needs Assessment (RHNA) allocation.

The City concurs with the environmental topics that the PEIR will evaluate, as highlighted in the NOP, and requests specific discussion and/or analysis of the following areas, specifically as they relate to any proposed changes to the Housing Element that may impact the Santa Clarita Valley:

Land Use and Planning

One of the principles of the Santa Clarita Valley Area Plan (SCV Area Plan) and the Santa Clarita General Plan (SC General Plan), which were the products of the OVOV planning process, is to focus higher density development inward towards the urban core of the Santa Clarita Valley. Therefore, density would decrease concentrically outward from the urban core into less dense portions of the planning area. Further, the SCV Area Plan and the SC General Plan include goals and objectives for the Santa Clarita Valley that would preserve an open space greenbelt, protecting significant resources from development and discouraging urban sprawl into rural areas.

The City remains concerned about proposals that may result in increased densities in areas located outside the urban core at the gateways to the City. Based on preliminary discussions with County Planning staff, there are no plans to include properties within the unincorporated Santa Clarita Valley areas in the proposed rezoning program. The City agrees with this approach and would encourage the Housing Element Update to be aligned and consistent with the OVOV Valley-wide General Plan Update. In the event that any property within the Santa Clarita Valley is the subject of any proposed rezoning action, the City requests that the Land Use section of the PEIR include an analysis of any proposed increase in density and its consistency with the County zoning code and the SCV Area Plan.

Traffic/Transportation

The SCV Area Plan states that the population of the Santa Clarita Valley at full build-out will be approximately 460,000 to 485,000 residents. This estimate is based on a detailed analysis of Traffic Analysis Zones (TAZ) and the land uses shown on the SC General Plan and the SCV Area Plan. Any proposed rezoning that would increase the density beyond what is shown on the current land use maps may have the potential increase to the traffic generated from any project site, thereby making the existing TAZ analysis inaccurate. In the event that any property within the Santa Clarita Valley is the subject of any proposed rezoning action, the City requests that a fully revised TAZ analysis be conducted and that major intersections within the proximity of the subject properties be reanalyzed to determine the potential for impacts and how those impacts may be mitigated.

Jobs/Housing Balance

The topic of jobs/housing balance is an important issue addressed by the City and the County in the SC General Plan and the SCV Area Plan. The existing jobs/housing imbalance within the Santa Clarita Valley results in impacts to traffic, air quality, and greenhouse gas emissions. The City has concerns regarding any action that may increase the existing jobs/housing imbalance as a result of any proposed rezoning in the Santa Clarita Valley. In the event that any property within the Santa Clarita Valley is the subject of any proposed rezoning action, the City requests that a full analysis be conducted to study any potential impact to the jobs/housing balance discussed in the SC General Plan and SCV Area Plan.

Utilities and Service Systems

Any proposal for rezoning that increases the density beyond what was anticipated in the SCV Area Plan and the SC General Plan may have the potential to increase the demand on utilities and its supporting infrastructure. In the event that any property within the Santa Clarita Valley is the subject of any proposed rezoning action, the City requests that the appropriate utility demand analysis be conducted, including, but not limited to, a Water Supply Assessment that complies with the principles of Senate Bill 610.

Thank you again for the opportunity to comment on the Notice of Preparation. If you have any questions, please contact Mike Marshall, Associate Planner, at (661) 255-4045.

Sincerely,

Thomas B. Cole
Director of Community Development

Los Angeles/Ventura Chapter

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February 4, 2021

Tina Fung, Supervising Regional Planner
Housing Policy Section
County of Los Angeles Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, California 90012

Re: BIA-LAV Comment Letter – Notice of Preparation of a Draft Program Environmental Impact Report – Housing Element Update

Dear Ms. Fung,

The Los Angeles/Ventura Chapter of the Building Industry Association of Southern California, Inc. (BIA-LAV), is a non-profit trade association focused on building housing for all. On behalf of our membership, we would like to offer these comments to the Notice of Preparation ("NOP") circulated by the County of Los Angeles ("County") pursuant to the California Environmental Quality Act ("CEQA") announcing its intention to prepare a Program Environmental Impact Report ("PEIR") for the Housing Element of the County of Los Angeles General Plan for the 2021–2029 planning period ("Housing Element Update"). The NOP invites interested parties to provide written comments regarding "specific concerns about the project's potential environmental effects."

The environmental effects from the Housing Element Update can be only be fully addressed after reviewing and assessing the yet to be released Housing Element Update draft document and its proposed goals, policies, and programs. While the NOP provides a synopsis of topics required by State law to be included in the Housing Element Update, the manner in which the County approaches these topics in an actual draft document will drive the environmental review. Consequently, while the County invites comments regarding "specific concerns", at this stage in the process, our comments are offered below based on our best understanding of what the Housing Element Update is expected to contain.

The PEIR Should Be Circulated For At Least 60 Days

At the public scoping meeting held on January 23, 2021, the County's consultant announced that the County intends to circulate the PEIR for public review for the minimum 45-day period required by CEQA. This

amount of time is inadequate. As we all know, there is an ongoing housing shortage and crisis in the County. The lack of housing being produced in the unincorporated areas is alarming with only 6,157 total permitted housing units in all affordability categories from 2014 through the end of 2019.[1] Against this backdrop, the Housing Element Update, which is intended to apply to the lengthy 2021 - 2029 planning period, takes on added significance as does environmental review of the proposed goals, policies and programs. Added to the critical importance of housing goals, policies and programs at this juncture in time are the effects of the COVID-19 pandemic which has altered daily life in the County and across the State and Nation. Given the importance of this planning effort and the pandemic restrictions, a minimum 60-day PEIR public review period is warranted; we request that the PEIR be circulated for public comment for at least 60 days.

Adequate Sites Inventory

As recognized in the NOP, the Housing Element Update must include an "Adequate Sites Inventory" to demonstrate there are adequate sites throughout the unincorporated areas to meet the County's Regional Housing Needs Assessment ("RHNA") allocation which for the 2021 – 2029 period is approximately 90,000 housing units. If inadequate sites exist to accommodate the County's RHNA allocation, a rezoning program is required. As a part of the County's Housing Element Update, the NOP states that the County will include a rezoning program which indicates there is already a recognition that there are inadequate sites in the County unincorporated areas to meet the County's RHNA allocation. According to the NOP, the rezoning program will "focus growth and density increase in the unincorporated areas with access to services and infrastructure and outside of the County's environmentally sensitive and hazardous areas."

Given the housing crisis and dire need for housing at all affordability levels, the PEIR should carefully consider the environmental consequences of promoting goals, policies and programs that may too narrowly focus new development away from undeveloped land outside of existing urban and suburban development. For example, while is unclear whether "hazardous areas" is a reference to High and Very High Fire Severity Zones, policies that declare vast swaths of the County off limits to new development would have negative environment effects that need to be considered. The PEIR should assess the advances in fire safety and mitigation that would allow flexibility in locating new housing throughout the County.

When assessing the environmental effect of County housing policy, the PEIR should examine homebuilding processes and the fact that the homes built under the State's strict building codes help to mitigate fire danger. Even in the worst fires, like the Camp Fire in the City of Paradise, new homes and new construction were at a much lower risk and better protected, due to compliance with State level regulations. According to a Sacramento Bee[2] investigative report, a majority of homes built after

[1] County *General Plan And Housing Element Progress Reports CY 2019, Table B.*
[2] https://www.sacbee.com/news/california/fires/article227665284.html

2008, that were in the path of the Camp Fire, were undamaged. This stands in stark contrast to the mere 18% survival rate of homes built prior to the 2008 code adoption and serves as a testament to the significant fire safety measures already in place in California. Homes built under the State's current WUI (Wildland Urban Interface) and Title 14 fire regulations had a significantly better chance of survival.

This message was echoed in a recent Los Angeles Times[3] article concerning the October 2020 Silverado Fire in Orange County, which highlighted fire safety strengths provided by new construction and master planned communities. Despite 12,466 acres of land burning in the wildland/urban interface area, no homes were lost[4] and five structures were destroyed. Governing Newsletter[5] also pointed out that "…the adoption and implementation of WUI building and fire codes are a critical part of effective wildfire mitigation and community resilience." It is abundantly clear that new housing construction is better equipped for potential wildfire threat because of the success of our State Building Codes when combined with defensible space maintenance.

The PEIR should also consider that not only are new homes at least five times greater rate of survival in a wildfire than those homes built before 2008[6], they are much more fire resistant than undeveloped open space. According to the California Air Resources Board California Wildfire Burn Acreage and Preliminary Emissions Estimates, in 2018[7], wildfires in California burned 1.59 million acres generating 45.5 million metric tons of CO2 emissions. That is more than 10% of California's total emissions for 2018. The more than 4 million acres burned in California this year are expected to account for more than 100 million metric tons of CO2 emissions. Master planned communities that require large open areas for planning and construction that are not available in the urban core should continue to be part of the County's housing solution.

Additionally, when assessing sites for housing development, it will be important to address consistency with recently adopted community plans that were the product of substantial effort and community input. The environmental effects on communities, and in particular communities of color, from up-zoning, needs to be carefully studied. Efforts to densify the urban core that may result from overly constraining greenfield development may disproportionately impact such communities. The need to achieve a balanced approach to up-zoning across the County will be challenging but is

[3] https://tinyurl.com/y7tpm82r
[4] https://www.latimes.com/california/story/2020-10-28/firefighters-battle-to-save-orange-county-subdivisions-as-flames-march-closer
[5] https://www.governing.com/community/How-Better-Building-Codes-Can-Mitigate-Wildfires-Devastation.html
[6] Daniel Berlant, State Fire Marshal's Chief of Wildfire Planning & Engineering stated that "homes in the WUI built to the 2008 Chapter 7A WUI standards now have a 5x greater rate of survival in a wildfire than those homes built before 2008." See California Department of Insurance Home Hardening Standards and Wildfire Catastrophe Modeling in Ratemaking (https://www.youtube.com/watch?v=KYKsZjQY5Lo at approximately 2:04).
[7] https://ww3.arb.ca.gov/cc/inventory/pubs/ca_wildfire_co2_emissions_estimates.pdf

necessary to evenly spread needed housing throughout the region.

Constraints and Barriers

The NOP states that the PEIR will assess "whether local regulatory standards pose an actual constraint and must also demonstrate local efforts to remove constraints that hinder a local jurisdiction from meeting its housing needs." Housing production in the unincorporated County during the 2014 – 2021 planning period suggests there are already constraints that are affecting housing development. Table B from the County's *General Plan And Housing Element Progress Reports CY 2019* depicts a dire housing situation in the unincorporated areas. Table B indicates a total of 6,157 total permitted housing units from 2014 through the end of 2019[8] as compared to the 2014 – 2021 RHNA allocation of 21,283 units. These numbers indicate that adequate housing to meet housing supply needs is simply not being built in the unincorporated areas. The breakdown by affordability levels shows that the moderate income category has fared the worst with 19 permitted units compared to the RHNA allocation of 4911.[9]

With the RHNA allocation skyrocketing to approximately 90,000 units for the 2021 – 2029 planning period, if the County wants developers and builders to turn hypothetical sites into actual housing, barriers that are affecting housing development in the unincorporated County need to be identified and addressed. These barriers include regulatory fees and costs, as well as lengthy entitlement processes.

The PEIR needs to evaluate how these and other barriers affect housing supply. While new home sales were relatively strong in 2020, headwinds have appeared that could severely impact housing supply and in turn continue to drive up housing costs in the Los Angeles region. Single family home prices continue to rise as a result of many factors including lack of supply and the cost of materials. As reported in financial media, according to data from the National Association of Home Builders, lumber prices have risen 130% since April increasing the cost of a single family home more than $16,000 on average.[10] Lumber accounts for approximately 20% of material costs for a single family home.[11] Cost increases portend challenges up ahead especially for the entry and mid-level for sale home market since margins are tighter in the lower end of the housing market. Fortunately, mortgage rates have remained historically low but any potential rise in interest rates will create more challenges for the housing market and combine with rising prices to pinch supply and make home ownership less attainable.

In this economic climate, regulation and fees can mean the difference between a project "penciling"

[8] The annual report for 2020 has yet to be released.

[9] County *General Plan And Housing Element Progress Reports CY 2019, Table B.*

[10] https://www.marketwatch.com/story/lumber-prices-have-skyrocketed-and-thats-bad-news-for-home-buyers-11594850533.

[11] *Id.*, quote from David Logan, National Association of Homebuilders.

or not, since regulations and fees under the County's control account form a significant component of housing production costs. According to our members, fees of up to $60,000 per single family home are par for the course, not including the soft costs associated with discretionary approvals such as cost associated with CEQA compliance. And, the County is considering tacking on more fees such as the Art in Private Development one percent art fee. In addition to fees, the County controls the regulatory process for approving housing. Costs and uncertainty associated with discretionary approval processes create unfavorable conditions for housing production. The County should assess how fees affect housing production and affordability and any potential secondary effects.

The By Right Housing Ordinance approved by the Board in late September 2020 is a step in the right direction to reduce some housing costs.[12] Expansion of the ability to obtain by-right approval of housing projects eliminates soft costs associated with the entitlement process that can amount to many tens of thousands of dollars. By right approvals also create more certainty and reduce potential litigation risk and litigation costs. Consequently, we recommend that the Housing Element Update include goals, policies and programs that encourage and expand the use of ministerial approvals for housing projects to the maximum extent possible. The PEIR will need to assess the environmental effects of transitioning to more by-right development. The County should also assess whether inclusionary housing programs actually contribute to housing production or whether such policies may actually serve as an impediment by driving up housing costs for the vast majority of persons who compete for housing in the marketplace.

The County's attention and efforts when it comes to housing policy should be focused on ways to increase home ownership attainability, promoting housing construction, reducing homelessness, and decreasing the poverty rate by attracting higher paying housing construction jobs. As the County proceeds through the Housing Element Update process, we look forward to partnering and working with staff to ensure that the County's housing policy provides a framework for our members to deliver adequate housing for all. Should you have any questions, contact BIA-LAV Vice President, Diana Coronado, at dcoronado@bialav.org.

Sincerely,

Diana Victoria Coronado
Vice President
BIA - Los Angeles/Ventura

Sent via e-mail

[12] We understand the By Right Housing Ordinance is pending County Counsel review and will be presented the Board for final approval in early 2021.

ACTON TOWN COUNCIL
P.O.Box 810, Acton CA 93510

Tina Fung, Supervising Regional Planner
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Electronic transmission of seven (7) pages via:
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February 4, 2021

Subject: Acton Town Council Scoping Comments on the Project Titled "County of Los Angeles Housing Element Update"

Reference: Regional Planning Department Project Number 2020-000606

Dear Ms. Fung;

The Acton Town Council ("ATC") respectfully submits the following Scoping Comments on the project titled "County of Los Angeles Housing Element Update" referred to herein as the "HEU Project". These comments are submitted by the February 4, 2021 deadline set forth in the "Notice of Preparation" ("NOP") that was issued in accordance with the California Environmental Quality Act ("CEQA"), therefore we ask that they be deemed timely filed.

INTRODUCTION

The purpose of scoping under CEQA is to bring together and resolve the concerns of stakeholders and also permit stakeholders to contemplate the range of actions and potentially significant effects of a project and thereby recommend feasible alternatives and mitigation measures to reduce the project's significant effects [CEQA Guidelines 15083]. Scoping is an essential element of public outreach because it is the primary tool through which the public gains both a comprehensive understanding of the proposed project and the opportunity to influence and shape the project by recommending alternatives and mitigation measures to reduce the significant environmental effects of the project. It is with this understanding that the ATC has prepared the scoping comments presented herein; we start with our understanding of all the components that comprise the HEU Project, then move on to identify to the potential environmental impacts of the HEU Project and, to the extent possible, the alternatives and mitigation measures that would reduce these environmental impacts. We have also included an assessment of the CEQA Scoping process that has been implemented for the HEU Project.

THE PROJECT SCOPE

The ATC has reviewed the NOP and various public presentations by the Department of Regional Planning ("DRP") regarding the HEU Project in an effort to grasp what the HEU Project entails. It is our understanding that the HEU Project is intended to ensure the availability of residential sites in unincorporated areas at adequate densities and appropriate development standards to meet the County's "Regional Housing Needs Assessment" ("RHNA") allocation of 90,000 new units and thereby accommodate estimated growth through appropriate land use and zoning. The components that we understand comprise the HEU Project are:

Conducting an Adequate Sites Inventory ("ASI") to establish the number of sites available in the unincorporated area to accommodate the County's RHNA allocation. To qualify, the sites must meet several criteria, including residential zoning of a certain density and a minimum lot size. Sites must also be either vacant or underutilized (i.e., not built to its maximum capacity). If the ASI shows there are insufficient units to meet the County's RHNA allocation, the County is required to develop a "Rezoning Program" to increase residential densities sufficiently to meet the County's RHNA allocation. The County has stated that a Rezoning Program will be included in the HEU Project.

Developing a Rezoning Program to initiate rezoning to increase residential densities in certain areas that meet specific locational criteria.[1] According to state law, the rezoning must be completed within three years.

Developing Goals and Policies and Implementation Programs to address housing needs. Each implementation program identifies the lead and partner agencies and provides implementation timelines. Neither the NOP nor the DRP website indicate what the potential implementation programs are, however some were identified at the December 9 meeting of the Regional Planning Commission, including the development of an "East San Gabriel Valley Area Plan", a "METRO Area Plan" and a "Florence-Firestone TOD specific Plan", the unbundling of parking from housing development, considerations for "alternative housing types", rent stabilization regulations, the development of a Community Land Trust (CLT) program, development of a Climate Acton Plan, and the implementation of a "fair housing" program.

Identifying and analyzing regulatory standards that constrain or hinder the maintenance, improvement, or development of housing for all income levels, including housing for people with disabilities.

[1] At the January 23 Scoping Meeting, the following locational criteria were identified: 1) Outside an environmentally sensitive or hazardous area; 2) Near transit, amenities, and services; 3) In an area served by infrastructure such as public water and sewer; and 4) within "higher resource areas".

Amendments to the General Plan Land Use Element to 1) Amend minimum allowable residential densities in certain land use designations; 2) establish that the allowable residential density specified by the General Commercial (CG) land use designation in the General Plan will also apply to the commercial land use designations in certain community-based plans; and (3) clarify that in designations that allow mixed uses (CR, CG, CM, MU and MU-R), the maximum Floor Area Ratio only applies to the commercial component while the residential component is subject to the allowable density.

Amendments to Title 22: The Zoning Code will be amended to add development standards pertaining to floor area dedicated to residential use in mixed use projects in the Mixed-Use Development Zone (MXD).

ACTON TOWN COUNCIL SCOPING COMMENTS ON THE HEU PROJECT COMPONENTS:
The Acton Town Council offers the following comments on the components that we understand comprise the HEU Project:

Conducting an Adequate Sites Inventory: The ATC understands that this portion of the HEU Project is largely completed and that a draft report has been prepared[2]. However, the report is not available to the public. The ATC is unable to provide any substantive scoping comment on this aspect of the HEU Project because we have insufficient information from which to form an opinion regarding potential environmental impacts that could result from it or possible alternatives or mitigation measures that could reduce such environmental impacts.

Developing a Rezone Program: The ATC understands that the County has developed a preliminary list of the sites considered for rezoning under this component of the HEU Project and that this information will be made available to the public shortly[3]. The ATC also understands that the Rezone Program will not affect the community of Acton[4]. However, and beyond this, the ATC is unable to provide any scoping comments regarding the environmental impacts of the Rezone Program because the County has not released any information to indicate where rezoning will occur or what areas will be affected or how concentrated the new zoning designations will be. By extension, we are also unable to provide any recommendations for possible alternatives or mitigation measures that would reduce the significance of such environmental impacts. These statements are not to be construed to mean that the ATC believes that the Rezone Program will not result in

[2] Statement made at the January 23, 2021 Scoping meeting.

[3] Email communication from DRP indicates that, by early March, a Story Map will be accessible on the DRP website which will provide background information, show the general locations of sites in the draft Adequate Site Inventory, and the locations of all sites proposed for rezoning.

[4] Id.

significant environmental impacts; we are merely stating that the scope and extent of the Rezone Program is not sufficiently defined for us to provide any substantive comments regarding such impacts or recommend alternatives or mitigation measures to reduce such impacts.

Developing Goals and Policies and Implementation Programs. The ATC understands that a long list of implementation programs will be considered for the HEU Project. However, we do not have sufficient information regarding the nature, scope, and extent of these implementation programs to provide substantive comments on the potential environmental impacts that could result from them or recommend alternatives or mitigation measures to reduce such impacts. For instance, we understand that the County will consider "alternative housing types" as an Implementation Program, and in July, 2020 we asked DRP staff whether the County will expand the list of "housing types" that are currently recognized by the existing Housing Element[5] to include Recreational Vehicles ("RVs"). We were told that the answer is not certain. This is very troubling; the ATC should not have to "guess" at what the HEU Project's Implementation Programs might entail and then speculate on the possible environmental impacts that could potentially ensue, yet that is precisely the situation in which we now find ourselves. If, in fact. RVs are designated as a "housing type" under the HEU Project, then the County is advised that it will have to develop and implement an extensive compliance monitoring and enforcement program to ensure conformance with state and local wastewater disposal requirements and health department regulations. The County would also have to devise a program that ensures RV dwellers have a continuous and reliable supply of potable water no matter where they are located to ensure sanitary living conditions. Moreover, because recreational vehicles are easily moved and require no building permits, the County will have to devise a means of monitoring and tracking them for compliance enforcement or housing stock accounting purposes. The resiliency and sustainability of recreational vehicles as a "housing type" is particularly questionable in rural areas where there are no public facilities such as sewers or municipal water. Of course, we recognize that DRP may not even be considering RVs as a "housing type", but it would be imprudent for the Community of Acton to presume otherwise. Accordingly, we must assume the worst and do our best to develop meaningful scoping comments on this potential component of the HEU Project. So, if the County is considering whether to designate RVs as an "alternative housing type" under the HEU Project, then the EIR prepared for the HEU Project must contemplate the following significant impacts at a minimum:

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[5] The current Housing Element recognizes the following "housing types": Adult Residential Facilities, Apartments, Caretaker Units, Children Group Homes, Domestic Violence Shelters, Farmworker Housing, Foster Family Homes, Homeless Shelters, Joint Live/Work Units, Manufactured Homes, Mixed Use Developments, Mobilehomes, Residential Care Facilities, Second Units, Single-Family Residences, Small Family Homes, Townhomes, and Two-Family Residences [pp. 96].

- Soil and groundwater contamination from the improper disposal of human waste from RV dwelling units.
- Trash accumulation from RV dwelling units located where no trash service exists (such as on vacant parcels).
- Wildfires sparked by either the improper or unattended use of generators or by campfires started by RV dwellers.
- Increased demand on local waste disposal sites resulting from abandoned or substandard RVs.
- VMT increases from weekly or even semi-weekly water deliveries everywhere in the County (including remote areas) to ensure sanitary living conditions in RV dwelling units.
- VMT increases from weekly or even semi-weekly wastewater handlers everywhere in the County (including remote areas) to prevent groundwater and soil contamination from the improper disposal of human waste from RV dwelling units.
- VMT increases from enforcement actions that result in the removal of abandoned or substandard RVs

In addition to these impacts, the County should assume that, no matter how many restrictions and regulations it imposes on RVs as a "housing type", a large percentage of RVs will not comply with such restrictions. This is not conjecture; it is fact and it has been proven time and again by extensive evidence submitted to the County by communities throughout the Antelope Valley which demonstrate an unquestionable proliferation of illegal residential RV uses in unincorporated LA County. The ATC hereby incorporates by reference into these scoping comments all evidentiary information that the County has received over the last year showing widespread and illegal residential RV uses in unincorporated Los Angeles County. Based on this evidence, and if indeed the HEU Project will redefine "Housing Types" to include RVs, then the ATC asserts that the HEU Project EIR cannot assume that the soil and groundwater contamination and trash and wildfire impacts identified above will be mitigated by simply developing rules and policies to regulate RVs as a "housing type". Furthermore, the EIR developed for the HEU Project will have to conclude that the significant environmental impacts resulting from the designation of RVs as a "housing type" cannot be mitigated, and the County will have to conclusively demonstrate that these significant and unmitigated impacts are outweighed by a substantial benefit before it can adopt a statement of overriding considerations that will allow RVs to be designated as a "housing type".

<u>Amendments to the General Plan Land Use Element</u>. According to the NOP, this component of the HEU Project affects areas with community-based plans and also affects land use areas that allow mixed uses. Insofar as the ATC is aware, the Community of Acton does not have a community-based plan or any mixed-use land use designations. Additionally, the land uses set forth in the Antelope Valley Area Plan already specify that the FAR only applies to non-residential uses [page LU-10]. Thus, it does not appear that

this aspect of the HEU Project will result in changes to the Community of Acton; if this is incorrect, the ATC respectfully requests that DRP clarify how Acton will be affected by revisions to the Land Use Element so we can provide supplemental comments to address these impacts.

Amendments to Title 22: According to the NOP, this component of the HEU Project affects Mixed Use Development Zones. Insofar as the ATC is aware, the Community of Acton does not have Mixed-Use Development Zones. Thus, it does not appear that this component of the HEU Project will result in changes to the Community of Acton; if this is incorrect, the ATC respectfully requests that DRP clarify how Acton will be affected by amendments to Title 22 so that we can provide supplemental comments to address these impacts.

ATC COMMENTS ON THE COUNTY'S CEQA SCOPING PROCESS FOR THE HEU PROJECT.
As indicated previously, the purpose of scoping under CEQA is to bring together and resolve the concerns of stakeholders (including those who might not be in accord with the action) and permit stakeholders to contemplate the range of actions and potentially significant effects of a project and thereby recommend feasible alternatives and mitigation measures to reduce the project's significant effects. Accordingly, scoping is only useful if the project is sufficiently well defined to allow stakeholders to understand the physical changes to the environment that will result from the project and thereby comprehend the environmental impacts associated with it. In other words, if the scope and extent of a proposed project is not clearly defined or if the potential environmental impacts that may result from the project are not at least roughly delineated at the scoping stage of the project, then stakeholders are unable to recommend feasible alternatives or mitigation measures to reduce the project's significant impacts which, by extension, defeats the whole purpose of scoping. It seems to the ATC that these are precisely the circumstances presented by the HEU Project; with few exceptions, the components of the HEU Project are vaguely described and so little information is provided that it is impossible for stakeholders to even contemplate the project's environmental impacts, let alone recommend alternatives or mitigation measures to reduce such impacts. For example, a crucial element of the HEU Project is the "Rezone Program" which seems to underlie virtually all aspects of the project. However, the County has provided absolutely no information about the "Rezone Program" component other than a statement that the "Rezone Program" is part of the HEU Project and it "aims to focus growth and density increase in the unincorporated areas". And, though DRP has developed a preliminary list of areas where rezoning will occur, it has not made this information available to the public; no maps or locational information is provided, so stakeholders cannot even conceive of the environmental impacts that will be created by this aspect of the Project, and they certainly cannot recommend alternatives or mitigation measures to reduce these unknown impacts. In other words, it seems to the ATC that the County's scoping process for the HEU Project is premature because the scope is so undefined at this point that stakeholders cannot provide meaningful scoping comments (which completely defeats CEQA's scoping purpose). This

would not really matter if the County had no obligation to conduct scoping for the HEU Project and were doing so merely as a courtesy to stakeholders, but that is not the case here. The HEU Project is of "Regional Significance" pursuant to Section 15206(b)(1) of CEQA, thus the County is obligated to conduct scoping in a manner that adheres to CEQA and achieves CEQA's scoping purpose. By initiating scoping without providing sufficient project details (such as potential rezone locations), the County prevents stakeholders from comprehending its environmental impacts and recommending feasible alternatives and mitigation measures to address such impacts. This does not comply with CEQA.

The ATC is also concerned by statements that were made to the public at the January 23, 2021 Scoping meeting. Specifically, in response to a question from an Acton resident regarding the HEU Project and its impacts on Acton, County representatives responded that "the housing element is just a planning document that does not construct or build anything" and that it is "just a facilitation document". The ATC is troubled by the content of these responses as well as the manner in which they were delivered because they gave the public the mistaken impression that, as a mere "document" that does not "construct or build anything", the "Housing Element Update Project" will, in and of itself, not cause any physical changes or result in any environmental impacts. The ATC points out that members of the public are not planning experts; they do not understand the very real and significant causal connection between Housing Element revisions and high-density development within their communities. So, when presenters at the CEQA scoping meeting responded to public questions regarding project impacts by stating that the project will not build or construct anything, they gave an appallingly false impression that environmental impacts are not likely to occur as a result of the project. The presenters should have given an open and honest answer by stating that, while the Housing Element Update Project itself does not directly build or construct anything, it will allow developers in all rezone areas to significantly increase housing densities (probably "by right" and thus without community input). And, if the high-density development authorized by the HEU Project will be "by right", then the presenters should have made it clear to the public that there will be no further CEQA review or opportunity for public comment on any of these high-density developments once the HEU Project is completed. The presenters did not do this, and the public was misled regarding the extent to which unspecified but extensive portions of unincorporated Los Angeles County will be forever changed by the high-density residential development that will result from the HEU Project.

If you have any questions or require further clarifications regarding the comments provided above, please do not hesitate to contact us at ATC@ActonTownCouncil.org.

Sincerely;
Jacqueline Ayer
Planning Committee Chairperson

Appendix B

Air Quality, GHG and Energy

Los Angeles County Housing Element Update - Construction - Residential (235 units)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	235.00	Dwelling Unit	6.18	235,000.00	672

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Section 1.0 Project Characteristics. Construction run only for residential units.

Land Use - See 1.1 Land Usage. Project-specific land uses.

Construction Phase - CalEEMod default values.

Off-road Equipment - Architectural Coating: CalEEMod default values.

Off-road Equipment - Building Construction: CalEEMod default values.

Off-road Equipment - Demolition: CalEEMod default values.

Off-road Equipment - Grading: CalEEMod default values.

Off-road Equipment - Paving: CalEEMod default values.

Off-road Equipment - Site Preparation: CalEEMod default values.

Trips and VMT - CalEEMod default values.

On-road Fugitive Dust - CalEEMod default values.

Demolition - Building SF to be Demolished: 269,201 SF.

Grading - Grading: 19,941 CY of export. CalEEMod default acres graded.

Architectural Coating - CalEEMod default values.

Vehicle Trips - Operational emissions estimated separately.

Energy Use -

Construction Off-road Equipment Mitigation - Water Exposed Area: 2x daily

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	19,941.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9653	58.2174	26.0184	0.1286	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	13,593.6967	13,593.6967	1.6499	0.0000	13,634.9442
2022	73.8638	18.3737	23.2439	0.0519	2.0491	0.8281	2.8772	0.5471	0.7789	1.3260	0.0000	5,092.3721	5,092.3721	0.7186	0.0000	5,109.9293
Maximum	**73.8638**	**58.2174**	**26.0184**	**0.1286**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**13,593.6967**	**13,593.6967**	**1.6499**	**0.0000**	**13,634.9442**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9653	58.2174	26.0184	0.1286	8.3310	2.0461	10.3771	4.5222	1.8824	6.4046	0.0000	13,593.6967	13,593.6967	1.6499	0.0000	13,634.9442
2022	73.8638	18.3737	23.2439	0.0519	2.0491	0.8281	2.8772	0.5471	0.7789	1.3260	0.0000	5,092.3721	5,092.3721	0.7186	0.0000	5,109.9293
Maximum	**73.8638**	**58.2174**	**26.0184**	**0.1286**	**8.3310**	**2.0461**	**10.3771**	**4.5222**	**1.8824**	**6.4046**	**0.0000**	**13,593.6967**	**13,593.6967**	**1.6499**	**0.0000**	**13,634.9442**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**48.91**	**0.00**	**42.85**	**51.86**	**0.00**	**41.40**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	67.2127	5.0988	138.8462	0.3059		18.0588	18.0588		18.0588	18.0588	2,201.2258	4,264.9098	6,466.1356	6.5977	0.1494	6,675.6014
Energy	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277
Mobile	1.8750	9.0963	24.8293	0.1148	11.3518	0.0706	11.4224	3.0367	0.0656	3.1022		11,748.5382	11,748.5382	0.4775		11,760.4750
Total	**69.1807**	**14.9899**	**164.0138**	**0.4257**	**11.3518**	**18.1937**	**29.5454**	**3.0367**	**18.1886**	**21.2253**	**2,201.2258**	**17,028.1458**	**19,229.3716**	**7.0947**	**0.1680**	**19,456.8040**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	67.2127	5.0988	138.8462	0.3059		18.0588	18.0588		18.0588	18.0588	2,201.2258	4,264.9098	6,466.1356	6.5977	0.1494	6,675.6014
Energy	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277
Mobile	1.8750	9.0963	24.8293	0.1148	11.3518	0.0706	11.4224	3.0367	0.0656	3.1022		11,748.5382	11,748.5382	0.4775		11,760.4750
Total	**69.1807**	**14.9899**	**164.0138**	**0.4257**	**11.3518**	**18.1937**	**29.5454**	**3.0367**	**18.1886**	**21.2253**	**2,201.2258**	**17,028.1458**	**19,229.3716**	**7.0947**	**0.1680**	**19,456.8040**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2021	10/28/2021	5	20	
2	Site Preparation	Site Preparation	10/29/2021	11/11/2021	5	10	
3	Grading	Grading	11/12/2021	12/9/2021	5	20	
4	Building Construction	Building Construction	12/10/2021	10/27/2022	5	230	
5	Paving	Paving	10/28/2022	11/24/2022	5	20	
6	Architectural Coating	Architectural Coating	11/25/2022	12/22/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 475,875; Residential Outdoor: 158,625; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Los Angeles County Housing Element Update - Construction - Residential (235 units) - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	1,224.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	2,493.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	169.00	25.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	34.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.2495	0.0000	13.2495	2.0061	0.0000	2.0061			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**13.2495**	**1.5513**	**14.8008**	**2.0061**	**1.4411**	**3.4472**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5103	16.4165	3.8492	0.0478	1.0701	0.0504	1.1205	0.2933	0.0482	0.3415		5,180.2512	5,180.2512	0.3516		5,189.0399
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.5746**	**16.4607**	**4.4534**	**0.0495**	**1.2378**	**0.0517**	**1.2895**	**0.3378**	**0.0495**	**0.3873**		**5,351.0667**	**5,351.0667**	**0.3566**		**5,359.9812**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.9623	0.0000	5.9623	0.9027	0.0000	0.9027			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**5.9623**	**1.5513**	**7.5136**	**0.9027**	**1.4411**	**2.3438**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5103	16.4165	3.8492	0.0478	1.0701	0.0504	1.1205	0.2933	0.0482	0.3415		5,180.2512	5,180.2512	0.3516		5,189.0399
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.5746**	**16.4607**	**4.4534**	**0.0495**	**1.2378**	**0.0517**	**1.2895**	**0.3378**	**0.0495**	**0.3873**		**5,351.0667**	**5,351.0667**	**0.3566**		**5,359.9812**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**8.1298**	**2.0445**	**10.1743**	**4.4688**	**1.8809**	**6.3497**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6651	0.0000	6.6651	3.3846	0.0000	3.3846			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.6651**	**1.1599**	**7.8250**	**3.3846**	**1.0671**	**4.4517**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0393	33.4366	7.8399	0.0973	2.1796	0.1026	2.2822	0.5975	0.0982	0.6956		10,550.9528	10,550.9528	0.7160		10,568.8534
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**1.1036**	**33.4808**	**8.4441**	**0.0990**	**2.3472**	**0.1040**	**2.4512**	**0.6419**	**0.0994**	**0.7414**		**10,721.7682**	**10,721.7682**	**0.7211**		**10,739.7947**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9993	0.0000	2.9993	1.5231	0.0000	1.5231			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.9993**	**1.1599**	**4.1592**	**1.5231**	**1.0671**	**2.5902**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0393	33.4366	7.8399	0.0973	2.1796	0.1026	2.2822	0.5975	0.0982	0.6956		10,550.9528	10,550.9528	0.7160		10,568.8534
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**1.1036**	**33.4808**	**8.4441**	**0.0990**	**2.3472**	**0.1040**	**2.4512**	**0.6419**	**0.0994**	**0.7414**		**10,721.7682**	**10,721.7682**	**0.7211**		**10,739.7947**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0760	2.4272	0.6345	6.4300e-003	0.1601	4.9600e-003	0.1650	0.0461	4.7500e-003	0.0508		687.2016	687.2016	0.0405		688.2137
Worker	0.7244	0.4979	6.8069	0.0193	1.8890	0.0153	1.9043	0.5010	0.0141	0.5150		1,924.5211	1,924.5211	0.0567		1,925.9387
Total	**0.8004**	**2.9252**	**7.4414**	**0.0258**	**2.0491**	**0.0202**	**2.0693**	**0.5471**	**0.0188**	**0.5659**		**2,611.7226**	**2,611.7226**	**0.0972**		**2,614.1524**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0760	2.4272	0.6345	6.4300e-003	0.1601	4.9600e-003	0.1650	0.0461	4.7500e-003	0.0508		687.2016	687.2016	0.0405		688.2137
Worker	0.7244	0.4979	6.8069	0.0193	1.8890	0.0153	1.9043	0.5010	0.0141	0.5150		1,924.5211	1,924.5211	0.0567		1,925.9387
Total	**0.8004**	**2.9252**	**7.4414**	**0.0258**	**2.0491**	**0.0202**	**2.0693**	**0.5471**	**0.0188**	**0.5659**		**2,611.7226**	**2,611.7226**	**0.0972**		**2,614.1524**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0713	2.3083	0.6004	6.3700e-003	0.1601	4.3400e-003	0.1644	0.0461	4.1500e-003	0.0502		681.2147	681.2147	0.0391		682.1920
Worker	0.6786	0.4498	6.2801	0.0186	1.8890	0.0148	1.9038	0.5010	0.0136	0.5146		1,856.8238	1,856.8238	0.0513		1,858.1050
Total	**0.7499**	**2.7580**	**6.8805**	**0.0250**	**2.0491**	**0.0191**	**2.0682**	**0.5471**	**0.0178**	**0.5648**		**2,538.0385**	**2,538.0385**	**0.0903**		**2,540.2971**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0713	2.3083	0.6004	6.3700e-003	0.1601	4.3400e-003	0.1644	0.0461	4.1500e-003	0.0502		681.2147	681.2147	0.0391		682.1920
Worker	0.6786	0.4498	6.2801	0.0186	1.8890	0.0148	1.9038	0.5010	0.0136	0.5146		1,856.8238	1,856.8238	0.0513		1,858.1050
Total	**0.7499**	**2.7580**	**6.8805**	**0.0250**	**2.0491**	**0.0191**	**2.0682**	**0.5471**	**0.0178**	**0.5648**		**2,538.0385**	**2,538.0385**	**0.0903**		**2,540.2971**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	73.5227					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**73.7272**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1365	0.0905	1.2635	3.7500e-003	0.3800	2.9700e-003	0.3830	0.1008	2.7400e-003	0.1035		373.5622	373.5622	0.0103		373.8200
Total	**0.1365**	**0.0905**	**1.2635**	**3.7500e-003**	**0.3800**	**2.9700e-003**	**0.3830**	**0.1008**	**2.7400e-003**	**0.1035**		**373.5622**	**373.5622**	**0.0103**		**373.8200**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	73.5227					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**73.7272**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1365	0.0905	1.2635	3.7500e-003	0.3800	2.9700e-003	0.3830	0.1008	2.7400e-003	0.1035		373.5622	373.5622	0.0103		373.8200
Total	**0.1365**	**0.0905**	**1.2635**	**3.7500e-003**	**0.3800**	**2.9700e-003**	**0.3830**	**0.1008**	**2.7400e-003**	**0.1035**		**373.5622**	**373.5622**	**0.0103**		**373.8200**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8750	9.0963	24.8293	0.1148	11.3518	0.0706	11.4224	3.0367	0.0656	3.1022		11,748.5382	11,748.5382	0.4775		11,760.4750
Unmitigated	1.8750	9.0963	24.8293	0.1148	11.3518	0.0706	11.4224	3.0367	0.0656	3.1022		11,748.5382	11,748.5382	0.4775		11,760.4750

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,562.75	1,501.65	1377.10	5,219,700	5,219,700
Total	1,562.75	1,501.65	1,377.10	5,219,700	5,219,700

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277
NaturalGas Unmitigated	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	8624.93	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277
Total		**0.0930**	**0.7949**	**0.3382**	**5.0700e-003**		**0.0643**	**0.0643**		**0.0643**	**0.0643**		**1,014.6978**	**1,014.6978**	**0.0195**	**0.0186**	**1,020.7277**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	8.62493	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277
Total		**0.0930**	**0.7949**	**0.3382**	**5.0700e-003**		**0.0643**	**0.0643**		**0.0643**	**0.0643**		**1,014.6978**	**1,014.6978**	**0.0195**	**0.0186**	**1,020.7277**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	67.2127	5.0988	138.8462	0.3059		18.0588	18.0588		18.0588	18.0588	2,201.2258	4,264.9098	6,466.1356	6.5977	0.1494	6,675.6014
Unmitigated	67.2127	5.0988	138.8462	0.3059		18.0588	18.0588		18.0588	18.0588	2,201.2258	4,264.9098	6,466.1356	6.5977	0.1494	6,675.6014

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4029					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.6530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	61.5785	4.8759	119.5097	0.3049		17.9513	17.9513		17.9513	17.9513	2,201.2258	4,230.0000	6,431.2258	6.5645	0.1494	6,639.8601
Landscaping	0.5784	0.2229	19.3366	1.0200e-003		0.1075	0.1075		0.1075	0.1075		34.9098	34.9098	0.0333		35.7413
Total	**67.2127**	**5.0988**	**138.8462**	**0.3059**		**18.0588**	**18.0588**		**18.0588**	**18.0588**	**2,201.2258**	**4,264.9098**	**6,466.1356**	**6.5977**	**0.1494**	**6,675.6014**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4029					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.6530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	61.5785	4.8759	119.5097	0.3049		17.9513	17.9513		17.9513	17.9513	2,201.2258	4,230.0000	6,431.2258	6.5645	0.1494	6,639.8601
Landscaping	0.5784	0.2229	19.3366	1.0200e-003		0.1075	0.1075		0.1075	0.1075		34.9098	34.9098	0.0333		35.7413
Total	**67.2127**	**5.0988**	**138.8462**	**0.3059**		**18.0588**	**18.0588**		**18.0588**	**18.0588**	**2,201.2258**	**4,264.9098**	**6,466.1356**	**6.5977**	**0.1494**	**6,675.6014**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Los Angeles County Housing Element Update - Construction - Residential (235 units)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	235.00	Dwelling Unit	6.18	235,000.00	672

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Section 1.0 Project Characteristics. Construction run only for residential units.

Land Use - See 1.1 Land Usage. Project-specific land uses.

Construction Phase - CalEEMod default values.

Off-road Equipment - Architectural Coating: CalEEMod default values.

Off-road Equipment - Building Construction: CalEEMod default values.

Off-road Equipment - Demolition: CalEEMod default values.

Off-road Equipment - Grading: CalEEMod default values.

Off-road Equipment - Paving: CalEEMod default values.

Off-road Equipment - Site Preparation: CalEEMod default values.

Trips and VMT - CalEEMod default values.

On-road Fugitive Dust - CalEEMod default values.

Demolition - Building SF to be Demolished: 269,201 SF.

Grading - Grading: 19,941 CY of export. CalEEMod default acres graded.

Architectural Coating - CalEEMod default values.

Vehicle Trips - Operational emissions estimated separately.

Energy Use -

Construction Off-road Equipment Mitigation - Water Exposed Area: 2x daily

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	19,941.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9740	58.6318	26.1990	0.1268	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	13,400.9425	13,400.9425	1.6748	0.0000	13,442.8135
2022	73.8795	18.4154	22.7599	0.0507	2.0491	0.8283	2.8774	0.5471	0.7791	1.3261	0.0000	4,965.1817	4,965.1817	0.7183	0.0000	4,982.7246
Maximum	**73.8795**	**58.6318**	**26.1990**	**0.1268**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**13,400.9425**	**13,400.9425**	**1.6748**	**0.0000**	**13,442.8135**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9740	58.6318	26.1990	0.1268	8.3310	2.0461	10.3771	4.5222	1.8824	6.4046	0.0000	13,400.9425	13,400.9425	1.6748	0.0000	13,442.8135
2022	73.8795	18.4154	22.7599	0.0507	2.0491	0.8283	2.8774	0.5471	0.7791	1.3261	0.0000	4,965.1817	4,965.1817	0.7183	0.0000	4,982.7246
Maximum	**73.8795**	**58.6318**	**26.1990**	**0.1268**	**8.3310**	**2.0461**	**10.3771**	**4.5222**	**1.8824**	**6.4046**	**0.0000**	**13,400.9425**	**13,400.9425**	**1.6748**	**0.0000**	**13,442.8135**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**48.91**	**0.00**	**42.85**	**51.86**	**0.00**	**41.40**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	67.2127	5.0988	138.8462	0.3059		18.0588	18.0588		18.0588	18.0588	2,201.2258	4,264.9098	6,466.1356	6.5977	0.1494	6,675.6014
Energy	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277
Mobile	1.8178	9.2423	23.5301	0.1094	11.3518	0.0708	11.4226	3.0367	0.0657	3.1024		11,208.8556	11,208.8556	0.4787		11,220.8236
Total	**69.1235**	**15.1359**	**162.7146**	**0.4204**	**11.3518**	**18.1938**	**29.5456**	**3.0367**	**18.1888**	**21.2254**	**2,201.2258**	**16,488.4632**	**18,689.6890**	**7.0959**	**0.1680**	**18,917.1526**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	67.2127	5.0988	138.8462	0.3059		18.0588	18.0588		18.0588	18.0588	2,201.2258	4,264.9098	6,466.1356	6.5977	0.1494	6,675.6014
Energy	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277
Mobile	1.8178	9.2423	23.5301	0.1094	11.3518	0.0708	11.4226	3.0367	0.0657	3.1024		11,208.8556	11,208.8556	0.4787		11,220.8236
Total	**69.1235**	**15.1359**	**162.7146**	**0.4204**	**11.3518**	**18.1938**	**29.5456**	**3.0367**	**18.1888**	**21.2254**	**2,201.2258**	**16,488.4632**	**18,689.6890**	**7.0959**	**0.1680**	**18,917.1526**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2021	10/28/2021	5	20	
2	Site Preparation	Site Preparation	10/29/2021	11/11/2021	5	10	
3	Grading	Grading	11/12/2021	12/9/2021	5	20	
4	Building Construction	Building Construction	12/10/2021	10/27/2022	5	230	
5	Paving	Paving	10/28/2022	11/24/2022	5	20	
6	Architectural Coating	Architectural Coating	11/25/2022	12/22/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 475,875; Residential Outdoor: 158,625; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Los Angeles County Housing Element Update - Construction - Residential (235 units) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	1,224.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	2,493.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	169.00	25.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	34.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.2495	0.0000	13.2495	2.0061	0.0000	2.0061			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**13.2495**	**1.5513**	**14.8008**	**2.0061**	**1.4411**	**3.4472**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5226	16.6176	4.0816	0.0469	1.0701	0.0512	1.1213	0.2933	0.0489	0.3423		5,090.5126	5,090.5126	0.3639		5,099.6112
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.5941**	**16.6665**	**4.6340**	**0.0485**	**1.2378**	**0.0525**	**1.2903**	**0.3378**	**0.0502**	**0.3880**		**5,251.3502**	**5,251.3502**	**0.3687**		**5,260.5672**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.9623	0.0000	5.9623	0.9027	0.0000	0.9027			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**5.9623**	**1.5513**	**7.5136**	**0.9027**	**1.4411**	**2.3438**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5226	16.6176	4.0816	0.0469	1.0701	0.0512	1.1213	0.2933	0.0489	0.3423		5,090.5126	5,090.5126	0.3639		5,099.6112
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.5941**	**16.6665**	**4.6340**	**0.0485**	**1.2378**	**0.0525**	**1.2903**	**0.3378**	**0.0502**	**0.3880**		**5,251.3502**	**5,251.3502**	**0.3687**		**5,260.5672**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**8.1298**	**2.0445**	**10.1743**	**4.4688**	**1.8809**	**6.3497**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6651	0.0000	6.6651	3.3846	0.0000	3.3846			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.6651**	**1.1599**	**7.8250**	**3.3846**	**1.0671**	**4.4517**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0643	33.8462	8.3133	0.0956	2.1796	0.1042	2.2837	0.5975	0.0997	0.6971		10,368.1763	10,368.1763	0.7413		10,386.7081
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**1.1359**	**33.8951**	**8.8657**	**0.0972**	**2.3472**	**0.1055**	**2.4528**	**0.6419**	**0.1009**	**0.7428**		**10,529.0140**	**10,529.0140**	**0.7460**		**10,547.6640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9993	0.0000	2.9993	1.5231	0.0000	1.5231			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.9993**	**1.1599**	**4.1592**	**1.5231**	**1.0671**	**2.5902**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0643	33.8462	8.3133	0.0956	2.1796	0.1042	2.2837	0.5975	0.0997	0.6971		10,368.1763	10,368.1763	0.7413		10,386.7081
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**1.1359**	**33.8951**	**8.8657**	**0.0972**	**2.3472**	**0.1055**	**2.4528**	**0.6419**	**0.1009**	**0.7428**		**10,529.0140**	**10,529.0140**	**0.7460**		**10,547.6640**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0798	2.4222	0.7019	6.2600e-003	0.1601	5.1200e-003	0.1652	0.0461	4.9000e-003	0.0510		668.3638	668.3638	0.0432		669.4425
Worker	0.8058	0.5512	6.2235	0.0182	1.8890	0.0153	1.9043	0.5010	0.0141	0.5150		1,812.1043	1,812.1043	0.0533		1,813.4374
Total	**0.8856**	**2.9734**	**6.9254**	**0.0245**	**2.0491**	**0.0204**	**2.0695**	**0.5471**	**0.0190**	**0.5660**		**2,480.4682**	**2,480.4682**	**0.0965**		**2,482.8799**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0798	2.4222	0.7019	6.2600e-003	0.1601	5.1200e-003	0.1652	0.0461	4.9000e-003	0.0510		668.3638	668.3638	0.0432		669.4425
Worker	0.8058	0.5512	6.2235	0.0182	1.8890	0.0153	1.9043	0.5010	0.0141	0.5150		1,812.1043	1,812.1043	0.0533		1,813.4374
Total	**0.8856**	**2.9734**	**6.9254**	**0.0245**	**2.0491**	**0.0204**	**2.0695**	**0.5471**	**0.0190**	**0.5660**		**2,480.4682**	**2,480.4682**	**0.0965**		**2,482.8799**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0749	2.3020	0.6644	6.1900e-003	0.1601	4.4800e-003	0.1645	0.0461	4.2900e-003	0.0504		662.4257	662.4257	0.0416		663.4665
Worker	0.7569	0.4978	5.7321	0.0175	1.8890	0.0148	1.9038	0.5010	0.0136	0.5146		1,748.4224	1,748.4224	0.0481		1,749.6259
Total	**0.8317**	**2.7998**	**6.3965**	**0.0237**	**2.0491**	**0.0193**	**2.0684**	**0.5471**	**0.0179**	**0.5650**		**2,410.8481**	**2,410.8481**	**0.0898**		**2,413.0924**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0749	2.3020	0.6644	6.1900e-003	0.1601	4.4800e-003	0.1645	0.0461	4.2900e-003	0.0504		662.4257	662.4257	0.0416		663.4665
Worker	0.7569	0.4978	5.7321	0.0175	1.8890	0.0148	1.9038	0.5010	0.0136	0.5146		1,748.4224	1,748.4224	0.0481		1,749.6259
Total	**0.8317**	**2.7998**	**6.3965**	**0.0237**	**2.0491**	**0.0193**	**2.0684**	**0.5471**	**0.0179**	**0.5650**		**2,410.8481**	**2,410.8481**	**0.0898**		**2,413.0924**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	73.5227					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**73.7272**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1523	0.1001	1.1532	3.5300e-003	0.3800	2.9700e-003	0.3830	0.1008	2.7400e-003	0.1035		351.7536	351.7536	9.6900e-003		351.9958
Total	**0.1523**	**0.1001**	**1.1532**	**3.5300e-003**	**0.3800**	**2.9700e-003**	**0.3830**	**0.1008**	**2.7400e-003**	**0.1035**		**351.7536**	**351.7536**	**9.6900e-003**		**351.9958**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	73.5227					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**73.7272**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1523	0.1001	1.1532	3.5300e-003	0.3800	2.9700e-003	0.3830	0.1008	2.7400e-003	0.1035		351.7536	351.7536	9.6900e-003		351.9958
Total	**0.1523**	**0.1001**	**1.1532**	**3.5300e-003**	**0.3800**	**2.9700e-003**	**0.3830**	**0.1008**	**2.7400e-003**	**0.1035**		**351.7536**	**351.7536**	**9.6900e-003**		**351.9958**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8178	9.2423	23.5301	0.1094	11.3518	0.0708	11.4226	3.0367	0.0657	3.1024		11,208.8556	11,208.8556	0.4787		11,220.8236
Unmitigated	1.8178	9.2423	23.5301	0.1094	11.3518	0.0708	11.4226	3.0367	0.0657	3.1024		11,208.8556	11,208.8556	0.4787		11,220.8236

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,562.75	1,501.65	1377.10	5,219,700	5,219,700
Total	1,562.75	1,501.65	1,377.10	5,219,700	5,219,700

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277
NaturalGas Unmitigated	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	8624.93	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277
Total		**0.0930**	**0.7949**	**0.3382**	**5.0700e-003**		**0.0643**	**0.0643**		**0.0643**	**0.0643**		**1,014.6978**	**1,014.6978**	**0.0195**	**0.0186**	**1,020.7277**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	8.62493	0.0930	0.7949	0.3382	5.0700e-003		0.0643	0.0643		0.0643	0.0643		1,014.6978	1,014.6978	0.0195	0.0186	1,020.7277
Total		**0.0930**	**0.7949**	**0.3382**	**5.0700e-003**		**0.0643**	**0.0643**		**0.0643**	**0.0643**		**1,014.6978**	**1,014.6978**	**0.0195**	**0.0186**	**1,020.7277**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	67.2127	5.0988	138.8462	0.3059		18.0588	18.0588		18.0588	18.0588	2,201.2258	4,264.9098	6,466.1356	6.5977	0.1494	6,675.6014
Unmitigated	67.2127	5.0988	138.8462	0.3059		18.0588	18.0588		18.0588	18.0588	2,201.2258	4,264.9098	6,466.1356	6.5977	0.1494	6,675.6014

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4029					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.6530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	61.5785	4.8759	119.5097	0.3049		17.9513	17.9513		17.9513	17.9513	2,201.2258	4,230.0000	6,431.2258	6.5645	0.1494	6,639.8601
Landscaping	0.5784	0.2229	19.3366	1.0200e-003		0.1075	0.1075		0.1075	0.1075		34.9098	34.9098	0.0333		35.7413
Total	**67.2127**	**5.0988**	**138.8462**	**0.3059**		**18.0588**	**18.0588**		**18.0588**	**18.0588**	**2,201.2258**	**4,264.9098**	**6,466.1356**	**6.5977**	**0.1494**	**6,675.6014**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4029					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.6530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	61.5785	4.8759	119.5097	0.3049		17.9513	17.9513		17.9513	17.9513	2,201.2258	4,230.0000	6,431.2258	6.5645	0.1494	6,639.8601
Landscaping	0.5784	0.2229	19.3366	1.0200e-003		0.1075	0.1075		0.1075	0.1075		34.9098	34.9098	0.0333		35.7413
Total	**67.2127**	**5.0988**	**138.8462**	**0.3059**		**18.0588**	**18.0588**		**18.0588**	**18.0588**	**2,201.2258**	**4,264.9098**	**6,466.1356**	**6.5977**	**0.1494**	**6,675.6014**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

LA HEU Operation 1,100 unit non-TOD

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	1,100.00	Dwelling Unit	28.95	1,100,000.00	3146

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project Characteristics - See Section 1.0 Project Characteristics. Operational run only for residential units. GHG intensity factors adjusted per the SCE 2019 Sustainability Report

Land Use -

Construction Phase - construction modeled separately

Off-road Equipment - Construction modeled separately

Trips and VMT - Construction modeled separately..

Vehicle Trips - Project-specific trip rates

Woodstoves - Assume no woodburning stoves or fireplaces.

Energy Use - Adjusted 2019 Title 24

LA HEU Operation 1,100 unit non-TOD - Los Angeles-South Coast County, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	370.00	1.00
tblConstructionPhase	PhaseEndDate	12/21/2022	7/22/2021
tblEnergyUse	T24E	252.63	225.60
tblEnergyUse	T24NG	7,012.17	6,942.05
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	46.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	98.00	0.00
tblTripsAndVMT	WorkerTripNumber	662.00	0.00
tblVehicleTrips	ST_TR	6.39	4.91
tblVehicleTrips	SU_TR	5.86	4.09
tblVehicleTrips	WD_TR	6.65	5.44
tblWoodstoves	NumberCatalytic	46.00	0.00
tblWoodstoves	NumberNoncatalytic	46.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	27.5824	14.0154	96.0316	0.0876		1.5521	1.5521		1.5521	1.5521	0.0000	16,723.4075	16,723.4075	0.4731	0.3036	16,825.7075
Energy	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651
Mobile	7.1796	34.8310	95.0751	0.4395	43.4676	0.2704	43.7380	11.6279	0.2510	11.8789		44,986.8837	44,986.8837	1.8283		45,032.5915
Total	**35.1951**	**52.5475**	**192.6816**	**0.5507**	**43.4676**	**2.1217**	**45.5894**	**11.6279**	**2.1023**	**13.7302**	**0.0000**	**66,435.0793**	**66,435.0793**	**2.3920**	**0.3902**	**66,611.1641**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	27.5824	14.0154	96.0316	0.0876		1.5521	1.5521		1.5521	1.5521	0.0000	16,723.4075	16,723.4075	0.4731	0.3036	16,825.7075
Energy	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651
Mobile	7.1796	34.8310	95.0751	0.4395	43.4676	0.2704	43.7380	11.6279	0.2510	11.8789		44,986.8837	44,986.8837	1.8283		45,032.5915
Total	**35.1951**	**52.5475**	**192.6816**	**0.5507**	**43.4676**	**2.1217**	**45.5894**	**11.6279**	**2.1023**	**13.7302**	**0.0000**	**66,435.0793**	**66,435.0793**	**2.3920**	**0.3902**	**66,611.1641**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	7/22/2021	7/22/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	9	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.1796	34.8310	95.0751	0.4395	43.4676	0.2704	43.7380	11.6279	0.2510	11.8789		44,986.8837	44,986.8837	1.8283		45,032.5915
Unmitigated	7.1796	34.8310	95.0751	0.4395	43.4676	0.2704	43.7380	11.6279	0.2510	11.8789		44,986.8837	44,986.8837	1.8283		45,032.5915

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	5,984.00	5,401.00	4499.00	19,438,713	19,438,713
Total	5,984.00	5,401.00	4,499.00	19,438,713	19,438,713

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651
NaturalGas Unmitigated	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	40160.7	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651
Total		**0.4331**	**3.7011**	**1.5749**	**0.0236**		**0.2992**	**0.2992**		**0.2992**	**0.2992**		**4,724.7881**	**4,724.7881**	**0.0906**	**0.0866**	**4,752.8651**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	40.1607	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651
Total		**0.4331**	**3.7011**	**1.5749**	**0.0236**		**0.2992**	**0.2992**		**0.2992**	**0.2992**		**4,724.7881**	**4,724.7881**	**0.0906**	**0.0866**	**4,752.8651**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	27.5824	14.0154	96.0316	0.0876		1.5521	1.5521		1.5521	1.5521	0.0000	16,723.4075	16,723.4075	0.4731	0.3036	16,825.7075
Unmitigated	27.5824	14.0154	96.0316	0.0876		1.5521	1.5521		1.5521	1.5521	0.0000	16,723.4075	16,723.4075	0.4731	0.3036	16,825.7075

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	21.7800					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.5180	12.9720	5.5200	0.0828		1.0488	1.0488		1.0488	1.0488	0.0000	16,560.0000	16,560.0000	0.3174	0.3036	16,658.4078
Landscaping	2.7073	1.0434	90.5116	4.7900e-003		0.5033	0.5033		0.5033	0.5033		163.4075	163.4075	0.1557		167.2997
Total	**27.5824**	**14.0154**	**96.0316**	**0.0876**		**1.5521**	**1.5521**		**1.5521**	**1.5521**	**0.0000**	**16,723.4075**	**16,723.4075**	**0.4731**	**0.3036**	**16,825.7075**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	21.7800					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.5180	12.9720	5.5200	0.0828		1.0488	1.0488		1.0488	1.0488	0.0000	16,560.0000	16,560.0000	0.3174	0.3036	16,658.4078
Landscaping	2.7073	1.0434	90.5116	4.7900e-003		0.5033	0.5033		0.5033	0.5033		163.4075	163.4075	0.1557		167.2997
Total	**27.5824**	**14.0154**	**96.0316**	**0.0876**		**1.5521**	**1.5521**		**1.5521**	**1.5521**	**0.0000**	**16,723.4075**	**16,723.4075**	**0.4731**	**0.3036**	**16,825.7075**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

LA HEU Operation 1,100 unit non-TOD

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	1,100.00	Dwelling Unit	28.95	1,100,000.00	3146

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project Characteristics - See Section 1.0 Project Characteristics. Operational run only for residential units. GHG intensity factors adjusted per the SCE 2019 Sustainability Report

Land Use -

Construction Phase - construction modeled separately

Off-road Equipment - Construction modeled separately

Trips and VMT - Construction modeled separately..

Vehicle Trips - Project-specific trip rates

Woodstoves - Assume no woodburning stoves or fireplaces.

Energy Use - Adjusted 2019 Title 24

LA HEU Operation 1,100 unit non-TOD - Los Angeles-South Coast County, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	370.00	1.00
tblConstructionPhase	PhaseEndDate	12/21/2022	7/22/2021
tblEnergyUse	T24E	252.63	225.60
tblEnergyUse	T24NG	7,012.17	6,942.05
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	46.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	98.00	0.00
tblTripsAndVMT	WorkerTripNumber	662.00	0.00
tblVehicleTrips	ST_TR	6.39	4.91
tblVehicleTrips	SU_TR	5.86	4.09
tblVehicleTrips	WD_TR	6.65	5.44
tblWoodstoves	NumberCatalytic	46.00	0.00
tblWoodstoves	NumberNoncatalytic	46.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	27.5824	14.0154	96.0316	0.0876		1.5521	1.5521		1.5521	1.5521	0.0000	16,723.4075	16,723.4075	0.4731	0.3036	16,825.7075
Energy	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651
Mobile	6.9605	35.3900	90.1004	0.4190	43.4676	0.2712	43.7388	11.6279	0.2517	11.8796		42,920.3596	42,920.3596	1.8331		42,966.1867
Total	**34.9761**	**53.1065**	**187.7069**	**0.5302**	**43.4676**	**2.1225**	**45.5901**	**11.6279**	**2.1031**	**13.7309**	**0.0000**	**64,368.5552**	**64,368.5552**	**2.3967**	**0.3902**	**64,544.7593**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	27.5824	14.0154	96.0316	0.0876		1.5521	1.5521		1.5521	1.5521	0.0000	16,723.4075	16,723.4075	0.4731	0.3036	16,825.7075
Energy	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651
Mobile	6.9605	35.3900	90.1004	0.4190	43.4676	0.2712	43.7388	11.6279	0.2517	11.8796		42,920.3596	42,920.3596	1.8331		42,966.1867
Total	**34.9761**	**53.1065**	**187.7069**	**0.5302**	**43.4676**	**2.1225**	**45.5901**	**11.6279**	**2.1031**	**13.7309**	**0.0000**	**64,368.5552**	**64,368.5552**	**2.3967**	**0.3902**	**64,544.7593**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	7/22/2021	7/22/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	9	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.9605	35.3900	90.1004	0.4190	43.4676	0.2712	43.7388	11.6279	0.2517	11.8796		42,920.3596	42,920.3596	1.8331		42,966.1867
Unmitigated	6.9605	35.3900	90.1004	0.4190	43.4676	0.2712	43.7388	11.6279	0.2517	11.8796		42,920.3596	42,920.3596	1.8331		42,966.1867

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	5,984.00	5,401.00	4499.00	19,438,713	19,438,713
Total	5,984.00	5,401.00	4,499.00	19,438,713	19,438,713

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651
NaturalGas Unmitigated	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	40160.7	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651
Total		**0.4331**	**3.7011**	**1.5749**	**0.0236**		**0.2992**	**0.2992**		**0.2992**	**0.2992**		**4,724.7881**	**4,724.7881**	**0.0906**	**0.0866**	**4,752.8651**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	40.1607	0.4331	3.7011	1.5749	0.0236		0.2992	0.2992		0.2992	0.2992		4,724.7881	4,724.7881	0.0906	0.0866	4,752.8651
Total		**0.4331**	**3.7011**	**1.5749**	**0.0236**		**0.2992**	**0.2992**		**0.2992**	**0.2992**		**4,724.7881**	**4,724.7881**	**0.0906**	**0.0866**	**4,752.8651**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	27.5824	14.0154	96.0316	0.0876		1.5521	1.5521		1.5521	1.5521	0.0000	16,723.4075	16,723.4075	0.4731	0.3036	16,825.7075
Unmitigated	27.5824	14.0154	96.0316	0.0876		1.5521	1.5521		1.5521	1.5521	0.0000	16,723.4075	16,723.4075	0.4731	0.3036	16,825.7075

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	21.7800					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.5180	12.9720	5.5200	0.0828		1.0488	1.0488		1.0488	1.0488	0.0000	16,560.0000	16,560.0000	0.3174	0.3036	16,658.4078
Landscaping	2.7073	1.0434	90.5116	4.7900e-003		0.5033	0.5033		0.5033	0.5033		163.4075	163.4075	0.1557		167.2997
Total	**27.5824**	**14.0154**	**96.0316**	**0.0876**		**1.5521**	**1.5521**		**1.5521**	**1.5521**	**0.0000**	**16,723.4075**	**16,723.4075**	**0.4731**	**0.3036**	**16,825.7075**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	21.7800					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.5180	12.9720	5.5200	0.0828		1.0488	1.0488		1.0488	1.0488	0.0000	16,560.0000	16,560.0000	0.3174	0.3036	16,658.4078
Landscaping	2.7073	1.0434	90.5116	4.7900e-003		0.5033	0.5033		0.5033	0.5033		163.4075	163.4075	0.1557		167.2997
Total	**27.5824**	**14.0154**	**96.0316**	**0.0876**		**1.5521**	**1.5521**		**1.5521**	**1.5521**	**0.0000**	**16,723.4075**	**16,723.4075**	**0.4731**	**0.3036**	**16,825.7075**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

LA HEU Operation - 1,800 unit TOD

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	1,800.00	Dwelling Unit	47.37	1,800,000.00	5148

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

LA HEU Operation - 1,800 unit TOD - Los Angeles-South Coast County, Winter

Project Characteristics - Project Characteristics - See Section 1.0 Project Characteristics. Operational run only for residential units. GHG intensity factors adjusted per the SCE 2019 Sustainability Report.

Land Use -

Construction Phase - Construction modeled separately.

Off-road Equipment - Construction modeled separately.

Trips and VMT - Construction modeled separately.

Vehicle Trips - Project-specific trip rates.

Vehicle Emission Factors - CalEEMod default

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No wood-burning stoves or fireplaces. CalEEMod default assumptions for the number of wood burning fireplaces was assumed to be all gas fireplaces.

Energy Use - Adjusted for 2019 Title 24

LA HEU Operation - 1,800 unit TOD - Los Angeles-South Coast County, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	440.00	1.00
tblConstructionPhase	PhaseEndDate	5/10/2023	9/2/2021
tblEnergyUse	T24E	252.63	225.60
tblEnergyUse	T24NG	7,012.17	6,942.05
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	50.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	107.00	0.00
tblTripsAndVMT	WorkerTripNumber	720.00	0.00
tblVehicleTrips	ST_TR	6.39	2.59
tblVehicleTrips	SU_TR	5.86	2.59
tblVehicleTrips	WD_TR	6.65	2.59
tblWoodstoves	NumberCatalytic	50.00	0.00
tblWoodstoves	NumberNoncatalytic	50.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	43.4344	15.8074	154.1098	0.0978		1.9635	1.9635		1.9635	1.9635	0.0000	18,267.3941	18,267.3941	0.5998	0.3300	18,380.7281
Energy	0.7087	6.0563	2.5772	0.0387		0.4897	0.4897		0.4897	0.4897		7,731.4714	7,731.4714	0.1482	0.1417	7,777.4157
Mobile	5.4228	27.5716	70.1952	0.3264	33.8647	0.2113	34.0759	9.0590	0.1961	9.2551		33,438.2882	33,438.2882	1.4281		33,473.9911
Total	**49.5659**	**49.4353**	**226.8822**	**0.4629**	**33.8647**	**2.6645**	**36.5291**	**9.0590**	**2.6493**	**11.7083**	**0.0000**	**59,437.1537**	**59,437.1537**	**2.1761**	**0.4717**	**59,632.1348**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	43.4344	15.8074	154.1098	0.0978		1.9635	1.9635		1.9635	1.9635	0.0000	18,267.3941	18,267.3941	0.5998	0.3300	18,380.7281
Energy	0.7087	6.0563	2.5772	0.0387		0.4897	0.4897		0.4897	0.4897		7,731.4714	7,731.4714	0.1482	0.1417	7,777.4157
Mobile	5.4228	27.5716	70.1952	0.3264	33.8647	0.2113	34.0759	9.0590	0.1961	9.2551		33,438.2882	33,438.2882	1.4281		33,473.9911
Total	**49.5659**	**49.4353**	**226.8822**	**0.4629**	**33.8647**	**2.6645**	**36.5291**	**9.0590**	**2.6493**	**11.7083**	**0.0000**	**59,437.1537**	**59,437.1537**	**2.1761**	**0.4717**	**59,632.1348**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	9/2/2021	9/2/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	9	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.4228	27.5716	70.1952	0.3264	33.8647	0.2113	34.0759	9.0590	0.1961	9.2551		33,438.2882	33,438.2882	1.4281		33,473.9911
Unmitigated	5.4228	27.5716	70.1952	0.3264	33.8647	0.2113	34.0759	9.0590	0.1961	9.2551		33,438.2882	33,438.2882	1.4281		33,473.9911

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	4,662.00	4,662.00	4662.00	15,930,762	15,930,762
Total	4,662.00	4,662.00	4,662.00	15,930,762	15,930,762

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7087	6.0563	2.5772	0.0387		0.4897	0.4897		0.4897	0.4897		7,731.4714	7,731.4714	0.1482	0.1417	7,777.4157
NaturalGas Unmitigated	0.7087	6.0563	2.5772	0.0387		0.4897	0.4897		0.4897	0.4897		7,731.4714	7,731.4714	0.1482	0.1417	7,777.4157

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	65717.5	0.7087	6.0563	2.5772	0.0387		0.4897	0.4897		0.4897	0.4897		7,731.4714	7,731.4714	0.1482	0.1417	7,777.4157
Total		**0.7087**	**6.0563**	**2.5772**	**0.0387**		**0.4897**	**0.4897**		**0.4897**	**0.4897**		**7,731.4714**	**7,731.4714**	**0.1482**	**0.1417**	**7,777.4157**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	65.7175	0.7087	6.0563	2.5772	0.0387		0.4897	0.4897		0.4897	0.4897		7,731.4714	7,731.4714	0.1482	0.1417	7,777.4157
Total		**0.7087**	**6.0563**	**2.5772**	**0.0387**		**0.4897**	**0.4897**		**0.4897**	**0.4897**		**7,731.4714**	**7,731.4714**	**0.1482**	**0.1417**	**7,777.4157**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	43.4344	15.8074	154.1098	0.0978		1.9635	1.9635		1.9635	1.9635	0.0000	18,267.3941	18,267.3941	0.5998	0.3300	18,380.7281
Unmitigated	43.4344	15.8074	154.1098	0.0978		1.9635	1.9635		1.9635	1.9635	0.0000	18,267.3941	18,267.3941	0.5998	0.3300	18,380.7281

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.7143					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	35.6400					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	4.4301	1.7074	148.1098	7.8400e-003		0.8235	0.8235		0.8235	0.8235		267.3941	267.3941	0.2548		273.7631
Total	**43.4344**	**15.8074**	**154.1098**	**0.0978**		**1.9635**	**1.9635**		**1.9635**	**1.9635**	**0.0000**	**18,267.3941**	**18,267.3941**	**0.5998**	**0.3300**	**18,380.7281**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.7143					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	35.6400					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	4.4301	1.7074	148.1098	7.8400e-003		0.8235	0.8235		0.8235	0.8235		267.3941	267.3941	0.2548		273.7631
Total	**43.4344**	**15.8074**	**154.1098**	**0.0978**		**1.9635**	**1.9635**		**1.9635**	**1.9635**	**0.0000**	**18,267.3941**	**18,267.3941**	**0.5998**	**0.3300**	**18,380.7281**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

LA HEU Operation - 1,950 unit TOD

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	1,950.00	Dwelling Unit	51.32	1,950,000.00	5577

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

LA HEU Operation - 1,950 unit TOD - Los Angeles-South Coast County, Winter

Project Characteristics - Project Characteristics - See Section 1.0 Project Characteristics. Operational run only for residential units. GHG intensity factors adjusted per the SCE 2019 Sustainability Report.

Land Use -

Construction Phase - Construction modeled separately.

Off-road Equipment - Construction modeled separately.

Trips and VMT - Construction modeled separately.

Vehicle Trips - Project-specific trip rates.

Vehicle Emission Factors - CalEEMod default

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No wood-burning stoves or fireplaces. CalEEMod default assumptions for the number of wood burning fireplaces was assumed to be all gas fireplaces.

Energy Use - Adjusted for 2019 Title 24

LA HEU Operation - 1,950 unit TOD - Los Angeles-South Coast County, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	440.00	1.00
tblConstructionPhase	PhaseEndDate	5/10/2023	9/2/2021
tblEnergyUse	T24E	252.63	225.60
tblEnergyUse	T24NG	7,012.17	6,942.05
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	50.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	107.00	0.00
tblTripsAndVMT	WorkerTripNumber	720.00	0.00
tblVehicleTrips	ST_TR	6.39	2.59
tblVehicleTrips	SU_TR	5.86	2.59
tblVehicleTrips	WD_TR	6.65	2.59
tblWoodstoves	NumberCatalytic	50.00	0.00
tblWoodstoves	NumberNoncatalytic	50.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	46.7736	15.9497	166.4523	0.0985		2.0322	2.0322		2.0322	2.0322	0.0000	18,289.6770	18,289.6770	0.6210	0.3300	18,403.5417
Energy	0.7678	6.5610	2.7919	0.0419		0.5305	0.5305		0.5305	0.5305		8,375.7607	8,375.7607	0.1605	0.1536	8,425.5336
Mobile	5.8747	29.8692	76.0448	0.3536	36.6867	0.2289	36.9156	9.8139	0.2125	10.0264		36,224.8122	36,224.8122	1.5471		36,263.4903
Total	**53.4160**	**52.3799**	**245.2890**	**0.4940**	**36.6867**	**2.7915**	**39.4782**	**9.8139**	**2.7751**	**12.5890**	**0.0000**	**62,890.2499**	**62,890.2499**	**2.3287**	**0.4836**	**63,092.5657**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	46.7736	15.9497	166.4523	0.0985		2.0322	2.0322		2.0322	2.0322	0.0000	18,289.6770	18,289.6770	0.6210	0.3300	18,403.5417
Energy	0.7678	6.5610	2.7919	0.0419		0.5305	0.5305		0.5305	0.5305		8,375.7607	8,375.7607	0.1605	0.1536	8,425.5336
Mobile	5.8747	29.8692	76.0448	0.3536	36.6867	0.2289	36.9156	9.8139	0.2125	10.0264		36,224.8122	36,224.8122	1.5471		36,263.4903
Total	**53.4160**	**52.3799**	**245.2890**	**0.4940**	**36.6867**	**2.7915**	**39.4782**	**9.8139**	**2.7751**	**12.5890**	**0.0000**	**62,890.2499**	**62,890.2499**	**2.3287**	**0.4836**	**63,092.5657**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	9/2/2021	9/2/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	9	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.8747	29.8692	76.0448	0.3536	36.6867	0.2289	36.9156	9.8139	0.2125	10.0264		36,224.8122	36,224.8122	1.5471		36,263.4903
Unmitigated	5.8747	29.8692	76.0448	0.3536	36.6867	0.2289	36.9156	9.8139	0.2125	10.0264		36,224.8122	36,224.8122	1.5471		36,263.4903

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	5,050.50	5,050.50	5050.50	17,258,326	17,258,326
Total	5,050.50	5,050.50	5,050.50	17,258,326	17,258,326

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7678	6.5610	2.7919	0.0419		0.5305	0.5305		0.5305	0.5305		8,375.7607	8,375.7607	0.1605	0.1536	8,425.5336
NaturalGas Unmitigated	0.7678	6.5610	2.7919	0.0419		0.5305	0.5305		0.5305	0.5305		8,375.7607	8,375.7607	0.1605	0.1536	8,425.5336

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	71194	0.7678	6.5610	2.7919	0.0419		0.5305	0.5305		0.5305	0.5305		8,375.7607	8,375.7607	0.1605	0.1536	8,425.5336
Total		**0.7678**	**6.5610**	**2.7919**	**0.0419**		**0.5305**	**0.5305**		**0.5305**	**0.5305**		**8,375.7607**	**8,375.7607**	**0.1605**	**0.1536**	**8,425.5336**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	71.194	0.7678	6.5610	2.7919	0.0419		0.5305	0.5305		0.5305	0.5305		8,375.7607	8,375.7607	0.1605	0.1536	8,425.5336
Total		**0.7678**	**6.5610**	**2.7919**	**0.0419**		**0.5305**	**0.5305**		**0.5305**	**0.5305**		**8,375.7607**	**8,375.7607**	**0.1605**	**0.1536**	**8,425.5336**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	46.7736	15.9497	166.4523	0.0985		2.0322	2.0322		2.0322	2.0322	0.0000	18,289.6770	18,289.6770	0.6210	0.3300	18,403.5417
Unmitigated	46.7736	15.9497	166.4523	0.0985		2.0322	2.0322		2.0322	2.0322	0.0000	18,289.6770	18,289.6770	0.6210	0.3300	18,403.5417

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.7143					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	38.6100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	4.7993	1.8497	160.4523	8.5000e-003		0.8922	0.8922		0.8922	0.8922		289.6770	289.6770	0.2760		296.5767
Total	**46.7736**	**15.9497**	**166.4523**	**0.0985**		**2.0322**	**2.0322**		**2.0322**	**2.0322**	**0.0000**	**18,289.6770**	**18,289.6770**	**0.6210**	**0.3300**	**18,403.5417**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.7143					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	38.6100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	4.7993	1.8497	160.4523	8.5000e-003		0.8922	0.8922		0.8922	0.8922		289.6770	289.6770	0.2760		296.5767
Total	**46.7736**	**15.9497**	**166.4523**	**0.0985**		**2.0322**	**2.0322**		**2.0322**	**2.0322**	**0.0000**	**18,289.6770**	**18,289.6770**	**0.6210**	**0.3300**	**18,403.5417**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Los Angeles County Housing Element Update - Operation - Non-Residential

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Regional Shopping Center	16,029.35	1000sqft	367.98	16,029,347.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Los Angeles County Housing Element Update - Operation - Non-Residential - Los Angeles-South Coast County, Annual

Project Characteristics - See Section 1.0 Project Characteristics. Operational run only for non-residential land use. GHG intensity factors adjusted per the SCE 2019 Sustainability Report.

Land Use - See 1.1 Land Usage. Project-specific land uses.

Construction Phase - Construction modeled separately.

Off-road Equipment - Construction modeled separately.

Trips and VMT - Construction modeled separately.

Vehicle Trips - Project-specific trip rates.

Vehicle Emission Factors - CalEEMod default values.

Vehicle Emission Factors - CalEEMod default values.

Vehicle Emission Factors - CalEEMod default values.

Road Dust - CalEEMod default values.

Woodstoves - CalEEMod default values.

Consumer Products - CalEEMod default values.

Area Coating - CalEEMod default values.

Landscape Equipment - CalEEMod default values.

Energy Use - CalEEMod default values for Non-Title 24 and Lighting. Adjustments to Title 24 values to reflect 2019 Title 24 compliance.

Water And Wastewater - CalEEMod default values.

Solid Waste - CalEEMod default values.

Los Angeles County Housing Element Update - Operation - Non-Residential - Los Angeles-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6,200.00	1.00
tblEnergyUse	T24E	4.01	3.58
tblEnergyUse	T24NG	1.15	1.14
tblLandUse	LandUseSquareFeet	16,029,400.00	16,029,347.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	2,627.00	0.00
tblTripsAndVMT	WorkerTripNumber	5,129.00	0.00
tblVehicleTrips	ST_TR	49.97	46.12
tblVehicleTrips	SU_TR	25.24	21.10
tblVehicleTrips	WD_TR	42.70	37.75

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Los Angeles County Housing Element Update - Operation - Non-Residential - Los Angeles-South Coast County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	65.3703	1.8300e-003	0.2036	2.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	0.3978	0.3978	1.0300e-003	0.0000	0.4235
Energy	0.1409	1.2808	1.0759	7.6800e-003		0.0973	0.0973		0.0973	0.0973	0.0000	51,896.6088	51,896.6088	2.7826	0.5957	52,143.7027
Mobile	99.1065	528.9493	1,123.2909	4.9547	481.0002	3.2202	484.2205	128.8793	2.9886	131.8680	0.0000	460,928.7067	460,928.7067	20.2678	0.0000	461,435.4018
Waste						0.0000	0.0000		0.0000	0.0000	3,416.5145	0.0000	3,416.5145	201.9102	0.0000	8,464.2701
Water						0.0000	0.0000		0.0000	0.0000	376.6876	5,675.7710	6,052.4585	38.9992	0.9776	7,318.7683
Total	**164.6177**	**530.2319**	**1,124.5703**	**4.9624**	**481.0002**	**3.3183**	**484.3185**	**128.8793**	**3.0867**	**131.9660**	**3,793.2021**	**518,501.4843**	**522,294.6864**	**263.9608**	**1.5734**	**529,362.5664**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	65.3703	1.8300e-003	0.2036	2.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	0.3978	0.3978	1.0300e-003	0.0000	0.4235
Energy	0.1409	1.2808	1.0759	7.6800e-003		0.0973	0.0973		0.0973	0.0973	0.0000	51,896.6088	51,896.6088	2.7826	0.5957	52,143.7027
Mobile	99.1065	528.9493	1,123.2909	4.9547	481.0002	3.2202	484.2205	128.8793	2.9886	131.8680	0.0000	460,928.7067	460,928.7067	20.2678	0.0000	461,435.4018
Waste						0.0000	0.0000		0.0000	0.0000	3,416.5145	0.0000	3,416.5145	201.9102	0.0000	8,464.2701
Water						0.0000	0.0000		0.0000	0.0000	376.6876	5,675.7710	6,052.4585	38.9992	0.9776	7,318.7683
Total	**164.6177**	**530.2319**	**1,124.5703**	**4.9624**	**481.0002**	**3.3183**	**484.3185**	**128.8793**	**3.0867**	**131.9660**	**3,793.2021**	**518,501.4843**	**522,294.6864**	**263.9608**	**1.5734**	**529,362.5664**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	10/1/2021	10/1/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	99.1065	528.9493	1,123.2909	4.9547	481.0002	3.2202	484.2205	128.8793	2.9886	131.8680	0.0000	460,928.7067	460,928.7067	20.2678	0.0000	461,435.4018
Unmitigated	99.1065	528.9493	1,123.2909	4.9547	481.0002	3.2202	484.2205	128.8793	2.9886	131.8680	0.0000	460,928.7067	460,928.7067	20.2678	0.0000	461,435.4018

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Regional Shopping Center	605,107.96	739,273.62	338219.29	1,267,745,646	1,267,745,646
Total	605,107.96	739,273.62	338,219.29	1,267,745,646	1,267,745,646

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Regional Shopping Center	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	50,502.3280	50,502.3280	2.7559	0.5702	50,741.1364
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	50,502.3280	50,502.3280	2.7559	0.5702	50,741.1364
NaturalGas Mitigated	0.1409	1.2808	1.0759	7.6800e-003		0.0973	0.0973		0.0973	0.0973	0.0000	1,394.2808	1,394.2808	0.0267	0.0256	1,402.5663
NaturalGas Unmitigated	0.1409	1.2808	1.0759	7.6800e-003		0.0973	0.0973		0.0973	0.0973	0.0000	1,394.2808	1,394.2808	0.0267	0.0256	1,402.5663

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Regional Shopping Center	2.61278e+007	0.1409	1.2808	1.0759	7.6800e-003		0.0973	0.0973		0.0973	0.0973	0.0000	1,394.2808	1,394.2808	0.0267	0.0256	1,402.5663
Total		**0.1409**	**1.2808**	**1.0759**	**7.6800e-003**		**0.0973**	**0.0973**		**0.0973**	**0.0973**	**0.0000**	**1,394.2808**	**1,394.2808**	**0.0267**	**0.0256**	**1,402.5663**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Regional Shopping Center	2.61278e+007	0.1409	1.2808	1.0759	7.6800e-003		0.0973	0.0973		0.0973	0.0973	0.0000	1,394.2808	1,394.2808	0.0267	0.0256	1,402.5663
Total		**0.1409**	**1.2808**	**1.0759**	**7.6800e-003**		**0.0973**	**0.0973**		**0.0973**	**0.0973**	**0.0000**	**1,394.2808**	**1,394.2808**	**0.0267**	**0.0256**	**1,402.5663**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Regional Shopping Center	2.09504e+008	50,502.3280	2.7559	0.5702	50,741.1364
Total		**50,502.3280**	**2.7559**	**0.5702**	**50,741.1364**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Regional Shopping Center	2.09504e+008	50,502.3280	2.7559	0.5702	50,741.1364
Total		**50,502.3280**	**2.7559**	**0.5702**	**50,741.1364**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	65.3703	1.8300e-003	0.2036	2.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	0.3978	0.3978	1.0300e-003	0.0000	0.4235
Unmitigated	65.3703	1.8300e-003	0.2036	2.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	0.3978	0.3978	1.0300e-003	0.0000	0.4235

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.4296					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	57.9221					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0186	1.8300e-003	0.2036	2.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	0.3978	0.3978	1.0300e-003	0.0000	0.4235
Total	**65.3703**	**1.8300e-003**	**0.2036**	**2.0000e-005**		**7.2000e-004**	**7.2000e-004**		**7.2000e-004**	**7.2000e-004**	**0.0000**	**0.3978**	**0.3978**	**1.0300e-003**	**0.0000**	**0.4235**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.4296					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	57.9221					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0186	1.8300e-003	0.2036	2.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	0.3978	0.3978	1.0300e-003	0.0000	0.4235
Total	**65.3703**	**1.8300e-003**	**0.2036**	**2.0000e-005**		**7.2000e-004**	**7.2000e-004**		**7.2000e-004**	**7.2000e-004**	**0.0000**	**0.3978**	**0.3978**	**1.0300e-003**	**0.0000**	**0.4235**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6,052.4585	38.9992	0.9776	7,318.7683
Unmitigated	6,052.4585	38.9992	0.9776	7,318.7683

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Regional Shopping Center	1187.34 / 727.723	6,052.4585	38.9992	0.9776	7,318.7683
Total		**6,052.4585**	**38.9992**	**0.9776**	**7,318.7683**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Regional Shopping Center	1187.34 / 727.723	6,052.4585	38.9992	0.9776	7,318.7683
Total		**6,052.4585**	**38.9992**	**0.9776**	**7,318.7683**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3,416.5145	201.9102	0.0000	8,464.2701
Unmitigated	3,416.5145	201.9102	0.0000	8,464.2701

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Regional Shopping Center	16830.9	3,416.5145	201.9102	0.0000	8,464.2701
Total		**3,416.5145**	**201.9102**	**0.0000**	**8,464.2701**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Regional Shopping Center	16830.9	3,416.5145	201.9102	0.0000	8,464.2701
Total		**3,416.5145**	**201.9102**	**0.0000**	**8,464.2701**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Los Angeles County Housing Element Update - Operation - Residential

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	43,503.00	Dwelling Unit	2,718.94	43,503,000.00	124419
Apartments Mid Rise	19,940.00	Dwelling Unit	524.74	19,940,000.00	57028

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Los Angeles County Housing Element Update - Operation - Residential - Los Angeles-South Coast County, Annual

Project Characteristics - See Section 1.0 Project Characteristics. Operational run only for residential units. GHG intensity factors adjusted per the SCE 2019 Sustainability Report.

Land Use - Apartment Low Rise = Non-TOD. Apartment Mid Rise = TOD.

Construction Phase - Construction modeled separately.

Off-road Equipment - Construction modeled separately.

Trips and VMT - Construction modeled separately.

Vehicle Trips - Project-specific trip rates.

Vehicle Emission Factors - CalEEMod default values.

Vehicle Emission Factors - CalEEMod default values.

Vehicle Emission Factors - CalEEMod default values.

Road Dust - CalEEMod default values.

Woodstoves - No wood-burning stoves or fireplaces. CalEEMod default assumptions for the number of wood burning fireplaces was assumed to be all gas fireplaces.

Consumer Products - CalEEMod default values.

Area Coating - CalEEMod default values.

Landscape Equipment - CalEEMod default values.

Energy Use - Apartment mid-rise assumptions used for low-rise and mid-rise land uses. CalEEMod default values for Non-Title 24 and Lighting. Adjustments to Title 24 values to reflect 2019 Title 24 compliance.

Water And Wastewater - CalEEMod default values. Default values for apartment low-rise and apartment mid-rise water use rates are the same.

Solid Waste - CalEEMod default values. Default values for apartment low-rise and apartment mid-rise solid waste rates are the same.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	155,000.00	1.00
tblEnergyUse	LightingElect	810.36	741.44
tblEnergyUse	NT24E	3,172.76	3,054.10
tblEnergyUse	T24E	257.27	225.60
tblEnergyUse	T24E	252.63	225.60
tblEnergyUse	T24NG	9,955.77	6,942.05
tblEnergyUse	T24NG	7,012.17	6,942.05

tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	36,977.55	39,152.70
tblFireplaces	NumberGas	16,949.00	17,946.00
tblFireplaces	NumberWood	2,175.15	0.00
tblFireplaces	NumberWood	997.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblTripsAndVMT	VendorTripNumber	6,782.00	0.00
tblTripsAndVMT	WorkerTripNumber	45,679.00	0.00
tblVehicleTrips	ST_TR	7.16	4.91
tblVehicleTrips	ST_TR	6.39	2.59
tblVehicleTrips	SU_TR	6.07	4.09
tblVehicleTrips	SU_TR	5.86	2.59
tblVehicleTrips	WD_TR	6.59	5.44
tblVehicleTrips	WD_TR	6.65	2.59
tblWoodstoves	NumberCatalytic	2,175.15	0.00
tblWoodstoves	NumberCatalytic	997.00	0.00
tblWoodstoves	NumberNoncatalytic	2,175.15	0.00
tblWoodstoves	NumberNoncatalytic	997.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	270.0036	19.3621	657.5751	0.1101		4.5856	4.5856		4.5856	4.5856	0.0000	14,780.2504	14,780.2504	1.2810	0.2514	14,887.1869
Energy	4.5588	38.9568	16.5773	0.2487		3.1497	3.1497		3.1497	3.1497	0.0000	106,612.9950	106,612.9950	4.2205	1.5214	107,171.8955
Mobile	57.2482	302.5894	768.7836	3.5735	358.6383	2.2749	360.9132	96.0937	2.1120	98.2056	0.0000	332,073.9447	332,073.9447	13.9111	0.0000	332,421.7219
Waste						0.0000	0.0000		0.0000	0.0000	5,924.0436	0.0000	5,924.0436	350.1010	0.0000	14,676.5673
Water						0.0000	0.0000		0.0000	0.0000	1,311.3901	19,953.5558	21,264.9458	135.7812	3.4057	25,674.3604
Total	**331.8106**	**360.9082**	**1,442.9361**	**3.9322**	**358.6383**	**10.0102**	**368.6485**	**96.0937**	**9.8472**	**105.9409**	**7,235.4337**	**473,420.7459**	**480,656.1795**	**505.2948**	**5.1785**	**494,831.7320**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	270.0036	19.3621	657.5751	0.1101		4.5856	4.5856		4.5856	4.5856	0.0000	14,780.2504	14,780.2504	1.2810	0.2514	14,887.1869
Energy	4.5588	38.9568	16.5773	0.2487		3.1497	3.1497		3.1497	3.1497	0.0000	106,612.9950	106,612.9950	4.2205	1.5214	107,171.8955
Mobile	57.2482	302.5894	768.7836	3.5735	358.6383	2.2749	360.9132	96.0937	2.1120	98.2056	0.0000	332,073.9447	332,073.9447	13.9111	0.0000	332,421.7219
Waste						0.0000	0.0000		0.0000	0.0000	5,924.0436	0.0000	5,924.0436	350.1010	0.0000	14,676.5673
Water						0.0000	0.0000		0.0000	0.0000	1,311.3901	19,953.5558	21,264.9458	135.7812	3.4057	25,674.3604
Total	**331.8106**	**360.9082**	**1,442.9361**	**3.9322**	**358.6383**	**10.0102**	**368.6485**	**96.0937**	**9.8472**	**105.9409**	**7,235.4337**	**473,420.7459**	**480,656.1795**	**505.2948**	**5.1785**	**494,831.7320**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	10/1/2021	10/1/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	57.2482	302.5894	768.7836	3.5735	358.6383	2.2749	360.9132	96.0937	2.1120	98.2056	0.0000	332,073.9447	332,073.9447	13.9111	0.0000	332,421.7219
Unmitigated	57.2482	302.5894	768.7836	3.5735	358.6383	2.2749	360.9132	96.0937	2.1120	98.2056	0.0000	332,073.9447	332,073.9447	13.9111	0.0000	332,421.7219

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	236,656.32	213,599.73	177927.27	768,765,747	768,765,747
Apartments Mid Rise	51,644.60	51,644.60	51644.60	176,477,444	176,477,444
Total	288,300.92	265,244.33	229,571.87	945,243,191	945,243,191

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812
Apartments Mid Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	61,496.8520	61,496.8520	3.3558	0.6943	61,787.6498
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	61,496.8520	61,496.8520	3.3558	0.6943	61,787.6498
NaturalGas Mitigated	4.5588	38.9568	16.5773	0.2487		3.1497	3.1497		3.1497	3.1497	0.0000	45,116.1430	45,116.1430	0.8647	0.8271	45,384.2457
NaturalGas Unmitigated	4.5588	38.9568	16.5773	0.2487		3.1497	3.1497		3.1497	3.1497	0.0000	45,116.1430	45,116.1430	0.8647	0.8271	45,384.2457

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	5.79723e+008	3.1260	26.7127	11.3671	0.1705		2.1598	2.1598		2.1598	2.1598	0.0000	30,936.2352	30,936.2352	0.5929	0.5672	31,120.0738
Apartments Mid Rise	2.65721e+008	1.4328	12.2440	5.2102	0.0782		0.9899	0.9899		0.9899	0.9899	0.0000	14,179.9078	14,179.9078	0.2718	0.2600	14,264.1719
Total		**4.5588**	**38.9568**	**16.5773**	**0.2487**		**3.1497**	**3.1497**		**3.1497**	**3.1497**	**0.0000**	**45,116.1430**	**45,116.1430**	**0.8647**	**0.8271**	**45,384.2457**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	5.79723e+008	3.1260	26.7127	11.3671	0.1705		2.1598	2.1598		2.1598	2.1598	0.0000	30,936.2352	30,936.2352	0.5929	0.5672	31,120.0738
Apartments Mid Rise	2.65721e+008	1.4328	12.2440	5.2102	0.0782		0.9899	0.9899		0.9899	0.9899	0.0000	14,179.9078	14,179.9078	0.2718	0.2600	14,264.1719
Total		**4.5588**	**38.9568**	**16.5773**	**0.2487**		**3.1497**	**3.1497**		**3.1497**	**3.1497**	**0.0000**	**45,116.1430**	**45,116.1430**	**0.8647**	**0.8271**	**45,384.2457**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.74932e+008	42,168.5222	2.3011	0.4761	42,367.9228
Apartments Mid Rise	8.01815e+007	19,328.3298	1.0547	0.2182	19,419.7270
Total		**61,496.8520**	**3.3558**	**0.6943**	**61,787.6498**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.74932e+008	42,168.5222	2.3011	0.4761	42,367.9228
Apartments Mid Rise	8.01815e+007	19,328.3298	1.0547	0.2182	19,419.7270
Total		**61,496.8520**	**3.3558**	**0.6943**	**61,787.6498**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	270.0036	19.3621	657.5751	0.1101		4.5856	4.5856		4.5856	4.5856	0.0000	14,780.2504	14,780.2504	1.2810	0.2514	14,887.1869
Unmitigated	270.0036	19.3621	657.5751	0.1101		4.5856	4.5856		4.5856	4.5856	0.0000	14,780.2504	14,780.2504	1.2810	0.2514	14,887.1869

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	19.8489					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	229.2513					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.3855	11.8396	5.0381	0.0756		0.9572	0.9572		0.9572	0.9572	0.0000	13,711.5184	13,711.5184	0.2628	0.2514	13,792.9991
Landscaping	19.5179	7.5225	652.5370	0.0346		3.6283	3.6283		3.6283	3.6283	0.0000	1,068.7321	1,068.7321	1.0182	0.0000	1,094.1879
Total	**270.0036**	**19.3621**	**657.5751**	**0.1101**		**4.5856**	**4.5856**		**4.5856**	**4.5856**	**0.0000**	**14,780.2504**	**14,780.2504**	**1.2810**	**0.2514**	**14,887.1869**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	19.8489					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	229.2513					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.3855	11.8396	5.0381	0.0756		0.9572	0.9572		0.9572	0.9572	0.0000	13,711.5184	13,711.5184	0.2628	0.2514	13,792.9991
Landscaping	19.5179	7.5225	652.5370	0.0346		3.6283	3.6283		3.6283	3.6283	0.0000	1,068.7321	1,068.7321	1.0182	0.0000	1,094.1879
Total	**270.0036**	**19.3621**	**657.5751**	**0.1101**		**4.5856**	**4.5856**		**4.5856**	**4.5856**	**0.0000**	**14,780.2504**	**14,780.2504**	**1.2810**	**0.2514**	**14,887.1869**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	21,264.9458	135.7812	3.4057	25,674.3604
Unmitigated	21,264.9458	135.7812	3.4057	25,674.3604

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	2834.4 / 1786.9	14,581.4186	93.1054	2.3353	17,604.9635
Apartments Mid Rise	1299.17 / 819.043	6,683.5273	42.6757	1.0704	8,069.3969
Total		**21,264.9458**	**135.7812**	**3.4057**	**25,674.3604**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	2834.4 / 1786.9	14,581.4186	93.1054	2.3353	17,604.9635
Apartments Mid Rise	1299.17 / 819.043	6,683.5273	42.6757	1.0704	8,069.3969
Total		**21,264.9458**	**135.7812**	**3.4057**	**25,674.3604**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5,924.0436	350.1010	0.0000	14,676.5673
Unmitigated	5,924.0436	350.1010	0.0000	14,676.5673

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	20011.4	4,062.1293	240.0650	0.0000	10,063.7534
Apartments Mid Rise	9172.4	1,861.9143	110.0360	0.0000	4,612.8139
Total		**5,924.0436**	**350.1009**	**0.0000**	**14,676.5673**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	20011.4	4,062.1293	240.0650	0.0000	10,063.7534
Apartments Mid Rise	9172.4	1,861.9143	110.0360	0.0000	4,612.8139
Total		**5,924.0436**	**350.1009**	**0.0000**	**14,676.5673**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	6.00	Dwelling Unit	0.16	6,000.00	17

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Section 1.0 Proejct Characteristics. Construction run only for residential units.

Land Use - See 1.1 Land Usage. Project-specific land uses.

Construction Phase - CalEEMod default values.

Demolition - Building SF to be Demolished: 6,970 SF.

Grading - Grading: 516 CY of export. CalEEMod default acres graded.

Construction Off-road Equipment Mitigation - Water Exposed Area: 2x per day.

Off-road Equipment - Demolition: CalEEMod default values.

Off-road Equipment - Site Preparation: CalEEMod default values.

Off-road Equipment - Grading: CalEEMod default values.

Off-road Equipment - Building Construction: CalEEMod default values.

Off-road Equipment - Paving: CalEEMod default values.

Off-road Equipment - Architectural Coating: CalEEMod default values.

Trips and VMT - CalEEMod default values.

On-road Fugitive Dust - CalEEMod default values.

Architectural Coating - CalEEMod default values.

Vehicle Trips - Operational emissions estimated separately.

Woodstoves -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	516.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HS_TTP	19.20	20.00
tblVehicleTrips	HW_TTP	40.20	40.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0269	0.2756	0.2501	4.4000e-004	7.3200e-003	0.0145	0.0218	1.7300e-003	0.0134	0.0152	0.0000	39.2116	39.2116	0.0102	0.0000	39.4672
2022	0.0377	0.1861	0.1957	3.2000e-004	1.7000e-003	9.7000e-003	0.0114	4.5000e-004	8.9500e-003	9.4000e-003	0.0000	28.4465	28.4465	8.4100e-003	0.0000	28.6568
Maximum	**0.0377**	**0.2756**	**0.2501**	**4.4000e-004**	**7.3200e-003**	**0.0145**	**0.0218**	**1.7300e-003**	**0.0134**	**0.0152**	**0.0000**	**39.2116**	**39.2116**	**0.0102**	**0.0000**	**39.4672**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0269	0.2756	0.2501	4.4000e-004	4.8600e-003	0.0145	0.0194	1.2000e-003	0.0134	0.0146	0.0000	39.2115	39.2115	0.0102	0.0000	39.4672
2022	0.0377	0.1861	0.1957	3.2000e-004	1.7000e-003	9.7000e-003	0.0114	4.5000e-004	8.9500e-003	9.4000e-003	0.0000	28.4465	28.4465	8.4100e-003	0.0000	28.6567
Maximum	**0.0377**	**0.2756**	**0.2501**	**4.4000e-004**	**4.8600e-003**	**0.0145**	**0.0194**	**1.2000e-003**	**0.0134**	**0.0146**	**0.0000**	**39.2115**	**39.2115**	**0.0102**	**0.0000**	**39.4672**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**27.27**	**0.00**	**7.40**	**24.31**	**0.00**	**2.16**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-1-2021	12-31-2021	0.3046	0.3046
2	1-1-2022	3-31-2022	0.2271	0.2271
		Highest	0.3046	0.3046

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0451	2.2700e-003	0.0999	1.0000e-004		6.0700e-003	6.0700e-003		6.0700e-003	6.0700e-003	0.6373	1.3258	1.9631	2.0000e-003	4.0000e-005	2.0259
Energy	4.3000e-004	3.7000e-003	1.5800e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	10.1443	10.1443	4.0000e-004	1.4000e-004	10.1974
Mobile	8.0600e-003	0.0426	0.1081	5.0000e-004	0.0504	3.2000e-004	0.0507	0.0135	3.0000e-004	0.0138	0.0000	46.6757	46.6757	1.9600e-003	0.0000	46.7246
Waste						0.0000	0.0000		0.0000	0.0000	0.5603	0.0000	0.5603	0.0331	0.0000	1.3880
Water						0.0000	0.0000		0.0000	0.0000	0.1240	1.8871	2.0111	0.0128	3.2000e-004	2.4281
Total	**0.0536**	**0.0486**	**0.2095**	**6.2000e-004**	**0.0504**	**6.6900e-003**	**0.0571**	**0.0135**	**6.6700e-003**	**0.0202**	**1.3216**	**60.0328**	**61.3544**	**0.0503**	**5.0000e-004**	**62.7640**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0451	2.2700e-003	0.0999	1.0000e-004		6.0700e-003	6.0700e-003		6.0700e-003	6.0700e-003	0.6373	1.3258	1.9631	2.0000e-003	4.0000e-005	2.0259
Energy	4.3000e-004	3.7000e-003	1.5800e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	10.1443	10.1443	4.0000e-004	1.4000e-004	10.1974
Mobile	8.0600e-003	0.0426	0.1081	5.0000e-004	0.0504	3.2000e-004	0.0507	0.0135	3.0000e-004	0.0138	0.0000	46.6757	46.6757	1.9600e-003	0.0000	46.7246
Waste						0.0000	0.0000		0.0000	0.0000	0.5603	0.0000	0.5603	0.0331	0.0000	1.3880
Water						0.0000	0.0000		0.0000	0.0000	0.1240	1.8871	2.0111	0.0128	3.2000e-004	2.4281
Total	**0.0536**	**0.0486**	**0.2095**	**6.2000e-004**	**0.0504**	**6.6900e-003**	**0.0571**	**0.0135**	**6.6700e-003**	**0.0202**	**1.3216**	**60.0328**	**61.3544**	**0.0503**	**5.0000e-004**	**62.7640**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2021	10/14/2021	5	10	
2	Site Preparation	Site Preparation	10/15/2021	10/15/2021	5	1	
3	Grading	Grading	10/16/2021	10/19/2021	5	2	
4	Building Construction	Building Construction	10/20/2021	3/8/2022	5	100	
5	Paving	Paving	3/9/2022	3/15/2022	5	5	
6	Architectural Coating	Architectural Coating	3/16/2022	3/22/2022	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 12,150; Residential Outdoor: 4,050; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	32.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	65.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	4.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.4300e-003	0.0000	3.4300e-003	5.2000e-004	0.0000	5.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9800e-003	0.0363	0.0379	6.0000e-005		2.0400e-003	2.0400e-003		1.9400e-003	1.9400e-003	0.0000	5.2047	5.2047	9.7000e-004	0.0000	5.2289
Total	**3.9800e-003**	**0.0363**	**0.0379**	**6.0000e-005**	**3.4300e-003**	**2.0400e-003**	**5.4700e-003**	**5.2000e-004**	**1.9400e-003**	**2.4600e-003**	**0.0000**	**5.2047**	**5.2047**	**9.7000e-004**	**0.0000**	**5.2289**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.4300e-003	1.0300e-003	1.0000e-005	2.7000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.2197	1.2197	8.0000e-005	0.0000	1.2218
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.7000e-004	1.8900e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4945	0.4945	1.0000e-005	0.0000	0.4948
Total	**3.5000e-004**	**4.6000e-003**	**2.9200e-003**	**2.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.4000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**1.7141**	**1.7141**	**9.0000e-005**	**0.0000**	**1.7166**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5400e-003	0.0000	1.5400e-003	2.3000e-004	0.0000	2.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9800e-003	0.0363	0.0379	6.0000e-005		2.0400e-003	2.0400e-003		1.9400e-003	1.9400e-003	0.0000	5.2047	5.2047	9.7000e-004	0.0000	5.2289
Total	**3.9800e-003**	**0.0363**	**0.0379**	**6.0000e-005**	**1.5400e-003**	**2.0400e-003**	**3.5800e-003**	**2.3000e-004**	**1.9400e-003**	**2.1700e-003**	**0.0000**	**5.2047**	**5.2047**	**9.7000e-004**	**0.0000**	**5.2289**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.4300e-003	1.0300e-003	1.0000e-005	2.7000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.2197	1.2197	8.0000e-005	0.0000	1.2218
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.7000e-004	1.8900e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4945	0.4945	1.0000e-005	0.0000	0.4948
Total	**3.5000e-004**	**4.6000e-003**	**2.9200e-003**	**2.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.4000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**1.7141**	**1.7141**	**9.0000e-005**	**0.0000**	**1.7166**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**2.7000e-004**	**1.5000e-004**	**4.2000e-004**	**3.0000e-005**	**1.4000e-004**	**1.7000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0247	0.0247	0.0000	0.0000	0.0247
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0247**	**0.0247**	**0.0000**	**0.0000**	**0.0247**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**1.2000e-004**	**1.5000e-004**	**2.7000e-004**	**1.0000e-005**	**1.4000e-004**	**1.5000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0247	0.0247	0.0000	0.0000	0.0247
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0247**	**0.0247**	**0.0000**	**0.0000**	**0.0247**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.8000e-004	0.0000	7.8000e-004	4.2000e-004	0.0000	4.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**7.8000e-004**	**4.1000e-004**	**1.1900e-003**	**4.2000e-004**	**3.9000e-004**	**8.1000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7000e-004	9.0000e-003	2.1000e-003	3.0000e-005	5.6000e-004	3.0000e-005	5.9000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	2.4775	2.4775	1.7000e-004	0.0000	2.4818
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0989	0.0989	0.0000	0.0000	0.0990
Total	**3.1000e-004**	**9.0300e-003**	**2.4800e-003**	**3.0000e-005**	**6.7000e-004**	**3.0000e-005**	**7.0000e-004**	**1.8000e-004**	**3.0000e-005**	**2.1000e-004**	**0.0000**	**2.5764**	**2.5764**	**1.7000e-004**	**0.0000**	**2.5807**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.5000e-004	0.0000	3.5000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**3.5000e-004**	**4.1000e-004**	**7.6000e-004**	**1.9000e-004**	**3.9000e-004**	**5.8000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7000e-004	9.0000e-003	2.1000e-003	3.0000e-005	5.6000e-004	3.0000e-005	5.9000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	2.4775	2.4775	1.7000e-004	0.0000	2.4818
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0989	0.0989	0.0000	0.0000	0.0990
Total	**3.1000e-004**	**9.0300e-003**	**2.4800e-003**	**3.0000e-005**	**6.7000e-004**	**3.0000e-005**	**7.0000e-004**	**1.8000e-004**	**3.0000e-005**	**2.1000e-004**	**0.0000**	**2.5764**	**2.5764**	**1.7000e-004**	**0.0000**	**2.5807**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0205	0.2116	0.1925	3.0000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	26.5217	26.5217	8.5800e-003	0.0000	26.7362
Total	**0.0205**	**0.2116**	**0.1925**	**3.0000e-004**		**0.0119**	**0.0119**		**0.0109**	**0.0109**	**0.0000**	**26.5217**	**26.5217**	**8.5800e-003**	**0.0000**	**26.7362**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.6200e-003	7.1000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.6532	0.6532	4.0000e-005	0.0000	0.6542
Worker	4.6000e-004	3.6000e-004	4.0100e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1700e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0483	1.0483	3.0000e-005	0.0000	1.0490
Total	**5.4000e-004**	**2.9800e-003**	**4.7200e-003**	**2.0000e-005**	**1.3300e-003**	**2.0000e-005**	**1.3400e-003**	**3.6000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.7015**	**1.7015**	**7.0000e-005**	**0.0000**	**1.7032**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0205	0.2116	0.1925	3.0000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	26.5217	26.5217	8.5800e-003	0.0000	26.7362
Total	**0.0205**	**0.2116**	**0.1925**	**3.0000e-004**		**0.0119**	**0.0119**		**0.0109**	**0.0109**	**0.0000**	**26.5217**	**26.5217**	**8.5800e-003**	**0.0000**	**26.7362**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.6200e-003	7.1000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.6532	0.6532	4.0000e-005	0.0000	0.6542
Worker	4.6000e-004	3.6000e-004	4.0100e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1700e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0483	1.0483	3.0000e-005	0.0000	1.0490
Total	**5.4000e-004**	**2.9800e-003**	**4.7200e-003**	**2.0000e-005**	**1.3300e-003**	**2.0000e-005**	**1.3400e-003**	**3.6000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.7015**	**1.7015**	**7.0000e-005**	**0.0000**	**1.7032**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1651	0.1681	2.7000e-004		8.7400e-003	8.7400e-003		8.0400e-003	8.0400e-003	0.0000	23.5347	23.5347	7.6100e-003	0.0000	23.7250
Total	**0.0161**	**0.1651**	**0.1681**	**2.7000e-004**		**8.7400e-003**	**8.7400e-003**		**8.0400e-003**	**8.0400e-003**	**0.0000**	**23.5347**	**23.5347**	**7.6100e-003**	**0.0000**	**23.7250**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.2000e-003	5.9000e-004	1.0000e-005	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.5742	0.5742	3.0000e-005	0.0000	0.5750
Worker	3.8000e-004	2.8000e-004	3.2800e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8969	0.8969	2.0000e-005	0.0000	0.8975
Total	**4.5000e-004**	**2.4800e-003**	**3.8700e-003**	**2.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.4711**	**1.4711**	**5.0000e-005**	**0.0000**	**1.4726**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1651	0.1681	2.7000e-004		8.7400e-003	8.7400e-003		8.0400e-003	8.0400e-003	0.0000	23.5347	23.5347	7.6100e-003	0.0000	23.7250
Total	**0.0161**	**0.1651**	**0.1681**	**2.7000e-004**		**8.7400e-003**	**8.7400e-003**		**8.0400e-003**	**8.0400e-003**	**0.0000**	**23.5347**	**23.5347**	**7.6100e-003**	**0.0000**	**23.7250**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.2000e-003	5.9000e-004	1.0000e-005	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.5742	0.5742	3.0000e-005	0.0000	0.5750
Worker	3.8000e-004	2.8000e-004	3.2800e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8969	0.8969	2.0000e-005	0.0000	0.8975
Total	**4.5000e-004**	**2.4800e-003**	**3.8700e-003**	**2.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.4711**	**1.4711**	**5.0000e-005**	**0.0000**	**1.4726**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6200e-003	0.0148	0.0176	3.0000e-005		7.4000e-004	7.4000e-004		6.9000e-004	6.9000e-004	0.0000	2.3492	2.3492	6.8000e-004	0.0000	2.3663
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6200e-003**	**0.0148**	**0.0176**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**2.3492**	**2.3492**	**6.8000e-004**	**0.0000**	**2.3663**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.4000e-004	1.5700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4294	0.4294	1.0000e-005	0.0000	0.4297
Total	**1.8000e-004**	**1.4000e-004**	**1.5700e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4294**	**0.4294**	**1.0000e-005**	**0.0000**	**0.4297**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6200e-003	0.0148	0.0176	3.0000e-005		7.4000e-004	7.4000e-004		6.9000e-004	6.9000e-004	0.0000	2.3492	2.3492	6.8000e-004	0.0000	2.3663
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6200e-003**	**0.0148**	**0.0176**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**2.3492**	**2.3492**	**6.8000e-004**	**0.0000**	**2.3663**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.4000e-004	1.5700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4294	0.4294	1.0000e-005	0.0000	0.4297
Total	**1.8000e-004**	**1.4000e-004**	**1.5700e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4294**	**0.4294**	**1.0000e-005**	**0.0000**	**0.4297**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0188					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0193**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0239	0.0239	0.0000	0.0000	0.0239
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0239**	**0.0239**	**0.0000**	**0.0000**	**0.0239**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0188					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0193**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0239	0.0239	0.0000	0.0000	0.0239
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0239**	**0.0239**	**0.0000**	**0.0000**	**0.0239**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	8.0600e-003	0.0426	0.1081	5.0000e-004	0.0504	3.2000e-004	0.0507	0.0135	3.0000e-004	0.0138	0.0000	46.6757	46.6757	1.9600e-003	0.0000	46.7246
Unmitigated	8.0600e-003	0.0426	0.1081	5.0000e-004	0.0504	3.2000e-004	0.0507	0.0135	3.0000e-004	0.0138	0.0000	46.6757	46.6757	1.9600e-003	0.0000	46.7246

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	39.90	38.34	35.16	132,836	132,836
Total	39.90	38.34	35.16	132,836	132,836

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	20.00	40.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5.8550	5.8550	3.2000e-004	7.0000e-005	5.8827
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5.8550	5.8550	3.2000e-004	7.0000e-005	5.8827
NaturalGas Mitigated	4.3000e-004	3.7000e-003	1.5800e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	4.2892	4.2892	8.0000e-005	8.0000e-005	4.3147
NaturalGas Unmitigated	4.3000e-004	3.7000e-003	1.5800e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	4.2892	4.2892	8.0000e-005	8.0000e-005	4.3147

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	80377	4.3000e-004	3.7000e-003	1.5800e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	4.2892	4.2892	8.0000e-005	8.0000e-005	4.3147
Total		**4.3000e-004**	**3.7000e-003**	**1.5800e-003**	**2.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**4.2892**	**4.2892**	**8.0000e-005**	**8.0000e-005**	**4.3147**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	80377	4.3000e-004	3.7000e-003	1.5800e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	4.2892	4.2892	8.0000e-005	8.0000e-005	4.3147
Total		**4.3000e-004**	**3.7000e-003**	**1.5800e-003**	**2.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**4.2892**	**4.2892**	**8.0000e-005**	**8.0000e-005**	**4.3147**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	24289	5.8550	3.2000e-004	7.0000e-005	5.8827
Total		**5.8550**	**3.2000e-004**	**7.0000e-005**	**5.8827**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	24289	5.8550	3.2000e-004	7.0000e-005	5.8827
Total		**5.8550**	**3.2000e-004**	**7.0000e-005**	**5.8827**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0451	2.2700e-003	0.0999	1.0000e-004		6.0700e-003	6.0700e-003		6.0700e-003	6.0700e-003	0.6373	1.3258	1.9631	2.0000e-003	4.0000e-005	2.0259
Unmitigated	0.0451	2.2700e-003	0.0999	1.0000e-004		6.0700e-003	6.0700e-003		6.0700e-003	6.0700e-003	0.6373	1.3258	1.9631	2.0000e-003	4.0000e-005	2.0259

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0217					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0197	1.5600e-003	0.0381	1.0000e-004		5.7300e-003	5.7300e-003		5.7300e-003	5.7300e-003	0.6373	1.2247	1.8620	1.9000e-003	4.0000e-005	1.9224
Landscaping	1.8500e-003	7.1000e-004	0.0617	0.0000		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	0.1011	0.1011	1.0000e-004	0.0000	0.1035
Total	**0.0451**	**2.2700e-003**	**0.0999**	**1.0000e-004**		**6.0700e-003**	**6.0700e-003**		**6.0700e-003**	**6.0700e-003**	**0.6373**	**1.3258**	**1.9631**	**2.0000e-003**	**4.0000e-005**	**2.0259**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0217					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0197	1.5600e-003	0.0381	1.0000e-004		5.7300e-003	5.7300e-003		5.7300e-003	5.7300e-003	0.6373	1.2247	1.8620	1.9000e-003	4.0000e-005	1.9224
Landscaping	1.8500e-003	7.1000e-004	0.0617	0.0000		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	0.1011	0.1011	1.0000e-004	0.0000	0.1035
Total	**0.0451**	**2.2700e-003**	**0.0999**	**1.0000e-004**		**6.0700e-003**	**6.0700e-003**		**6.0700e-003**	**6.0700e-003**	**0.6373**	**1.3258**	**1.9631**	**2.0000e-003**	**4.0000e-005**	**2.0259**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.0111	0.0128	3.2000e-004	2.4281
Unmitigated	2.0111	0.0128	3.2000e-004	2.4281

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.390924 / 0.246452	2.0111	0.0128	3.2000e-004	2.4281
Total		**2.0111**	**0.0128**	**3.2000e-004**	**2.4281**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.390924 / 0.246452	2.0111	0.0128	3.2000e-004	2.4281
Total		**2.0111**	**0.0128**	**3.2000e-004**	**2.4281**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.5603	0.0331	0.0000	1.3880
Unmitigated	0.5603	0.0331	0.0000	1.3880

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	2.76	0.5603	0.0331	0.0000	1.3880
Total		**0.5603**	**0.0331**	**0.0000**	**1.3880**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	2.76	0.5603	0.0331	0.0000	1.3880
Total		**0.5603**	**0.0331**	**0.0000**	**1.3880**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Los Angeles County Housing Element Update - Construction - Residential (10 units)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	10.00	Dwelling Unit	0.26	10,000.00	29

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Section 1.0 Proejct Characteristics. Construction run only for residential units.

Land Use - See 1.1 Land Usage. Project-specific land uses.

Construction Phase - CalEEMod default values.

Demolition - Building SF to be Demolished: 11,326 SF.

Grading - Grading: 839 CY of export. CalEEMod default acres graded.

Construction Off-road Equipment Mitigation - Water Exposed Area: 2x per day.

Off-road Equipment - Demolition: CalEEMod default values.

Off-road Equipment - Site Preparation: CalEEMod default values.

Off-road Equipment - Grading: CalEEMod default values.

Off-road Equipment - Building Construction: CalEEMod default values.

Off-road Equipment - Paving: CalEEMod default values.

Off-road Equipment - Architectural Coating: CalEEMod default values.

Trips and VMT - CalEEMod default values.

On-road Fugitive Dust - CalEEMod default values.

Architectural Coating - CalEEMod default values.

Vehicle Trips - Operational emissions estimated separately.

Energy Use -

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	839.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HS_TTP	19.20	20.00
tblVehicleTrips	HW_TTP	40.20	40.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0275	0.2842	0.2551	4.7000e-004	0.0109	0.0146	0.0254	2.4300e-003	0.0135	0.0159	0.0000	42.2847	42.2847	0.0104	0.0000	42.5448
2022	0.0505	0.1863	0.1982	3.3000e-004	2.4700e-003	9.7100e-003	0.0122	6.6000e-004	8.9600e-003	9.6200e-003	0.0000	29.1192	29.1192	8.4300e-003	0.0000	29.3299
Maximum	**0.0505**	**0.2842**	**0.2551**	**4.7000e-004**	**0.0109**	**0.0146**	**0.0254**	**2.4300e-003**	**0.0135**	**0.0159**	**0.0000**	**42.2847**	**42.2847**	**0.0104**	**0.0000**	**42.5448**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0275	0.2842	0.2551	4.7000e-004	7.2200e-003	0.0146	0.0218	1.7200e-003	0.0135	0.0152	0.0000	42.2846	42.2846	0.0104	0.0000	42.5448
2022	0.0505	0.1863	0.1982	3.3000e-004	2.4700e-003	9.7100e-003	0.0122	6.6000e-004	8.9600e-003	9.6200e-003	0.0000	29.1192	29.1192	8.4300e-003	0.0000	29.3299
Maximum	**0.0505**	**0.2842**	**0.2551**	**4.7000e-004**	**7.2200e-003**	**0.0146**	**0.0218**	**1.7200e-003**	**0.0135**	**0.0152**	**0.0000**	**42.2846**	**42.2846**	**0.0104**	**0.0000**	**42.5448**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**27.36**	**0.00**	**9.71**	**22.98**	**0.00**	**2.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Los Angeles County Housing Element Update - Construction - Residential (10 units) - Los Angeles-South Coast County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-1-2021	12-31-2021	0.3160	0.3160
2	1-1-2022	3-31-2022	0.2401	0.2401
		Highest	0.3160	0.3160

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0751	3.7800e-003	0.1664	1.7000e-004		0.0101	0.0101		0.0101	0.0101	1.0622	2.2096	3.2718	3.3300e-003	7.0000e-005	3.3765
Energy	7.2000e-004	6.1700e-003	2.6300e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	16.9071	16.9071	6.7000e-004	2.4000e-004	16.9957
Mobile	0.0134	0.0710	0.1802	8.4000e-004	0.0840	5.3000e-004	0.0845	0.0225	4.9000e-004	0.0230	0.0000	77.7928	77.7928	3.2600e-003	0.0000	77.8743
Waste						0.0000	0.0000		0.0000	0.0000	0.9338	0.0000	0.9338	0.0552	0.0000	2.3134
Water						0.0000	0.0000		0.0000	0.0000	0.2067	3.1451	3.3518	0.0214	5.4000e-004	4.0468
Total	**0.0892**	**0.0809**	**0.3492**	**1.0500e-003**	**0.0840**	**0.0112**	**0.0952**	**0.0225**	**0.0111**	**0.0336**	**2.2027**	**100.0547**	**102.2573**	**0.0838**	**8.5000e-004**	**104.6067**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0751	3.7800e-003	0.1664	1.7000e-004		0.0101	0.0101		0.0101	0.0101	1.0622	2.2096	3.2718	3.3300e-003	7.0000e-005	3.3765
Energy	7.2000e-004	6.1700e-003	2.6300e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	16.9071	16.9071	6.7000e-004	2.4000e-004	16.9957
Mobile	0.0134	0.0710	0.1802	8.4000e-004	0.0840	5.3000e-004	0.0845	0.0225	4.9000e-004	0.0230	0.0000	77.7928	77.7928	3.2600e-003	0.0000	77.8743
Waste						0.0000	0.0000		0.0000	0.0000	0.9338	0.0000	0.9338	0.0552	0.0000	2.3134
Water						0.0000	0.0000		0.0000	0.0000	0.2067	3.1451	3.3518	0.0214	5.4000e-004	4.0468
Total	**0.0892**	**0.0809**	**0.3492**	**1.0500e-003**	**0.0840**	**0.0112**	**0.0952**	**0.0225**	**0.0111**	**0.0336**	**2.2027**	**100.0547**	**102.2573**	**0.0838**	**8.5000e-004**	**104.6067**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Los Angeles County Housing Element Update - Construction - Residential (10 units) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2021	10/14/2021	5	10	
2	Site Preparation	Site Preparation	10/15/2021	10/15/2021	5	1	
3	Grading	Grading	10/16/2021	10/19/2021	5	2	
4	Building Construction	Building Construction	10/20/2021	3/8/2022	5	100	
5	Paving	Paving	3/9/2022	3/15/2022	5	5	
6	Architectural Coating	Architectural Coating	3/16/2022	3/22/2022	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 20,250; Residential Outdoor: 6,750; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Los Angeles County Housing Element Update - Construction - Residential (10 units) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	52.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	105.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	7.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.5700e-003	0.0000	5.5700e-003	8.4000e-004	0.0000	8.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9800e-003	0.0363	0.0379	6.0000e-005		2.0400e-003	2.0400e-003		1.9400e-003	1.9400e-003	0.0000	5.2047	5.2047	9.7000e-004	0.0000	5.2289
Total	**3.9800e-003**	**0.0363**	**0.0379**	**6.0000e-005**	**5.5700e-003**	**2.0400e-003**	**7.6100e-003**	**8.4000e-004**	**1.9400e-003**	**2.7800e-003**	**0.0000**	**5.2047**	**5.2047**	**9.7000e-004**	**0.0000**	**5.2289**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2000e-004	7.2000e-003	1.6800e-003	2.0000e-005	4.5000e-004	2.0000e-005	4.7000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	1.9820	1.9820	1.4000e-004	0.0000	1.9854
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.7000e-004	1.8900e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4945	0.4945	1.0000e-005	0.0000	0.4948
Total	**4.4000e-004**	**7.3700e-003**	**3.5700e-003**	**3.0000e-005**	**1.0000e-003**	**2.0000e-005**	**1.0200e-003**	**2.7000e-004**	**2.0000e-005**	**2.9000e-004**	**0.0000**	**2.4764**	**2.4764**	**1.5000e-004**	**0.0000**	**2.4802**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.5100e-003	0.0000	2.5100e-003	3.8000e-004	0.0000	3.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9800e-003	0.0363	0.0379	6.0000e-005		2.0400e-003	2.0400e-003		1.9400e-003	1.9400e-003	0.0000	5.2047	5.2047	9.7000e-004	0.0000	5.2289
Total	**3.9800e-003**	**0.0363**	**0.0379**	**6.0000e-005**	**2.5100e-003**	**2.0400e-003**	**4.5500e-003**	**3.8000e-004**	**1.9400e-003**	**2.3200e-003**	**0.0000**	**5.2047**	**5.2047**	**9.7000e-004**	**0.0000**	**5.2289**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2000e-004	7.2000e-003	1.6800e-003	2.0000e-005	4.5000e-004	2.0000e-005	4.7000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	1.9820	1.9820	1.4000e-004	0.0000	1.9854
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.7000e-004	1.8900e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4945	0.4945	1.0000e-005	0.0000	0.4948
Total	**4.4000e-004**	**7.3700e-003**	**3.5700e-003**	**3.0000e-005**	**1.0000e-003**	**2.0000e-005**	**1.0200e-003**	**2.7000e-004**	**2.0000e-005**	**2.9000e-004**	**0.0000**	**2.4764**	**2.4764**	**1.5000e-004**	**0.0000**	**2.4802**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**2.7000e-004**	**1.5000e-004**	**4.2000e-004**	**3.0000e-005**	**1.4000e-004**	**1.7000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0247	0.0247	0.0000	0.0000	0.0247
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0247**	**0.0247**	**0.0000**	**0.0000**	**0.0247**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**1.2000e-004**	**1.5000e-004**	**2.7000e-004**	**1.0000e-005**	**1.4000e-004**	**1.5000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0247	0.0247	0.0000	0.0000	0.0247
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0247**	**0.0247**	**0.0000**	**0.0000**	**0.0247**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.0000e-004	0.0000	8.0000e-004	4.2000e-004	0.0000	4.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**8.0000e-004**	**4.1000e-004**	**1.2100e-003**	**4.2000e-004**	**3.9000e-004**	**8.1000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4000e-004	0.0145	3.3900e-003	4.0000e-005	9.0000e-004	4.0000e-005	9.5000e-004	2.5000e-004	4.0000e-005	2.9000e-004	0.0000	4.0021	4.0021	2.8000e-004	0.0000	4.0090
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0989	0.0989	0.0000	0.0000	0.0990
Total	**4.8000e-004**	**0.0146**	**3.7700e-003**	**4.0000e-005**	**1.0100e-003**	**4.0000e-005**	**1.0600e-003**	**2.8000e-004**	**4.0000e-005**	**3.2000e-004**	**0.0000**	**4.1010**	**4.1010**	**2.8000e-004**	**0.0000**	**4.1080**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.6000e-004	0.0000	3.6000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**3.6000e-004**	**4.1000e-004**	**7.7000e-004**	**1.9000e-004**	**3.9000e-004**	**5.8000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4000e-004	0.0145	3.3900e-003	4.0000e-005	9.0000e-004	4.0000e-005	9.5000e-004	2.5000e-004	4.0000e-005	2.9000e-004	0.0000	4.0021	4.0021	2.8000e-004	0.0000	4.0090
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0989	0.0989	0.0000	0.0000	0.0990
Total	**4.8000e-004**	**0.0146**	**3.7700e-003**	**4.0000e-005**	**1.0100e-003**	**4.0000e-005**	**1.0600e-003**	**2.8000e-004**	**4.0000e-005**	**3.2000e-004**	**0.0000**	**4.1010**	**4.1010**	**2.8000e-004**	**0.0000**	**4.1080**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0205	0.2116	0.1925	3.0000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	26.5217	26.5217	8.5800e-003	0.0000	26.7362
Total	**0.0205**	**0.2116**	**0.1925**	**3.0000e-004**		**0.0119**	**0.0119**		**0.0109**	**0.0109**	**0.0000**	**26.5217**	**26.5217**	**8.5800e-003**	**0.0000**	**26.7362**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.6200e-003	7.1000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.6532	0.6532	4.0000e-005	0.0000	0.6542
Worker	8.0000e-004	6.2000e-004	7.0100e-003	2.0000e-005	2.0300e-003	2.0000e-005	2.0500e-003	5.4000e-004	2.0000e-005	5.6000e-004	0.0000	1.8344	1.8344	5.0000e-005	0.0000	1.8358
Total	**8.8000e-004**	**3.2400e-003**	**7.7200e-003**	**3.0000e-005**	**2.2000e-003**	**3.0000e-005**	**2.2200e-003**	**5.9000e-004**	**3.0000e-005**	**6.1000e-004**	**0.0000**	**2.4877**	**2.4877**	**9.0000e-005**	**0.0000**	**2.4900**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0205	0.2116	0.1925	3.0000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	26.5217	26.5217	8.5800e-003	0.0000	26.7362
Total	**0.0205**	**0.2116**	**0.1925**	**3.0000e-004**		**0.0119**	**0.0119**		**0.0109**	**0.0109**	**0.0000**	**26.5217**	**26.5217**	**8.5800e-003**	**0.0000**	**26.7362**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.6200e-003	7.1000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.6532	0.6532	4.0000e-005	0.0000	0.6542
Worker	8.0000e-004	6.2000e-004	7.0100e-003	2.0000e-005	2.0300e-003	2.0000e-005	2.0500e-003	5.4000e-004	2.0000e-005	5.6000e-004	0.0000	1.8344	1.8344	5.0000e-005	0.0000	1.8358
Total	**8.8000e-004**	**3.2400e-003**	**7.7200e-003**	**3.0000e-005**	**2.2000e-003**	**3.0000e-005**	**2.2200e-003**	**5.9000e-004**	**3.0000e-005**	**6.1000e-004**	**0.0000**	**2.4877**	**2.4877**	**9.0000e-005**	**0.0000**	**2.4900**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1651	0.1681	2.7000e-004		8.7400e-003	8.7400e-003		8.0400e-003	8.0400e-003	0.0000	23.5347	23.5347	7.6100e-003	0.0000	23.7250
Total	**0.0161**	**0.1651**	**0.1681**	**2.7000e-004**		**8.7400e-003**	**8.7400e-003**		**8.0400e-003**	**8.0400e-003**	**0.0000**	**23.5347**	**23.5347**	**7.6100e-003**	**0.0000**	**23.7250**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.2000e-003	5.9000e-004	1.0000e-005	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.5742	0.5742	3.0000e-005	0.0000	0.5750
Worker	6.6000e-004	5.0000e-004	5.7300e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.5696	1.5696	4.0000e-005	0.0000	1.5707
Total	**7.3000e-004**	**2.7000e-003**	**6.3200e-003**	**3.0000e-005**	**1.9500e-003**	**1.0000e-005**	**1.9700e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**2.1438**	**2.1438**	**7.0000e-005**	**0.0000**	**2.1457**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1651	0.1681	2.7000e-004		8.7400e-003	8.7400e-003		8.0400e-003	8.0400e-003	0.0000	23.5347	23.5347	7.6100e-003	0.0000	23.7250
Total	**0.0161**	**0.1651**	**0.1681**	**2.7000e-004**		**8.7400e-003**	**8.7400e-003**		**8.0400e-003**	**8.0400e-003**	**0.0000**	**23.5347**	**23.5347**	**7.6100e-003**	**0.0000**	**23.7250**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.2000e-003	5.9000e-004	1.0000e-005	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.5742	0.5742	3.0000e-005	0.0000	0.5750
Worker	6.6000e-004	5.0000e-004	5.7300e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.5696	1.5696	4.0000e-005	0.0000	1.5707
Total	**7.3000e-004**	**2.7000e-003**	**6.3200e-003**	**3.0000e-005**	**1.9500e-003**	**1.0000e-005**	**1.9700e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**2.1438**	**2.1438**	**7.0000e-005**	**0.0000**	**2.1457**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6200e-003	0.0148	0.0176	3.0000e-005		7.4000e-004	7.4000e-004		6.9000e-004	6.9000e-004	0.0000	2.3492	2.3492	6.8000e-004	0.0000	2.3663
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6200e-003**	**0.0148**	**0.0176**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**2.3492**	**2.3492**	**6.8000e-004**	**0.0000**	**2.3663**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.4000e-004	1.5700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4294	0.4294	1.0000e-005	0.0000	0.4297
Total	**1.8000e-004**	**1.4000e-004**	**1.5700e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4294**	**0.4294**	**1.0000e-005**	**0.0000**	**0.4297**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6200e-003	0.0148	0.0176	3.0000e-005		7.4000e-004	7.4000e-004		6.9000e-004	6.9000e-004	0.0000	2.3492	2.3492	6.8000e-004	0.0000	2.3663
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6200e-003**	**0.0148**	**0.0176**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**2.3492**	**2.3492**	**6.8000e-004**	**0.0000**	**2.3663**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.4000e-004	1.5700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4294	0.4294	1.0000e-005	0.0000	0.4297
Total	**1.8000e-004**	**1.4000e-004**	**1.5700e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4294**	**0.4294**	**1.0000e-005**	**0.0000**	**0.4297**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0318**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0239	0.0239	0.0000	0.0000	0.0239
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0239**	**0.0239**	**0.0000**	**0.0000**	**0.0239**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0318**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0239	0.0239	0.0000	0.0000	0.0239
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0239**	**0.0239**	**0.0000**	**0.0000**	**0.0239**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0134	0.0710	0.1802	8.4000e-004	0.0840	5.3000e-004	0.0845	0.0225	4.9000e-004	0.0230	0.0000	77.7928	77.7928	3.2600e-003	0.0000	77.8743
Unmitigated	0.0134	0.0710	0.1802	8.4000e-004	0.0840	5.3000e-004	0.0845	0.0225	4.9000e-004	0.0230	0.0000	77.7928	77.7928	3.2600e-003	0.0000	77.8743

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	66.50	63.90	58.60	221,393	221,393
Total	66.50	63.90	58.60	221,393	221,393

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	20.00	40.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9.7584	9.7584	5.3000e-004	1.1000e-004	9.8046
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9.7584	9.7584	5.3000e-004	1.1000e-004	9.8046
NaturalGas Mitigated	7.2000e-004	6.1700e-003	2.6300e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1487	7.1487	1.4000e-004	1.3000e-004	7.1912
NaturalGas Unmitigated	7.2000e-004	6.1700e-003	2.6300e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1487	7.1487	1.4000e-004	1.3000e-004	7.1912

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	133962	7.2000e-004	6.1700e-003	2.6300e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1487	7.1487	1.4000e-004	1.3000e-004	7.1912
Total		**7.2000e-004**	**6.1700e-003**	**2.6300e-003**	**4.0000e-005**		**5.0000e-004**	**5.0000e-004**		**5.0000e-004**	**5.0000e-004**	**0.0000**	**7.1487**	**7.1487**	**1.4000e-004**	**1.3000e-004**	**7.1912**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	133962	7.2000e-004	6.1700e-003	2.6300e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1487	7.1487	1.4000e-004	1.3000e-004	7.1912
Total		**7.2000e-004**	**6.1700e-003**	**2.6300e-003**	**4.0000e-005**		**5.0000e-004**	**5.0000e-004**		**5.0000e-004**	**5.0000e-004**	**0.0000**	**7.1487**	**7.1487**	**1.4000e-004**	**1.3000e-004**	**7.1912**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	40481.7	9.7584	5.3000e-004	1.1000e-004	9.8046
Total		**9.7584**	**5.3000e-004**	**1.1000e-004**	**9.8046**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	40481.7	9.7584	5.3000e-004	1.1000e-004	9.8046
Total		**9.7584**	**5.3000e-004**	**1.1000e-004**	**9.8046**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0751	3.7800e-003	0.1664	1.7000e-004		0.0101	0.0101		0.0101	0.0101	1.0622	2.2096	3.2718	3.3300e-003	7.0000e-005	3.3765
Unmitigated	0.0751	3.7800e-003	0.1664	1.7000e-004		0.0101	0.0101		0.0101	0.0101	1.0622	2.2096	3.2718	3.3300e-003	7.0000e-005	3.3765

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.1300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0361					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0328	2.5900e-003	0.0636	1.6000e-004		9.5500e-003	9.5500e-003		9.5500e-003	9.5500e-003	1.0622	2.0412	3.1034	3.1700e-003	7.0000e-005	3.2040
Landscaping	3.0800e-003	1.1900e-003	0.1029	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	0.1685	0.1685	1.6000e-004	0.0000	0.1725
Total	**0.0751**	**3.7800e-003**	**0.1664**	**1.7000e-004**		**0.0101**	**0.0101**		**0.0101**	**0.0101**	**1.0622**	**2.2096**	**3.2718**	**3.3300e-003**	**7.0000e-005**	**3.3765**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.1300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0361					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0328	2.5900e-003	0.0636	1.6000e-004		9.5500e-003	9.5500e-003		9.5500e-003	9.5500e-003	1.0622	2.0412	3.1034	3.1700e-003	7.0000e-005	3.2040
Landscaping	3.0800e-003	1.1900e-003	0.1029	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	0.1685	0.1685	1.6000e-004	0.0000	0.1725
Total	**0.0751**	**3.7800e-003**	**0.1664**	**1.7000e-004**		**0.0101**	**0.0101**		**0.0101**	**0.0101**	**1.0622**	**2.2096**	**3.2718**	**3.3300e-003**	**7.0000e-005**	**3.3765**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.3518	0.0214	5.4000e-004	4.0468
Unmitigated	3.3518	0.0214	5.4000e-004	4.0468

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.65154 / 0.410754	3.3518	0.0214	5.4000e-004	4.0468
Total		**3.3518**	**0.0214**	**5.4000e-004**	**4.0468**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.65154 / 0.410754	3.3518	0.0214	5.4000e-004	4.0468
Total		**3.3518**	**0.0214**	**5.4000e-004**	**4.0468**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.9338	0.0552	0.0000	2.3134
Unmitigated	0.9338	0.0552	0.0000	2.3134

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	4.6	0.9338	0.0552	0.0000	2.3134
Total		**0.9338**	**0.0552**	**0.0000**	**2.3134**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	4.6	0.9338	0.0552	0.0000	2.3134
Total		**0.9338**	**0.0552**	**0.0000**	**2.3134**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	100.00	Dwelling Unit	2.63	100,000.00	286

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Section 1.0 Proejct Characteristics. Construction run only for residential units.

Land Use - See 1.1 Land Usage. Project-specific land uses.

Construction Phase - CalEEMod default values.

Off-road Equipment - Architectural Coating: CalEEMod default values.

Off-road Equipment - Building Construction: CalEEMod default values.

Off-road Equipment - Demolition: CalEEMod default values.

Off-road Equipment - Grading: CalEEMod default values.

Off-road Equipment - Paving: CalEEMod default values.

Off-road Equipment - Site Preparation: CalEEMod default values.

Trips and VMT - CalEEMod default values.

On-road Fugitive Dust - CalEEMod default values.

Demolition - Building SF to be Demolished: 114,563 SF.

Grading - Grading: 8,486 CY of export. CalEEMod default acres graded.

Architectural Coating - CalEEMod default values.

Vehicle Trips - Operational emissions estimated separately.

Construction Off-road Equipment Mitigation - Water Exposed Area: 2x daily

Energy Use -

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	8,486.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0793	0.8256	0.5731	1.6300e-003	0.1103	0.0302	0.1404	0.0275	0.0285	0.0559	0.0000	148.3336	148.3336	0.0207	0.0000	148.8506
2022	0.5185	1.5047	1.6410	3.3600e-003	0.0801	0.0679	0.1480	0.0214	0.0650	0.0864	0.0000	287.8942	287.8942	0.0424	0.0000	288.9552
Maximum	**0.5185**	**1.5047**	**1.6410**	**3.3600e-003**	**0.1103**	**0.0679**	**0.1480**	**0.0275**	**0.0650**	**0.0864**	**0.0000**	**287.8942**	**287.8942**	**0.0424**	**0.0000**	**288.9552**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0793	0.8256	0.5731	1.6300e-003	0.0669	0.0302	0.0970	0.0170	0.0285	0.0455	0.0000	148.3336	148.3336	0.0207	0.0000	148.8505
2022	0.5185	1.5047	1.6410	3.3600e-003	0.0801	0.0679	0.1480	0.0214	0.0650	0.0864	0.0000	287.8939	287.8939	0.0424	0.0000	288.9549
Maximum	**0.5185**	**1.5047**	**1.6410**	**3.3600e-003**	**0.0801**	**0.0679**	**0.1480**	**0.0214**	**0.0650**	**0.0864**	**0.0000**	**287.8939**	**287.8939**	**0.0424**	**0.0000**	**288.9549**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**22.80**	**0.00**	**15.05**	**21.34**	**0.00**	**7.33**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-1-2021	12-31-2021	0.8909	0.8909
2	1-1-2022	3-31-2022	0.5799	0.5799
3	4-1-2022	6-30-2022	0.5846	0.5846
4	7-1-2022	9-30-2022	0.5860	0.5860
		Highest	0.8909	0.8909

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7510	0.0378	1.6642	1.6800e-003		0.1012	0.1012		0.1012	0.1012	10.6219	22.0962	32.7181	0.0333	7.2000e-004	33.7650
Energy	7.2200e-003	0.0617	0.0263	3.9000e-004		4.9900e-003	4.9900e-003		4.9900e-003	4.9900e-003	0.0000	169.0711	169.0711	6.7000e-003	2.4100e-003	169.9573
Mobile	0.1345	0.7110	1.8065	8.4000e-003	0.8427	5.3500e-003	0.8481	0.2258	4.9600e-003	0.2308	0.0000	780.3131	780.3131	0.0327	0.0000	781.1303
Waste						0.0000	0.0000		0.0000	0.0000	9.3376	0.0000	9.3376	0.5518	0.0000	23.1335
Water						0.0000	0.0000		0.0000	0.0000	2.0670	31.4512	33.5182	0.2140	5.3700e-003	40.4684
Total	**0.8927**	**0.8106**	**3.4970**	**0.0105**	**0.8427**	**0.1115**	**0.9543**	**0.2258**	**0.1112**	**0.3370**	**22.0265**	**1,002.9315**	**1,024.9581**	**0.8385**	**8.5000e-003**	**1,048.4545**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7510	0.0378	1.6642	1.6800e-003		0.1012	0.1012		0.1012	0.1012	10.6219	22.0962	32.7181	0.0333	7.2000e-004	33.7650
Energy	7.2200e-003	0.0617	0.0263	3.9000e-004		4.9900e-003	4.9900e-003		4.9900e-003	4.9900e-003	0.0000	169.0711	169.0711	6.7000e-003	2.4100e-003	169.9573
Mobile	0.1345	0.7110	1.8065	8.4000e-003	0.8427	5.3500e-003	0.8481	0.2258	4.9600e-003	0.2308	0.0000	780.3131	780.3131	0.0327	0.0000	781.1303
Waste						0.0000	0.0000		0.0000	0.0000	9.3376	0.0000	9.3376	0.5518	0.0000	23.1335
Water						0.0000	0.0000		0.0000	0.0000	2.0670	31.4512	33.5182	0.2140	5.3700e-003	40.4684
Total	**0.8927**	**0.8106**	**3.4970**	**0.0105**	**0.8427**	**0.1115**	**0.9543**	**0.2258**	**0.1112**	**0.3370**	**22.0265**	**1,002.9315**	**1,024.9581**	**0.8385**	**8.5000e-003**	**1,048.4545**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2021	10/28/2021	5	20	
2	Site Preparation	Site Preparation	10/29/2021	11/2/2021	5	3	
3	Grading	Grading	11/3/2021	11/10/2021	5	6	
4	Building Construction	Building Construction	11/11/2021	9/14/2022	5	220	
5	Paving	Paving	9/15/2022	9/28/2022	5	10	
6	Architectural Coating	Architectural Coating	9/29/2022	10/12/2022	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 202,500; Residential Outdoor: 67,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	521.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,061.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	72.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0564	0.0000	0.0564	8.5400e-003	0.0000	8.5400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0199	0.1970	0.1449	2.4000e-004		0.0104	0.0104		9.7100e-003	9.7100e-003	0.0000	21.0713	21.0713	5.3900e-003	0.0000	21.2060
Total	**0.0199**	**0.1970**	**0.1449**	**2.4000e-004**	**0.0564**	**0.0104**	**0.0668**	**8.5400e-003**	**9.7100e-003**	**0.0183**	**0.0000**	**21.0713**	**21.0713**	**5.3900e-003**	**0.0000**	**21.2060**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.1900e-003	0.0721	0.0168	2.0000e-004	4.4800e-003	2.2000e-004	4.6900e-003	1.2300e-003	2.1000e-004	1.4400e-003	0.0000	19.8578	19.8578	1.3800e-003	0.0000	19.8923
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	4.4000e-004	4.9200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2856	1.2856	4.0000e-005	0.0000	1.2865
Total	**2.7500e-003**	**0.0726**	**0.0217**	**2.1000e-004**	**5.9000e-003**	**2.3000e-004**	**6.1300e-003**	**1.6100e-003**	**2.2000e-004**	**1.8300e-003**	**0.0000**	**21.1434**	**21.1434**	**1.4200e-003**	**0.0000**	**21.1788**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0254	0.0000	0.0254	3.8400e-003	0.0000	3.8400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0199	0.1970	0.1449	2.4000e-004		0.0104	0.0104		9.7100e-003	9.7100e-003	0.0000	21.0713	21.0713	5.3900e-003	0.0000	21.2060
Total	**0.0199**	**0.1970**	**0.1449**	**2.4000e-004**	**0.0254**	**0.0104**	**0.0358**	**3.8400e-003**	**9.7100e-003**	**0.0136**	**0.0000**	**21.0713**	**21.0713**	**5.3900e-003**	**0.0000**	**21.2060**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.1900e-003	0.0721	0.0168	2.0000e-004	4.4800e-003	2.2000e-004	4.6900e-003	1.2300e-003	2.1000e-004	1.4400e-003	0.0000	19.8578	19.8578	1.3800e-003	0.0000	19.8923
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	4.4000e-004	4.9200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2856	1.2856	4.0000e-005	0.0000	1.2865
Total	**2.7500e-003**	**0.0726**	**0.0217**	**2.1000e-004**	**5.9000e-003**	**2.3000e-004**	**6.1300e-003**	**1.6100e-003**	**2.2000e-004**	**1.8300e-003**	**0.0000**	**21.1434**	**21.1434**	**1.4200e-003**	**0.0000**	**21.1788**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3200e-003	0.0274	0.0161	4.0000e-005		1.0500e-003	1.0500e-003		9.7000e-004	9.7000e-004	0.0000	3.2290	3.2290	1.0400e-003	0.0000	3.2551
Total	**2.3200e-003**	**0.0274**	**0.0161**	**4.0000e-005**	**2.3900e-003**	**1.0500e-003**	**3.4400e-003**	**2.6000e-004**	**9.7000e-004**	**1.2300e-003**	**0.0000**	**3.2290**	**3.2290**	**1.0400e-003**	**0.0000**	**3.2551**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.1187	0.1187	0.0000	0.0000	0.1188
Total	**5.0000e-005**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1187**	**0.1187**	**0.0000**	**0.0000**	**0.1188**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3200e-003	0.0274	0.0161	4.0000e-005		1.0500e-003	1.0500e-003		9.7000e-004	9.7000e-004	0.0000	3.2290	3.2290	1.0400e-003	0.0000	3.2551
Total	**2.3200e-003**	**0.0274**	**0.0161**	**4.0000e-005**	**1.0700e-003**	**1.0500e-003**	**2.1200e-003**	**1.2000e-004**	**9.7000e-004**	**1.0900e-003**	**0.0000**	**3.2290**	**3.2290**	**1.0400e-003**	**0.0000**	**3.2551**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.1187	0.1187	0.0000	0.0000	0.1188
Total	**5.0000e-005**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1187**	**0.1187**	**0.0000**	**0.0000**	**0.1188**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0201	0.0000	0.0201	0.0102	0.0000	0.0102	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4800e-003	0.0606	0.0293	6.0000e-005		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**5.4800e-003**	**0.0606**	**0.0293**	**6.0000e-005**	**0.0201**	**2.7500e-003**	**0.0229**	**0.0102**	**2.5300e-003**	**0.0127**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4700e-003	0.1469	0.0342	4.1000e-004	9.1200e-003	4.4000e-004	9.5600e-003	2.5000e-003	4.2000e-004	2.9200e-003	0.0000	40.4398	40.4398	2.8100e-003	0.0000	40.5100
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.0000e-004	1.1300e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2967	0.2967	1.0000e-005	0.0000	0.2969
Total	**4.6000e-003**	**0.1470**	**0.0354**	**4.1000e-004**	**9.4500e-003**	**4.4000e-004**	**9.8900e-003**	**2.5900e-003**	**4.2000e-004**	**3.0100e-003**	**0.0000**	**40.7365**	**40.7365**	**2.8200e-003**	**0.0000**	**40.8069**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.0600e-003	0.0000	9.0600e-003	4.5800e-003	0.0000	4.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4800e-003	0.0606	0.0293	6.0000e-005		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**5.4800e-003**	**0.0606**	**0.0293**	**6.0000e-005**	**9.0600e-003**	**2.7500e-003**	**0.0118**	**4.5800e-003**	**2.5300e-003**	**7.1100e-003**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4700e-003	0.1469	0.0342	4.1000e-004	9.1200e-003	4.4000e-004	9.5600e-003	2.5000e-003	4.2000e-004	2.9200e-003	0.0000	40.4398	40.4398	2.8100e-003	0.0000	40.5100
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.0000e-004	1.1300e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2967	0.2967	1.0000e-005	0.0000	0.2969
Total	**4.6000e-003**	**0.1470**	**0.0354**	**4.1000e-004**	**9.4500e-003**	**4.4000e-004**	**9.8900e-003**	**2.5900e-003**	**4.2000e-004**	**3.0100e-003**	**0.0000**	**40.7365**	**40.7365**	**2.8200e-003**	**0.0000**	**40.8069**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0378	0.2965	0.2694	4.6000e-004		0.0151	0.0151		0.0145	0.0145	0.0000	38.4150	38.4150	7.5600e-003	0.0000	38.6040
Total	**0.0378**	**0.2965**	**0.2694**	**4.6000e-004**		**0.0151**	**0.0151**		**0.0145**	**0.0145**	**0.0000**	**38.4150**	**38.4150**	**7.5600e-003**	**0.0000**	**38.6040**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.3000e-004	0.0201	5.4400e-003	5.0000e-005	1.2800e-003	4.0000e-005	1.3200e-003	3.7000e-004	4.0000e-005	4.1000e-004	0.0000	5.0162	5.0162	3.1000e-004	0.0000	5.0239
Worker	5.7300e-003	4.4600e-003	0.0504	1.5000e-004	0.0146	1.2000e-004	0.0147	3.8800e-003	1.1000e-004	3.9900e-003	0.0000	13.1724	13.1724	3.9000e-004	0.0000	13.1821
Total	**6.3600e-003**	**0.0245**	**0.0558**	**2.0000e-004**	**0.0159**	**1.6000e-004**	**0.0160**	**4.2500e-003**	**1.5000e-004**	**4.4000e-003**	**0.0000**	**18.1886**	**18.1886**	**7.0000e-004**	**0.0000**	**18.2060**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0378	0.2965	0.2694	4.6000e-004		0.0151	0.0151		0.0145	0.0145	0.0000	38.4150	38.4150	7.5600e-003	0.0000	38.6039
Total	**0.0378**	**0.2965**	**0.2694**	**4.6000e-004**		**0.0151**	**0.0151**		**0.0145**	**0.0145**	**0.0000**	**38.4150**	**38.4150**	**7.5600e-003**	**0.0000**	**38.6039**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.3000e-004	0.0201	5.4400e-003	5.0000e-005	1.2800e-003	4.0000e-005	1.3200e-003	3.7000e-004	4.0000e-005	4.1000e-004	0.0000	5.0162	5.0162	3.1000e-004	0.0000	5.0239
Worker	5.7300e-003	4.4600e-003	0.0504	1.5000e-004	0.0146	1.2000e-004	0.0147	3.8800e-003	1.1000e-004	3.9900e-003	0.0000	13.1724	13.1724	3.9000e-004	0.0000	13.1821
Total	**6.3600e-003**	**0.0245**	**0.0558**	**2.0000e-004**	**0.0159**	**1.6000e-004**	**0.0160**	**4.2500e-003**	**1.5000e-004**	**4.4000e-003**	**0.0000**	**18.1886**	**18.1886**	**7.0000e-004**	**0.0000**	**18.2060**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1698	1.3363	1.3133	2.2900e-003		0.0643	0.0643		0.0616	0.0616	0.0000	190.0273	190.0273	0.0367	0.0000	190.9438
Total	**0.1698**	**1.3363**	**1.3133**	**2.2900e-003**		**0.0643**	**0.0643**		**0.0616**	**0.0616**	**0.0000**	**190.0273**	**190.0273**	**0.0367**	**0.0000**	**190.9438**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9300e-003	0.0944	0.0255	2.5000e-004	6.3400e-003	1.8000e-004	6.5200e-003	1.8300e-003	1.7000e-004	2.0000e-003	0.0000	24.5920	24.5920	1.4700e-003	0.0000	24.6287
Worker	0.0266	0.0199	0.2296	7.0000e-004	0.0722	5.8000e-004	0.0728	0.0192	5.3000e-004	0.0197	0.0000	62.8597	62.8597	1.7300e-003	0.0000	62.9030
Total	**0.0295**	**0.1143**	**0.2550**	**9.5000e-004**	**0.0785**	**7.6000e-004**	**0.0793**	**0.0210**	**7.0000e-004**	**0.0217**	**0.0000**	**87.4517**	**87.4517**	**3.2000e-003**	**0.0000**	**87.5317**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1698	1.3363	1.3133	2.2900e-003		0.0643	0.0643		0.0616	0.0616	0.0000	190.0271	190.0271	0.0367	0.0000	190.9436
Total	**0.1698**	**1.3363**	**1.3133**	**2.2900e-003**		**0.0643**	**0.0643**		**0.0616**	**0.0616**	**0.0000**	**190.0271**	**190.0271**	**0.0367**	**0.0000**	**190.9436**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9300e-003	0.0944	0.0255	2.5000e-004	6.3400e-003	1.8000e-004	6.5200e-003	1.8300e-003	1.7000e-004	2.0000e-003	0.0000	24.5920	24.5920	1.4700e-003	0.0000	24.6287
Worker	0.0266	0.0199	0.2296	7.0000e-004	0.0722	5.8000e-004	0.0728	0.0192	5.3000e-004	0.0197	0.0000	62.8597	62.8597	1.7300e-003	0.0000	62.9030
Total	**0.0295**	**0.1143**	**0.2550**	**9.5000e-004**	**0.0785**	**7.6000e-004**	**0.0793**	**0.0210**	**7.0000e-004**	**0.0217**	**0.0000**	**87.4517**	**87.4517**	**3.2000e-003**	**0.0000**	**87.5317**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7100e-003	0.0467	0.0585	9.0000e-005		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003	0.0000	7.7550	7.7550	2.4600e-003	0.0000	7.8165
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.7100e-003**	**0.0467**	**0.0585**	**9.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.7550**	**7.7550**	**2.4600e-003**	**0.0000**	**7.8165**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.3000e-004	2.6100e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7156	0.7156	2.0000e-005	0.0000	0.7161
Total	**3.0000e-004**	**2.3000e-004**	**2.6100e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.7156**	**0.7156**	**2.0000e-005**	**0.0000**	**0.7161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7100e-003	0.0467	0.0585	9.0000e-005		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003	0.0000	7.7550	7.7550	2.4600e-003	0.0000	7.8165
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.7100e-003**	**0.0467**	**0.0585**	**9.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.7550**	**7.7550**	**2.4600e-003**	**0.0000**	**7.8165**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.3000e-004	2.6100e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7156	0.7156	2.0000e-005	0.0000	0.7161
Total	**3.0000e-004**	**2.3000e-004**	**2.6100e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.7156**	**0.7156**	**2.0000e-005**	**0.0000**	**0.7161**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3129					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.3139**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3129					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.3139**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1345	0.7110	1.8065	8.4000e-003	0.8427	5.3500e-003	0.8481	0.2258	4.9600e-003	0.2308	0.0000	780.3131	780.3131	0.0327	0.0000	781.1303
Unmitigated	0.1345	0.7110	1.8065	8.4000e-003	0.8427	5.3500e-003	0.8481	0.2258	4.9600e-003	0.2308	0.0000	780.3131	780.3131	0.0327	0.0000	781.1303

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	665.00	639.00	586.00	2,221,149	2,221,149
Total	665.00	639.00	586.00	2,221,149	2,221,149

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	97.5840	97.5840	5.3300e-003	1.1000e-003	98.0455
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	97.5840	97.5840	5.3300e-003	1.1000e-003	98.0455
NaturalGas Mitigated	7.2200e-003	0.0617	0.0263	3.9000e-004		4.9900e-003	4.9900e-003		4.9900e-003	4.9900e-003	0.0000	71.4871	71.4871	1.3700e-003	1.3100e-003	71.9119
NaturalGas Unmitigated	7.2200e-003	0.0617	0.0263	3.9000e-004		4.9900e-003	4.9900e-003		4.9900e-003	4.9900e-003	0.0000	71.4871	71.4871	1.3700e-003	1.3100e-003	71.9119

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.33962e+006	7.2200e-003	0.0617	0.0263	3.9000e-004		4.9900e-003	4.9900e-003		4.9900e-003	4.9900e-003	0.0000	71.4871	71.4871	1.3700e-003	1.3100e-003	71.9119
Total		**7.2200e-003**	**0.0617**	**0.0263**	**3.9000e-004**		**4.9900e-003**	**4.9900e-003**		**4.9900e-003**	**4.9900e-003**	**0.0000**	**71.4871**	**71.4871**	**1.3700e-003**	**1.3100e-003**	**71.9119**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.33962e+006	7.2200e-003	0.0617	0.0263	3.9000e-004		4.9900e-003	4.9900e-003		4.9900e-003	4.9900e-003	0.0000	71.4871	71.4871	1.3700e-003	1.3100e-003	71.9119
Total		**7.2200e-003**	**0.0617**	**0.0263**	**3.9000e-004**		**4.9900e-003**	**4.9900e-003**		**4.9900e-003**	**4.9900e-003**	**0.0000**	**71.4871**	**71.4871**	**1.3700e-003**	**1.3100e-003**	**71.9119**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	404817	97.5840	5.3300e-003	1.1000e-003	98.0455
Total		**97.5840**	**5.3300e-003**	**1.1000e-003**	**98.0455**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	404817	97.5840	5.3300e-003	1.1000e-003	98.0455
Total		**97.5840**	**5.3300e-003**	**1.1000e-003**	**98.0455**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7510	0.0378	1.6642	1.6800e-003		0.1012	0.1012		0.1012	0.1012	10.6219	22.0962	32.7181	0.0333	7.2000e-004	33.7650
Unmitigated	0.7510	0.0378	1.6642	1.6800e-003		0.1012	0.1012		0.1012	0.1012	10.6219	22.0962	32.7181	0.0333	7.2000e-004	33.7650

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.3275	0.0259	0.6357	1.6200e-003		0.0955	0.0955		0.0955	0.0955	10.6219	20.4117	31.0336	0.0317	7.2000e-004	32.0403
Landscaping	0.0308	0.0119	1.0285	5.0000e-005		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003	0.0000	1.6846	1.6846	1.6000e-003	0.0000	1.7247
Total	**0.7509**	**0.0378**	**1.6642**	**1.6700e-003**		**0.1012**	**0.1012**		**0.1012**	**0.1012**	**10.6219**	**22.0962**	**32.7181**	**0.0333**	**7.2000e-004**	**33.7650**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.3275	0.0259	0.6357	1.6200e-003		0.0955	0.0955		0.0955	0.0955	10.6219	20.4117	31.0336	0.0317	7.2000e-004	32.0403
Landscaping	0.0308	0.0119	1.0285	5.0000e-005		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003	0.0000	1.6846	1.6846	1.6000e-003	0.0000	1.7247
Total	**0.7509**	**0.0378**	**1.6642**	**1.6700e-003**		**0.1012**	**0.1012**		**0.1012**	**0.1012**	**10.6219**	**22.0962**	**32.7181**	**0.0333**	**7.2000e-004**	**33.7650**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	33.5182	0.2140	5.3700e-003	40.4684
Unmitigated	33.5182	0.2140	5.3700e-003	40.4684

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	6.5154 / 4.10754	33.5182	0.2140	5.3700e-003	40.4684
Total		**33.5182**	**0.2140**	**5.3700e-003**	**40.4684**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	6.5154 / 4.10754	33.5182	0.2140	5.3700e-003	40.4684
Total		**33.5182**	**0.2140**	**5.3700e-003**	**40.4684**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9.3376	0.5518	0.0000	23.1335
Unmitigated	9.3376	0.5518	0.0000	23.1335

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	46	9.3376	0.5518	0.0000	23.1335
Total		**9.3376**	**0.5518**	**0.0000**	**23.1335**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	46	9.3376	0.5518	0.0000	23.1335
Total		**9.3376**	**0.5518**	**0.0000**	**23.1335**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Los Angeles County Housing Element Update - Construction - Residential (455 units)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	455.00	Dwelling Unit	11.97	455,000.00	1301

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Section 1.0 Proejct Characteristics. Construction run only for residential units.

Land Use - See 1.1 Land Usage. Project-specific land uses.

Construction Phase - CalEEMod default values.

Demolition - Building SF to be Demolished: 521,413 SF.

Grading - Grading: 38,623 CY of export. CalEEMod default acres graded.

Construction Off-road Equipment Mitigation - Water Exposed Area: 2x per day.

Off-road Equipment - Demolition: CalEEMod default values.

Off-road Equipment - Site Preparation: CalEEMod default values.

Off-road Equipment - Grading: CalEEMod default values.

Off-road Equipment - Building Construction: CalEEMod default values.

Off-road Equipment - Paving: CalEEMod default values.

Off-road Equipment - Architectural Coating: CalEEMod default values.

Trips and VMT - CalEEMod default values.

On-road Fugitive Dust - CalEEMod default values.

Architectural Coating - CalEEMod default values.

Vehicle Trips - Operational emissions estimated separately.

Energy Use -

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	38,623.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	531.44
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HS_TTP	19.20	20.00
tblVehicleTrips	HW_TTP	40.20	40.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1570	2.2814	1.1283	4.5800e-003	0.5587	0.0615	0.6203	0.1645	0.0569	0.2214	0.0000	432.5315	432.5315	0.0628	0.0000	434.1016
2022	0.4124	2.7563	3.7742	9.6100e-003	0.5074	0.1100	0.6174	0.1357	0.1035	0.2391	0.0000	863.7336	863.7336	0.0927	0.0000	866.0504
2023	1.4885	0.4360	0.6636	1.5700e-003	0.0752	0.0183	0.0935	0.0201	0.0172	0.0373	0.0000	140.4052	140.4052	0.0186	0.0000	140.8700
Maximum	**1.4885**	**2.7563**	**3.7742**	**9.6100e-003**	**0.5587**	**0.1100**	**0.6203**	**0.1645**	**0.1035**	**0.2391**	**0.0000**	**863.7336**	**863.7336**	**0.0927**	**0.0000**	**866.0504**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1570	2.2814	1.1283	4.5800e-003	0.2952	0.0615	0.3567	0.0860	0.0569	0.1429	0.0000	432.5313	432.5313	0.0628	0.0000	434.1014
2022	0.4124	2.7563	3.7742	9.6100e-003	0.5074	0.1100	0.6174	0.1357	0.1035	0.2391	0.0000	863.7333	863.7333	0.0927	0.0000	866.0500
2023	1.4885	0.4360	0.6636	1.5700e-003	0.0752	0.0183	0.0935	0.0201	0.0172	0.0373	0.0000	140.4051	140.4051	0.0186	0.0000	140.8699
Maximum	**1.4885**	**2.7563**	**3.7742**	**9.6100e-003**	**0.5074**	**0.1100**	**0.6174**	**0.1357**	**0.1035**	**0.2391**	**0.0000**	**863.7333**	**863.7333**	**0.0927**	**0.0000**	**866.0500**

Los Angeles County Housing Element Update - Construction - Residential (455 units) - Los Angeles-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**23.09**	**0.00**	**19.80**	**24.52**	**0.00**	**15.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-1-2021**	**12-31-2021**	2.4162	2.4162
2	**1-1-2022**	**3-31-2022**	0.7848	0.7848
3	**4-1-2022**	**6-30-2022**	0.7857	0.7857
4	**7-1-2022**	**9-30-2022**	0.7943	0.7943
5	**10-1-2022**	**12-31-2022**	0.8022	0.8022
6	**1-1-2023**	**3-31-2023**	1.2513	1.2513
7	**4-1-2023**	**6-30-2023**	0.6698	0.6698
		Highest	2.4162	2.4162

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.4168	0.1720	7.5723	7.6300e-003		0.4605	0.4605		0.4605	0.4605	48.3297	100.5378	148.8674	0.1514	3.2800e-003	153.6307
Energy	0.0329	0.2809	0.1195	1.7900e-003		0.0227	0.0227		0.0227	0.0227	0.0000	769.2735	769.2735	0.0305	0.0110	773.3059
Mobile	0.6111	3.2302	8.1970	0.0381	3.8220	0.0243	3.8462	1.0241	0.0225	1.0466	0.0000	3,539.5736	3,539.5736	0.1483	0.0000	3,543.2816
Waste						0.0000	0.0000		0.0000	0.0000	42.4860	0.0000	42.4860	2.5109	0.0000	105.2573
Water						0.0000	0.0000		0.0000	0.0000	9.4050	143.1028	152.5078	0.9738	0.0244	184.1312
Total	**4.0608**	**3.6830**	**15.8887**	**0.0475**	**3.8220**	**0.5074**	**4.3294**	**1.0241**	**0.5057**	**1.5298**	**100.2207**	**4,552.4876**	**4,652.7083**	**3.8149**	**0.0387**	**4,759.6067**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.4168	0.1720	7.5723	7.6300e-003		0.4605	0.4605		0.4605	0.4605	48.3297	100.5378	148.8674	0.1514	3.2800e-003	153.6307
Energy	0.0329	0.2809	0.1195	1.7900e-003		0.0227	0.0227		0.0227	0.0227	0.0000	769.2735	769.2735	0.0305	0.0110	773.3059
Mobile	0.6111	3.2302	8.1970	0.0381	3.8220	0.0243	3.8462	1.0241	0.0225	1.0466	0.0000	3,539.5736	3,539.5736	0.1483	0.0000	3,543.2816
Waste						0.0000	0.0000		0.0000	0.0000	42.4860	0.0000	42.4860	2.5109	0.0000	105.2573
Water						0.0000	0.0000		0.0000	0.0000	9.4050	143.1028	152.5078	0.9738	0.0244	184.1312
Total	**4.0608**	**3.6830**	**15.8887**	**0.0475**	**3.8220**	**0.5074**	**4.3294**	**1.0241**	**0.5057**	**1.5298**	**100.2207**	**4,552.4876**	**4,652.7083**	**3.8149**	**0.0387**	**4,759.6067**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Los Angeles County Housing Element Update - Construction - Residential (455 units) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2021	10/28/2021	5	20	
2	Site Preparation	Site Preparation	10/29/2021	11/11/2021	5	10	
3	Grading	Grading	11/12/2021	12/23/2021	5	30	
4	Building Construction	Building Construction	12/24/2021	2/16/2023	5	300	
5	Paving	Paving	2/17/2023	3/16/2023	5	20	
6	Architectural Coating	Architectural Coating	3/17/2023	4/13/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 921,375; Residential Outdoor: 307,125; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Los Angeles County Housing Element Update - Construction - Residential (455 units) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	2,372.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	4,828.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	328.00	49.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	66.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2566	0.0000	0.2566	0.0389	0.0000	0.0389	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**0.2566**	**0.0155**	**0.2721**	**0.0389**	**0.0144**	**0.0533**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.9900e-003	0.3283	0.0766	9.2000e-004	0.0204	9.8000e-004	0.0214	5.6000e-003	9.4000e-004	6.5400e-003	0.0000	90.4083	90.4083	6.2800e-003	0.0000	90.5652
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**0.0106**	**0.3288**	**0.0822**	**9.4000e-004**	**0.0220**	**9.9000e-004**	**0.0230**	**6.0400e-003**	**9.5000e-004**	**6.9900e-003**	**0.0000**	**91.8917**	**91.8917**	**6.3200e-003**	**0.0000**	**92.0497**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1155	0.0000	0.1155	0.0175	0.0000	0.0175	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**0.1155**	**0.0155**	**0.1310**	**0.0175**	**0.0144**	**0.0319**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.9900e-003	0.3283	0.0766	9.2000e-004	0.0204	9.8000e-004	0.0214	5.6000e-003	9.4000e-004	6.5400e-003	0.0000	90.4083	90.4083	6.2800e-003	0.0000	90.5652
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**0.0106**	**0.3288**	**0.0822**	**9.4000e-004**	**0.0220**	**9.9000e-004**	**0.0230**	**6.0400e-003**	**9.5000e-004**	**6.9900e-003**	**0.0000**	**91.8917**	**91.8917**	**6.3200e-003**	**0.0000**	**92.0497**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	3.0000e-004	3.4000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8900	0.8900	3.0000e-005	0.0000	0.8907
Total	**3.9000e-004**	**3.0000e-004**	**3.4000e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8900**	**0.8900**	**3.0000e-005**	**0.0000**	**0.8907**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0407**	**0.0102**	**0.0509**	**0.0223**	**9.4000e-003**	**0.0317**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	3.0000e-004	3.4000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8900	0.8900	3.0000e-005	0.0000	0.8907
Total	**3.9000e-004**	**3.0000e-004**	**3.4000e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8900**	**0.8900**	**3.0000e-005**	**0.0000**	**0.8907**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1323	0.0000	0.1323	0.0543	0.0000	0.0543	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.1323**	**0.0298**	**0.1621**	**0.0543**	**0.0274**	**0.0817**	**0.0000**	**81.7425**	**81.7425**	**0.0264**	**0.0000**	**82.4034**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0203	0.6683	0.1558	1.8700e-003	0.0415	2.0000e-003	0.0435	0.0114	1.9100e-003	0.0133	0.0000	184.0183	184.0183	0.0128	0.0000	184.3376
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	1.0000e-003	0.0113	3.0000e-005	3.2900e-003	3.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.9668	2.9668	9.0000e-005	0.0000	2.9689
Total	**0.0216**	**0.6693**	**0.1672**	**1.9000e-003**	**0.0448**	**2.0300e-003**	**0.0468**	**0.0123**	**1.9300e-003**	**0.0142**	**0.0000**	**186.9851**	**186.9851**	**0.0129**	**0.0000**	**187.3066**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0595	0.0000	0.0595	0.0244	0.0000	0.0244	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.0595**	**0.0298**	**0.0893**	**0.0244**	**0.0274**	**0.0518**	**0.0000**	**81.7424**	**81.7424**	**0.0264**	**0.0000**	**82.4033**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0203	0.6683	0.1558	1.8700e-003	0.0415	2.0000e-003	0.0435	0.0114	1.9100e-003	0.0133	0.0000	184.0183	184.0183	0.0128	0.0000	184.3376
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	1.0000e-003	0.0113	3.0000e-005	3.2900e-003	3.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.9668	2.9668	9.0000e-005	0.0000	2.9689
Total	**0.0216**	**0.6693**	**0.1672**	**1.9000e-003**	**0.0448**	**2.0300e-003**	**0.0468**	**0.0123**	**1.9300e-003**	**0.0142**	**0.0000**	**186.9851**	**186.9851**	**0.0129**	**0.0000**	**187.3066**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7000e-003	0.0523	0.0497	8.0000e-005		2.8800e-003	2.8800e-003		2.7000e-003	2.7000e-003	0.0000	6.9491	6.9491	1.6800e-003	0.0000	6.9910
Total	**5.7000e-003**	**0.0523**	**0.0497**	**8.0000e-005**		**2.8800e-003**	**2.8800e-003**		**2.7000e-003**	**2.7000e-003**	**0.0000**	**6.9491**	**6.9491**	**1.6800e-003**	**0.0000**	**6.9910**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-004	0.0145	3.9300e-003	4.0000e-005	9.3000e-004	3.0000e-005	9.6000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	3.6235	3.6235	2.2000e-004	0.0000	3.6291
Worker	4.2300e-003	3.3000e-003	0.0372	1.1000e-004	0.0108	9.0000e-005	0.0109	2.8600e-003	8.0000e-005	2.9500e-003	0.0000	9.7309	9.7309	2.9000e-004	0.0000	9.7381
Total	**4.6900e-003**	**0.0178**	**0.0411**	**1.5000e-004**	**0.0117**	**1.2000e-004**	**0.0118**	**3.1300e-003**	**1.1000e-004**	**3.2500e-003**	**0.0000**	**13.3544**	**13.3544**	**5.1000e-004**	**0.0000**	**13.3672**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7000e-003	0.0523	0.0497	8.0000e-005		2.8800e-003	2.8800e-003		2.7000e-003	2.7000e-003	0.0000	6.9491	6.9491	1.6800e-003	0.0000	6.9910
Total	**5.7000e-003**	**0.0523**	**0.0497**	**8.0000e-005**		**2.8800e-003**	**2.8800e-003**		**2.7000e-003**	**2.7000e-003**	**0.0000**	**6.9491**	**6.9491**	**1.6800e-003**	**0.0000**	**6.9910**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-004	0.0145	3.9300e-003	4.0000e-005	9.3000e-004	3.0000e-005	9.6000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	3.6235	3.6235	2.2000e-004	0.0000	3.6291
Worker	4.2300e-003	3.3000e-003	0.0372	1.1000e-004	0.0108	9.0000e-005	0.0109	2.8600e-003	8.0000e-005	2.9500e-003	0.0000	9.7309	9.7309	2.9000e-004	0.0000	9.7381
Total	**4.6900e-003**	**0.0178**	**0.0411**	**1.5000e-004**	**0.0117**	**1.2000e-004**	**0.0118**	**3.1300e-003**	**1.1000e-004**	**3.2500e-003**	**0.0000**	**13.3544**	**13.3544**	**5.1000e-004**	**0.0000**	**13.3672**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2428**	**301.2428**	**0.0722**	**0.0000**	**303.0471**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0186	0.5973	0.1613	1.6000e-003	0.0401	1.1200e-003	0.0413	0.0116	1.0700e-003	0.0127	0.0000	155.6392	155.6392	9.3000e-003	0.0000	155.8716
Worker	0.1721	0.1290	1.4857	4.5000e-003	0.4673	3.7300e-003	0.4710	0.1241	3.4400e-003	0.1275	0.0000	406.8516	406.8516	0.0112	0.0000	407.1317
Total	**0.1906**	**0.7263**	**1.6470**	**6.1000e-003**	**0.5074**	**4.8500e-003**	**0.5122**	**0.1357**	**4.5100e-003**	**0.1402**	**0.0000**	**562.4908**	**562.4908**	**0.0205**	**0.0000**	**563.0033**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2425**	**301.2425**	**0.0722**	**0.0000**	**303.0467**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0186	0.5973	0.1613	1.6000e-003	0.0401	1.1200e-003	0.0413	0.0116	1.0700e-003	0.0127	0.0000	155.6392	155.6392	9.3000e-003	0.0000	155.8716
Worker	0.1721	0.1290	1.4857	4.5000e-003	0.4673	3.7300e-003	0.4710	0.1241	3.4400e-003	0.1275	0.0000	406.8516	406.8516	0.0112	0.0000	407.1317
Total	**0.1906**	**0.7263**	**1.6470**	**6.1000e-003**	**0.5074**	**4.8500e-003**	**0.5122**	**0.1357**	**4.5100e-003**	**0.1402**	**0.0000**	**562.4908**	**562.4908**	**0.0205**	**0.0000**	**563.0033**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0267	0.2445	0.2762	4.6000e-004		0.0119	0.0119		0.0112	0.0112	0.0000	39.4068	39.4068	9.3700e-003	0.0000	39.6412
Total	**0.0267**	**0.2445**	**0.2762**	**4.6000e-004**		**0.0119**	**0.0119**		**0.0112**	**0.0112**	**0.0000**	**39.4068**	**39.4068**	**9.3700e-003**	**0.0000**	**39.6412**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8000e-003	0.0590	0.0189	2.0000e-004	5.2500e-003	7.0000e-005	5.3200e-003	1.5100e-003	7.0000e-005	1.5800e-003	0.0000	19.7157	19.7157	1.0700e-003	0.0000	19.7425
Worker	0.0212	0.0153	0.1787	5.7000e-004	0.0611	4.7000e-004	0.0616	0.0162	4.4000e-004	0.0167	0.0000	51.2568	51.2568	1.3200e-003	0.0000	51.2898
Total	**0.0230**	**0.0743**	**0.1976**	**7.7000e-004**	**0.0664**	**5.4000e-004**	**0.0669**	**0.0177**	**5.1000e-004**	**0.0183**	**0.0000**	**70.9724**	**70.9724**	**2.3900e-003**	**0.0000**	**71.0323**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0267	0.2445	0.2762	4.6000e-004		0.0119	0.0119		0.0112	0.0112	0.0000	39.4068	39.4068	9.3700e-003	0.0000	39.6411
Total	**0.0267**	**0.2445**	**0.2762**	**4.6000e-004**		**0.0119**	**0.0119**		**0.0112**	**0.0112**	**0.0000**	**39.4068**	**39.4068**	**9.3700e-003**	**0.0000**	**39.6411**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8000e-003	0.0590	0.0189	2.0000e-004	5.2500e-003	7.0000e-005	5.3200e-003	1.5100e-003	7.0000e-005	1.5800e-003	0.0000	19.7157	19.7157	1.0700e-003	0.0000	19.7425
Worker	0.0212	0.0153	0.1787	5.7000e-004	0.0611	4.7000e-004	0.0616	0.0162	4.4000e-004	0.0167	0.0000	51.2568	51.2568	1.3200e-003	0.0000	51.2898
Total	**0.0230**	**0.0743**	**0.1976**	**7.7000e-004**	**0.0664**	**5.4000e-004**	**0.0669**	**0.0177**	**5.1000e-004**	**0.0183**	**0.0000**	**70.9724**	**70.9724**	**2.3900e-003**	**0.0000**	**71.0323**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	4.1000e-004	4.8100e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3789	1.3789	4.0000e-005	0.0000	1.3798
Total	**5.7000e-004**	**4.1000e-004**	**4.8100e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3789**	**1.3789**	**4.0000e-005**	**0.0000**	**1.3798**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	4.1000e-004	4.8100e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3789	1.3789	4.0000e-005	0.0000	1.3798
Total	**5.7000e-004**	**4.1000e-004**	**4.8100e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3789**	**1.3789**	**4.0000e-005**	**0.0000**	**1.3798**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4235					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**1.4254**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-003	1.8100e-003	0.0212	7.0000e-005	7.2300e-003	6.0000e-005	7.2900e-003	1.9200e-003	5.0000e-005	1.9700e-003	0.0000	6.0670	6.0670	1.6000e-004	0.0000	6.0709
Total	**2.5000e-003**	**1.8100e-003**	**0.0212**	**7.0000e-005**	**7.2300e-003**	**6.0000e-005**	**7.2900e-003**	**1.9200e-003**	**5.0000e-005**	**1.9700e-003**	**0.0000**	**6.0670**	**6.0670**	**1.6000e-004**	**0.0000**	**6.0709**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4235					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**1.4254**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-003	1.8100e-003	0.0212	7.0000e-005	7.2300e-003	6.0000e-005	7.2900e-003	1.9200e-003	5.0000e-005	1.9700e-003	0.0000	6.0670	6.0670	1.6000e-004	0.0000	6.0709
Total	**2.5000e-003**	**1.8100e-003**	**0.0212**	**7.0000e-005**	**7.2300e-003**	**6.0000e-005**	**7.2900e-003**	**1.9200e-003**	**5.0000e-005**	**1.9700e-003**	**0.0000**	**6.0670**	**6.0670**	**1.6000e-004**	**0.0000**	**6.0709**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6111	3.2302	8.1970	0.0381	3.8220	0.0243	3.8462	1.0241	0.0225	1.0466	0.0000	3,539.5736	3,539.5736	0.1483	0.0000	3,543.2816
Unmitigated	0.6111	3.2302	8.1970	0.0381	3.8220	0.0243	3.8462	1.0241	0.0225	1.0466	0.0000	3,539.5736	3,539.5736	0.1483	0.0000	3,543.2816

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,025.75	2,907.45	2666.30	10,073,360	10,073,360
Total	3,025.75	2,907.45	2,666.30	10,073,360	10,073,360

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	20.00	40.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542058	0.044057	0.210689	0.115963	0.013736	0.006367	0.021423	0.034509	0.002637	0.001734	0.005297	0.000719	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	444.0073	444.0073	0.0242	5.0100e-003	446.1069
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	444.0073	444.0073	0.0242	5.0100e-003	446.1069
NaturalGas Mitigated	0.0329	0.2809	0.1195	1.7900e-003		0.0227	0.0227		0.0227	0.0227	0.0000	325.2661	325.2661	6.2300e-003	5.9600e-003	327.1990
NaturalGas Unmitigated	0.0329	0.2809	0.1195	1.7900e-003		0.0227	0.0227		0.0227	0.0227	0.0000	325.2661	325.2661	6.2300e-003	5.9600e-003	327.1990

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	6.09526e+006	0.0329	0.2809	0.1195	1.7900e-003		0.0227	0.0227		0.0227	0.0227	0.0000	325.2661	325.2661	6.2300e-003	5.9600e-003	327.1990
Total		**0.0329**	**0.2809**	**0.1195**	**1.7900e-003**		**0.0227**	**0.0227**		**0.0227**	**0.0227**	**0.0000**	**325.2661**	**325.2661**	**6.2300e-003**	**5.9600e-003**	**327.1990**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	6.09526e+006	0.0329	0.2809	0.1195	1.7900e-003		0.0227	0.0227		0.0227	0.0227	0.0000	325.2661	325.2661	6.2300e-003	5.9600e-003	327.1990
Total		**0.0329**	**0.2809**	**0.1195**	**1.7900e-003**		**0.0227**	**0.0227**		**0.0227**	**0.0227**	**0.0000**	**325.2661**	**325.2661**	**6.2300e-003**	**5.9600e-003**	**327.1990**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.84192e+006	444.0073	0.0242	5.0100e-003	446.1069
Total		**444.0073**	**0.0242**	**5.0100e-003**	**446.1069**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.84192e+006	444.0073	0.0242	5.0100e-003	446.1069
Total		**444.0073**	**0.0242**	**5.0100e-003**	**446.1069**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.4168	0.1720	7.5723	7.6300e-003		0.4605	0.4605		0.4605	0.4605	48.3297	100.5378	148.8674	0.1514	3.2800e-003	153.6307
Unmitigated	3.4168	0.1720	7.5723	7.6300e-003		0.4605	0.4605		0.4605	0.4605	48.3297	100.5378	148.8674	0.1514	3.2800e-003	153.6307

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1424					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6441					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4903	0.1180	2.8924	7.3800e-003		0.4345	0.4345		0.4345	0.4345	48.3297	92.8730	141.2027	0.1441	3.2800e-003	145.7835
Landscaping	0.1400	0.0540	4.6799	2.5000e-004		0.0260	0.0260		0.0260	0.0260	0.0000	7.6647	7.6647	7.3000e-003	0.0000	7.8473
Total	**3.4168**	**0.1720**	**7.5723**	**7.6300e-003**		**0.4605**	**0.4605**		**0.4605**	**0.4605**	**48.3297**	**100.5378**	**148.8674**	**0.1514**	**3.2800e-003**	**153.6307**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1424					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6441					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4903	0.1180	2.8924	7.3800e-003		0.4345	0.4345		0.4345	0.4345	48.3297	92.8730	141.2027	0.1441	3.2800e-003	145.7835
Landscaping	0.1400	0.0540	4.6799	2.5000e-004		0.0260	0.0260		0.0260	0.0260	0.0000	7.6647	7.6647	7.3000e-003	0.0000	7.8473
Total	**3.4168**	**0.1720**	**7.5723**	**7.6300e-003**		**0.4605**	**0.4605**		**0.4605**	**0.4605**	**48.3297**	**100.5378**	**148.8674**	**0.1514**	**3.2800e-003**	**153.6307**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	152.5078	0.9738	0.0244	184.1312
Unmitigated	152.5078	0.9738	0.0244	184.1312

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	29.6451 / 18.6893	152.5078	0.9738	0.0244	184.1312
Total		**152.5078**	**0.9738**	**0.0244**	**184.1312**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	29.6451 / 18.6893	152.5078	0.9738	0.0244	184.1312
Total		**152.5078**	**0.9738**	**0.0244**	**184.1312**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	42.4860	2.5109	0.0000	105.2573
Unmitigated	42.4860	2.5109	0.0000	105.2573

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	209.3	42.4860	2.5109	0.0000	105.2573
Total		**42.4860**	**2.5109**	**0.0000**	**105.2573**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	209.3	42.4860	2.5109	0.0000	105.2573
Total		**42.4860**	**2.5109**	**0.0000**	**105.2573**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

8850 Sunset Blvd, West Hollywood

Project Operational Energy Demand

Mobile Source Gasoline Demand

Scenario	Vehicle MT CO_2	Kg CO2/Gallon	Gallons
Project	307,106.34	8.78	34,977,942.94
Existing	426,272.91	8.78	48,550,445.65
		Net Increase	**-13,572,502.71**

Mobile Source Diesel Demand

Scenario	Vehicle MT CO_2	Kg CO2/Gallon	Gallons
Project	24,967.61	10.21	2,445,407.02
Existing	34,655.79	10.21	3,394,299.11
		Net Increase	**-948,892.09**

Electricity Demand

Project Facility	mWh/Year
Proposed Project	
Buildings	255,113.50
Water/Wastewater	82,775.24
Total	337,888.74
Existing	
Buildings	209,567.53
Water/Wastewater	23,545.36
Total	233,112.89
Net Increase in Electricity Demand	**104,775.85**

Natural Gas Demand

Scenario	mmBTu/Year
Project Buildings	845,444.00
Existing Buildings	26,127.80
Net Increase in Natural Gas Demand	**819,316.20**

Construction Worker Gasoline Demand

Phase	Vehicle CO_2 (MT)	Kg/CO2/Gallon	Gallons for One 10-Unit Developemnt	Gallons for 6,345 10-Unit Developemnts	Gallons for 6,345 10-Unit Developemnts Averaged over 8 years
Demolition	0.49	8.78	56.32	357,357.92	44,669.74
Site Preparation	0.02	8.78	2.81	17,849.83	2,231.23
Grading	0.10	8.78	11.26	71,471.58	8,933.95
Building Construction	3.40	8.78	387.70	2,459,952.16	307,494.02
Paving 1 - Internal road construction	0.43	8.78	48.91	310,312.41	38,789.05
Architectural Coating	0.02	8.78	2.72	17,271.70	2,158.96
Total			509.73	3,234,215.60	404,276.95

Fuel	KgCO2/Gallon
Gasoline	8.78
Diesel	10.21

Construction Vendor Diesel Demand

Phase	Vehicle CO_2 (MT)	Kg/CO2/Gallon	Gallons for One 10-Unit Developemnt	Gallons for 6,345 10-Unit Developemnts	Gallons for 6,345 10-Unit Developemnts Averaged over 8 years
Demolition	0.00	10.21	0.00	0.00	0.00
Site Preparation	0.00	10.21	0.00	0.00	0.00
Grading	0.00	10.21	0.00	0.00	0.00
Building Construction	1.23	10.21	120.22	762,767.19	95,345.90
Paving 1 - Internal road construction	0.00	10.21	0.00	0.00	0.00
Architectural Coating	0.00	10.21	0.00	0.00	0.00
Total			120.22	762,767.19	95,345.90

Construction Haul Diesel Demand

Phase	Vehicle CO_2 (MT)	Kg/CO2/Gallon	Gallons for One 10-Unit Developemnt	Gallons for 6,345 10-Unit Developemnts	Gallons for 6,345 10-Unit Developemnts Averaged over 8 years
Demolition	1.98	10.21	194.12	1,231,713.03	153,964.13
Site Preparation	0.00	10.21	0.00	0.00	0.00
Grading	4.00	10.21	391.98	2,487,103.28	310,887.91
Building Construction	0.00	10.21	0.00	0.00	0.00
Paving 1 - Internal road construction	0.00	10.21	0.00	0.00	0.00
Architectural Coating	0.00	10.21	0.00	0.00	0.00
Total			586.10	3,718,816.31	464,852.04

Construction Equipment Diesel Demand

Phase	Equipment CO_2 (MT)	Kg/CO2/Gallon	Gallons for One 10-Unit Developemnt	Gallons for 6,345 10-Unit Developemnts	Gallons for 6,345 10-Unit Developemnts Averaged over 8 years
Demolition	5.20	10.21	509.76	3,234,458.52	404,307.32
Site Preparation	0.43	10.21	41.88	265,731.83	33,216.48
Grading	1.04	10.21	101.95	646,866.85	80,858.36
Building Construction	50.06	10.21	4,902.68	31,107,527.72	3,888,440.96
Paving 1 - Internal road construction	2.35	10.21	230.09	1,459,909.30	182,488.66
Architectural Coating	0.64	10.21	62.52	396,671.25	49,583.91
Total			5,848.88	37,111,165.48	4,638,895.68

Totals	Petroleum	Diesel
1 10-unit	509.73	6,555.20
6,345 10 unit	3,234,215.60	41,592,748.97
6,345 10-unit 8 ye	404,276.95	5,199,093.62

Mobile Source Gasoline Demand

Project Phase	Vehicle MT CO_2	Kg/CO2/ Gallon	Gallons
Existing	426,272.91	8.78	48,550,445.65
Project	307,106.34	8.78	34,977,942.94
Net Total			**-13,572,502.71**

Mobile Source Diesel Demand

Project Phase	MT CO_2	Kg/CO2/ Gallon	Gallons
Existing	34655.79	10.21	3,394,299.11
Project	24967.61	10.21	2,445,407.02
Total			**-948,892.09**

County Of Los Angeles Housing Element
Operational Electricity - Existing

Total Electricity - Existing	kWh/yr	mWh/yr
Buildings	209,567,533.60	209,567.53
Water/Wastewater	23,545,356.67	23,545.36
Total	**233,112,890.27**	**233,112.89**

Electricity Intensity Factors - Water/Wastewater

Process	Units	
Supply	kwh/MG	9,727
Treat	kwh/MG	111
Distribute	kwh/MG	1,272
Wastewater Treatment	kwh/MG	1,911
Total	**kwh/MG**	**13,021**

* Electricity intensity factors from CalEEMod Appendix D for Los Angeles County

Electricity Demand - Water/Wastewater

	Units	Potable Water - Indoor	Potable Water - Outdoor	Total
Electricity Intensity Factor				
Supply	kwh/MG	9,727	9,727	N/A
Treat	kwh/MG	111	111	N/A
Distribute	kwh/MG	1,272	1,272	N/A
Wastewater Treatment	kwh/MG	1,911	-	N/A
Total	**kwh/MG**	**13,021**	**11,110**	N/A
Water Consumption - Project				
Project Water	MG/yr	1187.34	727.72	1915.06
Total	**MG/yr**	**1,187.3**	**727.7**	**1,915.1**
Electricity Usage - Project	**kwh/yr**	**15,460,354**	**8,085,003**	**23,545,357**

County Of Los Angeles Housing Element
Operational Electricity - Project

Total Electricity - Project	**kWh/yr**	mWh/yr
Buildings	255,113,500.00	255,113.50
Water/Wastewater	82,775,241.70	82,775.24
Total	**337,888,741.70**	337,888.74

Electricity Intensity Factors - Water/Wastewater

Process	**Units**	
Supply	kwh/MG	9,727
Treat	kwh/MG	111
Distribute	kwh/MG	1,272
Wastewater Treatment	kwh/MG	1,911
Total	**kwh/MG**	**13,021**

* Electricity intensity factors from CalEEMod Appendix D for Los Angeles County

Electricity Demand - Water/Wastewater

	Units	**Potable Water - Indoor**	**Potable Water - Outdoor**	**Total**
Electricity Intensity Factor				
Supply	kwh/MG	9,727	9,727	N/A
Treat	kwh/MG	111	111	N/A
Distribute	kwh/MG	1,272	1,272	N/A
Wastewater Treatment	kwh/MG	1,911	-	N/A
Total	**kwh/MG**	**13,021**	**11,110**	N/A
Water Consumption - Project				
Project Water	MG/yr	4133.57	2605.94	6739.51
Total	**MG/yr**	**4,133.6**	**2,605.9**	**6,739.5**
Electricity Usage - Project	**kwh/yr**	**53,823,215**	**28,952,027**	**82,775,242**

Appendix C1

California Native American Heritage Commission Sacred Lands File Search Results

NATIVE AMERICAN HERITAGE COMMISSION

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March 29, 2021

Jennifer De Alba
Dudek

Via Email to: jdealba@dudek.com

Re: 12957.01 LA County Housing Element Update Project, Los Angeles County

Dear Ms. De Alba:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the Gabrieleno Band of Mission Indians – Kizh Nation, the Gabrieleno/Tongva San Gabriel Band of Mission Indians, and the Gabrielino Tongva Indians of California Tribal Council on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Appendix C2

Confidential: Cultural Records Search (Not Included)

Appendix D

Acoustical Analysis Data and Output

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase, per City of San Diego = 75
allowable hours over which Leq is to be averaged (example: 12 for City of San Diego) = 8

Construction Phase	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	Concrete Saw	1	20	90		280	75.0	8	480	68
	Excavator	1	40	81		280	66.0	8	480	62
	Dozer	1	40	82		280	67.0	8	480	63
							Total for Demolition Phase:			**70.0**
Site Preparation	Dozer	1	40	82		115	74.8	8	480	71
	tractor	1	40	84		115	76.8	8	480	73
							Total for Site Preparation Phase:			**74.9**
Grading	Excavator	1	40	81		303	65.4	8	480	61
	Grader	1	40	85		303	69.4	8	480	65
	Dozer	1	40	82		303	66.4	8	480	62
	Scraper	1	40	84		303	68.4	8	480	64
	Backhoe	1	40	78		303	62.4	8	480	58
							Total for Grading Phase:			**70.0**
Building Construction	Crane	1	16	81		126	73.0	7	420	64
	Man lift	1	20	75		126	67.0	8	480	60
	Generator	1	50	72		126	64.0	8	480	61
	Backhoe	1	40	78		126	70.0	8	480	66
	Welder / Torch	1	40	73		126	65.0	7	420	60
							Total for Building Construction Phase:			**70.0**
Paving	Paver	1	50	77		160	66.9	8	480	64
	Concrete Mixer Truck	1	40	79		160	68.9	8	480	65
	Roller	1	20	80		160	69.9	8	480	63
	Backhoe	1	40	78		160	67.9	8	480	64
							Total for Paving Phase:			**70.0**
Architectural Coating	compressor (air)	1	40	78		398	60.0	8	480	56
							Total for Architectural Coating Phase:			**56.0**
Pile Driving	Vibratory Pile Driver	1	20	95		398	77.0	8	480	70
							Total for Pile Driving Phase:			**70.0**

Table 4.14-4 Construction Noise: Screening Distance to Adjoining Receptor Within Which Significant Impact Occurs - Duration Less Than 10 Days

Construction Phase	Screening Distance (feet)		
	Single-family residential (75 dBA)	Multi-family residential (80 dBA)	Semi-residential/commerical (85 dBA)
Demo	157	90	50
Site Prep/Grading	114	65	36
Grading	170	96	54
Building Construction	71	40	23
Paving	90	50	29
Architectural Coating	45	25	15
Pile Driving	223	126	71

Table 4.14-5 Construction Noise: Screening Distance to Adjoining Receptor Within Which Significant Impact Occurs - Duration 10 Days or More

Construction Phase	Screening Distance to Adjoining Receptor Within Which Significant Impact Occurs (in feet)		
	Single-family residential (60 dBA)	Multi-family residential (65 dBA)	Semi-residential/commerical (70 dBA)
Demo	900	500	280
Site Prep/Grading	650	360	115
Grading	952	535	303
Building Construction	405	225	126
Paving	505	285	160
Architectural Coating	250	142	79
Pile Driving	1255	705	398

PhaseName	OffRoadEquipmentType	OffRoadEqui (Ignore for n	UsageHours	HorsePower	LoadFactor
Demolition	Concrete/Industrial Saws	40	8	81	0.73
Demolition	Excavators	120	8	158	0.38
Demolition	Rubber Tired Dozers	80	8	247	0.4
Site Preparation	Rubber Tired Dozers	120	8	247	0.4
Site Preparation	Tractors/Loaders/Backhoes	160	8	97	0.37
Grading	Excavators	80	8	158	0.38
Grading	Graders	40	8	187	0.41
Grading	Rubber Tired Dozers	40	8	247	0.4
Grading	Scrapers	80	8	367	0.48
Grading	Tractors/Loaders/Backhoes	80	8	97	0.37
Building Construction	Cranes	40	7	231	0.29
Building Construction	Forklifts	120	8	89	0.2
Building Construction	Generator Sets	40	8	84	0.74
Building Construction	Tractors/Loaders/Backhoes	120	7	97	0.37
Building Construction	Welders	40	8	46	0.45
Paving	Pavers	80	8	130	0.42
Paving	Paving Equipment	80	8	132	0.36
Paving	Rollers	80	8	80	0.38
Architectural Coating	Air Compressors	40	6	78	0.48

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase, per City of San Diego = 75

allowable hours over which Leq is to be averaged (example: 12 for City of San Diego) = 8

Construction Phase	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Combined equipment type and quantity (for table in report document?)
RCNM construction list	All Other Equipment > 5 HP	1	50	85		50	85.0	8	480	82	All Other Equipment > 5 HP (1)
	Auger Drill Rig	1	20	84		50	84.0	8	480	77	Auger Drill Rig (1)
	Backhoe	1	40	78		50	78.0	8	480	74	Backhoe (1)
	Bar Bender	1	20	80		50	80.0	8	480	73	Bar Bender (1)
	Boring Jack Power Unit	1	50	80		50	80.0	8	480	77	Boring Jack Power Unit (1)
	Chain Saw	1	20	84		50	84.0	8	480	77	Chain Saw (1)
	Clam Shovel (dropping)	1	20	87		50	87.0	8	480	80	Clam Shovel (dropping) (1)
	Compactor (ground)	1	20	80		50	80.0	8	480	73	Compactor (ground) (1)
	Compressor (air)	1	40	78		50	78.0	8	480	74	Compressor (air) (1)
	Concrete Batch Plant	1	15	83		50	83.0	8	480	75	Concrete Batch Plant (1)
	Concrete Mixer Truck	1	40	79		50	79.0	8	480	75	Concrete Mixer Truck (1)
	Concrete Pump Truck	1	20	81		50	81.0	8	480	74	Concrete Pump Truck (1)
	Concrete Saw	1	20	90		50	90.0	8	480	83	Concrete Saw (1)
	Crane	1	16	81		50	81.0	8	480	73	Crane (1)
	Dozer	1	40	82		50	82.0	8	480	78	Dozer (1)
	Drill Rig Truck	1	20	79		50	79.0	8	480	72	Drill Rig Truck (1)
	Drum Mixer	1	50	80		50	80.0	8	480	77	Drum Mixer (1)
	Dump Truck	1	40	76		50	76.0	8	480	72	Dump Truck (1)
	Excavator	1	40	81		50	81.0	8	480	77	Excavator (1)
	Flat Bed Truck	1	40	74		50	74.0	8	480	70	Flat Bed Truck (1)
	Front End Loader	1	40	79		50	79.0	8	480	75	Front End Loader (1)
	Generator	1	50	72		50	72.0	8	480	69	Generator (1)
	Generator (<25KVA, VMS signs)	1	50	70		50	70.0	8	480	67	Generator (<25KVA, VMS signs) (1)
	Gradall	1	40	83		50	83.0	8	480	79	Gradall (1)
	Grader	1	40	85		50	85.0	8	480	81	Grader (1)
	Grapple (on backhoe)	1	40	85		50	85.0	8	480	81	Grapple (on backhoe) (1)
	Horizontal Boring Hydr. Jack	1	25	80		50	80.0	8	480	74	Horizontal Boring Hydr. Jack (1)
	Hydra Break Ram	1	10	90		50	90.0	8	480	80	Hydra Break Ram (1)
	Impact Pile Driver	1	20	95		50	95.0	8	480	88	Impact Pile Driver (1)
	Jackhammer	1	20	85		50	85.0	8	480	78	Jackhammer (1)
	Man Lift	1	20	75		50	75.0	8	480	68	Man Lift (1)
	Mounted Impact Hammer (hoe ram)	1	20	90		50	90.0	8	480	83	Mounted Impact Hammer (hoe ram) (1)
	Pavement Scarafier	1	20	85		50	85.0	8	480	78	Pavement Scarafier (1)
	Paver	1	50	77		50	77.0	8	480	74	Paver (1)
	Pickup Truck	1	40	55		50	55.0	8	480	51	Pickup Truck (1)
	Pneumatic Tools	1	50	85		50	85.0	8	480	82	Pneumatic Tools (1)
	Pumps	1	50	77		50	77.0	8	480	74	Pumps (1)
	Refrigerator Unit	1	100	73		50	73.0	8	480	73	Refrigerator Unit (1)
	Rivit Buster/chipping gun	1	20	79		50	79.0	8	480	72	Rivit Buster/chipping gun (1)
	Rock Drill	1	20	81		50	81.0	8	480	74	Rock Drill (1)
	Roller	1	20	80		50	80.0	8	480	73	Roller (1)
	Sand Blasting (Single Nozzle)	1	20	85		50	85.0	8	480	78	Sand Blasting (Single Nozzle) (1)
	Scraper	1	40	84		50	84.0	8	480	80	Scraper (1)
	Shears (on backhoe)	1	40	85		50	85.0	8	480	81	Shears (on backhoe) (1)
	Slurry Plant	1	100	78		50	78.0	8	480	78	Slurry Plant (1)
	Slurry Trenching Machine	1	50	80		50	80.0	8	480	77	Slurry Trenching Machine (1)
	Soil Mix Drill Rig	1	50	80		50	80.0	8	480	77	Soil Mix Drill Rig (1)
	Tractor	1	40	84		50	84.0	8	480	80	Tractor (1)
	Vacuum Excavator (Vac-truck)	1	40	85		50	85.0	8	480	81	Vacuum Excavator (Vac-truck) (1)
	Vacuum Street Sweeper	1	10	80		50	80.0	8	480	70	Vacuum Street Sweeper (1)
	Ventilation Fan	1	100	79		50	79.0	8	480	79	Ventilation Fan (1)
	Vibrating Hopper	1	50	85		50	85.0	8	480	82	Vibrating Hopper (1)
	Vibratory Concrete Mixer	1	20	80		50	80.0	8	480	73	Vibratory Concrete Mixer (1)
	Vibratory Pile Driver	1	20	95		50	95.0	8	480	88	Vibratory Pile Driver (1)
	Warning Horn	1	5	83		50	83.0	8	480	70	Warning Horn (1)
	Welder / Torch	1	40	73		50	73.0	8	480	69	Welder / Torch (1)
							Total for RCNM construction list Phase:			96.4	

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Lesser of or available Lmax	Spec. 721 Lmax	Measured L_{max} @50ft (dBA, slow)
All Other Equipment > 5 HP	No	50	85	85	-- N/A --
Auger Drill Rig	No	20	84	85	84
Backhoe	No	40	78	80	78
Bar Bender	No	20	80	80	-- N/A --
Blasting	Yes	-- N/A --	94	94	-- N/A --
Boring Jack Power Unit	No	50	80	80	83
Chain Saw	No	20	84	85	84
Clam Shovel (dropping)	Yes	20	87	93	87
Compactor (ground)	No	20	80	80	83
Compressor (air)	No	40	78	80	78
Concrete Batch Plant	No	15	83	83	-- N/A --
Concrete Mixer Truck	No	40	79	85	79
Concrete Pump Truck	No	20	81	82	81
Concrete Saw	No	20	90	90	90
Crane	No	16	81	85	81
Dozer	No	40	82	85	82
Drill Rig Truck	No	20	79	84	79
Drum Mixer	No	50	80	80	80
Dump Truck	No	40	76	84	76
Excavator	No	40	81	85	81
Flat Bed Truck	No	40	74	84	74
Front End Loader	No	40	79	80	79
Generator	No	50	72	72	81
Generator (<25KVA, VMS signs)	No	50	70	70	73
Gradall	No	40	83	85	83
Grader	No	40	85	85	-- N/A --
Grapple (on backhoe)	No	40	85	85	87
Horizontal Boring Hydr. Jack	No	25	80	80	82
Hydra Break Ram	Yes	10	90	90	-- N/A --
Impact Pile Driver	Yes	20	95	95	101
Jackhammer	Yes	20	85	85	89
Man Lift	No	20	75	85	75
Mounted Impact Hammer (hoe ram)	Yes	20	90	90	90
Pavement Scarafier	No	20	85	85	90
Paver	No	50	77	85	77
Pickup Truck	No	40	55	55	75
Pneumatic Tools	No	50	85	85	85
Pumps	No	50	77	77	81
Refrigerator Unit	No	100	73	82	73
Rivit Buster/chipping gun	Yes	20	79	85	79

Rock Drill	No	20	81	85	81
Roller	No	20	80	85	80
Sand Blasting (Single Nozzle)	No	20	85	85	96
Scraper	No	40	84	85	84
Shears (on backhoe)	No	40	85	85	96
Slurry Plant	No	100	78	78	78
Slurry Trenching Machine	No	50	80	82	80
Soil Mix Drill Rig	No	50	80	80	-- N/A --
Tractor	No	40	84	84	-- N/A --
Vacuum Excavator (Vac-truck)	No	40	85	85	85
Vacuum Street Sweeper	No	10	80	80	82
Ventilation Fan	No	100	79	85	79
Vibrating Hopper	No	50	85	85	87
Vibratory Concrete Mixer	No	20	80	80	80
Vibratory Pile Driver	No	20	95	95	101
Warning Horn	No	5	83	85	83
Welder / Torch	No	40	73	73	74

Appendix D

Development Size (number of residential units)	Screening Distance (feet) to Threshold of Adjoining Noise Zone (within which exceedance and thus significant impact would occur)					
	Noise Zone I (anytime)	Noise Zone II		Noise Zone III		Noise Zone IV (anytime)
	45 dBA	Day 50 dBA	Night 45 dBA	Day 60 dBA	Night 55 dBA	70 dBA
1-2	65	36	65	12	20	4
3-4	90	50	90	16	30	6
5-8	102	70	102	24	42	8
9-16	131	87	131	33	59	11
17-32	173	110	173	47	74	15
33-64	231	143	231	66	94	21
65-128	314	190	314	81	120	30
129-256	428	256	428	102	158	42

2 tons per unit

Development Size	Tonnage needed	Carrier 2 ton units	sound level at 1
1-2	4	2	71.0
3-4	8	4	74.0
5-8	16	8	77.0
9-16	32	16	80.0
17-32	64	32	83.1
33-64	128	64	86.1
65-128	256	128	89.1
129-256	512	256	92.1

Noise Level @ 1 meter

Carrier 2 ton 68

		Development Size (number of residential units)							
meter	feet	1-2	3-4	5-8	9-16	17-32	33-64	65-128	129-256
1	3.28084	71.00	74.02	77.03	80.04	83.05	86.06	89.07	92.08
2	6.56168	64.98	67.99	71.00	74.01	77.02	80.03	83.04	86.05
3	9.84252	61.46	64.47	67.48	70.49	73.50	76.51	79.52	82.53
4	13.12336	58.95	61.96	64.97	67.98	70.99	74.01	77.02	80.03
5	16.4042	57.01	60.02	63.03	66.04	69.05	72.06	75.07	78.08
6	19.68504	55.43	58.44	61.45	64.46	67.47	70.48	73.49	76.50
7	22.96588	54.08	57.09	60.10	63.11	66.12	69.13	72.14	75.16
8	26.24672	52.92	55.93	58.94	61.95	64.96	67.97	70.98	73.99
9	29.52756	51.89	54.90	57.91	60.92	63.93	66.95	69.96	72.97
10	32.8084	50.98	53.99	57.00	60.01	63.02	66.03	69.04	72.05
11	36.08924	50.14	53.15	56.16	59.18	62.19	65.20	68.21	71.22
12	39.37008	49.39	52.40	55.41	58.42	61.43	64.44	67.45	70.46
13	42.65092	48.69	51.70	54.71	57.72	60.73	63.74	66.75	69.76
14	45.93176	48.04	51.05	54.06	57.07	60.08	63.09	66.10	69.11
15	49.2126	47.44	50.45	53.46	56.47	59.48	62.49	65.50	68.51
16	52.49344	46.87	49.88	52.89	55.90	58.91	61.92	64.93	67.95
17	55.77428	46.34	49.35	52.36	55.37	58.38	61.39	64.41	67.42
18	59.05512	45.84	48.85	51.86	54.87	57.88	60.90	63.91	66.92
19	62.33596	45.37	48.38	51.39	54.40	57.41	60.42	63.43	66.44
20	65.6168	44.92	47.93	50.94	53.95	56.96	59.97	62.98	65.99
21	68.89764	44.24	47.25	50.26	53.27	56.28	59.29	62.30	65.31
22	72.17848	43.53	46.54	49.55	52.56	55.57	58.58	61.59	64.60
23	75.45932	42.88	45.89	48.90	51.91	54.92	57.93	60.94	63.95
24	78.74016	42.27	45.28	48.29	51.30	54.31	57.32	60.33	63.34
25	82.021	41.70	44.71	47.72	50.73	53.74	56.75	59.76	62.77
26	85.30184	41.17	44.18	47.19	50.20	53.21	56.22	59.23	62.24
27	88.58268	40.67	43.68	46.69	49.70	52.71	55.72	58.73	61.74
28	91.86352	40.19	43.20	46.21	49.22	52.23	55.24	58.25	61.26
29	95.14436	39.74	42.75	45.76	48.77	51.78	54.79	57.80	60.81
30	98.4252	39.31	42.32	45.33	48.34	51.35	54.36	57.37	60.38
31	101.706	38.90	41.91	44.92	47.93	50.94	53.95	56.96	59.97
32	104.9869	38.51	41.52	44.53	47.54	50.55	53.56	56.57	59.58
33	108.2677	38.14	41.15	44.16	47.17	50.18	53.19	56.20	59.21
34	111.5486	37.78	40.79	43.80	46.81	49.82	52.83	55.84	58.85
35	114.8294	37.44	40.45	43.46	46.47	49.48	52.49	55.50	58.51
36	118.1102	37.11	40.12	43.13	46.14	49.15	52.16	55.17	58.18
37	121.3911	36.79	39.80	42.81	45.82	48.83	51.84	54.85	57.86
38	124.6719	36.48	39.49	42.50	45.52	48.53	51.54	54.55	57.56
39	127.9528	36.19	39.20	42.21	45.22	48.23	51.24	54.25	57.26
40	131.2336	35.90	38.91	41.92	44.93	47.94	50.95	53.96	56.97
41	134.5144	35.63	38.64	41.65	44.66	47.67	50.68	53.69	56.70
42	137.7953	35.36	38.37	41.38	44.39	47.40	50.41	53.42	56.43
43	141.0761	35.10	38.11	41.12	44.13	47.14	50.15	53.16	56.17
44	144.357	34.84	37.85	40.87	43.88	46.89	49.90	52.91	55.92
45	147.6378	34.60	37.61	40.62	43.63	46.64	49.65	52.66	55.67
46	150.9186	34.36	37.37	40.38	43.39	46.40	49.41	52.42	55.43
47	154.1995	34.13	37.14	40.15	43.16	46.17	49.18	52.19	55.20
48	157.4803	33.90	36.91	39.92	42.93	45.94	48.95	51.96	54.97
49	160.7612	33.68	36.69	39.70	42.71	45.72	48.73	51.74	54.75
50	164.042	33.47	36.48	39.49	42.50	45.51	48.52	51.53	54.54
51	167.3228	33.26	36.27	39.28	42.29	45.30	48.31	51.32	54.33
52	170.6037	33.05	36.06	39.07	42.08	45.09	48.10	51.11	54.12
53	173.8845	32.85	35.86	38.87	41.88	44.89	47.90	50.91	53.92
54	177.1654	32.66	35.67	38.68	41.69	44.70	47.71	50.72	53.73
55	180.4462	32.46	35.47	38.49	41.50	44.51	47.52	50.53	53.54
56	183.727	32.28	35.29	38.30	41.31	44.32	47.33	50.34	53.35
57	187.0079	32.09	35.10	38.11	41.12	44.14	47.15	50.16	53.17
58	190.2887	31.91	34.92	37.93	40.95	43.96	46.97	49.98	52.99
59	193.5696	31.74	34.75	37.76	40.77	43.78	46.79	49.80	52.81
60	196.8504	31.57	34.58	37.59	40.60	43.61	46.62	49.63	52.64
61	200.1312	31.40	34.41	37.42	40.43	43.44	46.45	49.46	52.47

62	203.4121	31.23	34.24	37.25	40.26	43.27	46.28	49.29	52.30
63	206.6929	31.07	34.08	37.09	40.10	43.11	46.12	49.13	52.14
64	209.9738	30.91	33.92	36.93	39.94	42.95	45.96	48.97	51.98
65	213.2546	30.75	33.76	36.77	39.78	42.79	45.80	48.81	51.82
66	216.5354	30.60	33.61	36.62	39.63	42.64	45.65	48.66	51.67
67	219.8163	30.44	33.45	36.46	39.47	42.48	45.50	48.51	51.52
68	223.0971	30.29	33.30	36.32	39.33	42.34	45.35	48.36	51.37
69	226.378	30.15	33.16	36.17	39.18	42.19	45.20	48.21	51.22
70	229.6588	30.00	33.01	36.02	39.03	42.04	45.05	48.07	51.08
71	232.9396	29.86	32.87	35.88	38.89	41.90	44.91	47.92	50.93
72	236.2205	29.72	32.73	35.74	38.75	41.76	44.77	47.78	50.79
73	239.5013	29.58	32.59	35.60	38.61	41.62	44.63	47.65	50.66
74	242.7822	29.45	32.46	35.47	38.48	41.49	44.50	47.51	50.52
75	246.063	29.31	32.32	35.33	38.35	41.36	44.37	47.38	50.39
76	249.3438	29.18	32.19	35.20	38.21	41.22	44.23	47.24	50.25
77	252.6247	29.05	32.06	35.07	38.08	41.09	44.10	47.11	50.12
78	255.9055	28.92	31.94	34.95	37.96	40.97	43.98	46.99	50.00
79	259.1864	28.80	31.81	34.82	37.83	40.84	43.85	46.86	49.87
80	262.4672	28.67	31.68	34.69	37.71	40.72	43.73	46.74	49.75
81	265.748	28.55	31.56	34.57	37.58	40.59	43.60	46.61	49.62
82	269.0289	28.43	31.44	34.45	37.46	40.47	43.48	46.49	49.50
83	272.3097	28.31	31.32	34.33	37.34	40.35	43.36	46.37	49.38
84	275.5906	28.19	31.20	34.21	37.22	40.23	43.24	46.26	49.27
85	278.8714	28.08	31.09	34.10	37.11	40.12	43.13	46.14	49.15
86	282.1522	27.96	30.97	33.98	36.99	40.00	43.01	46.02	49.03
87	285.4331	27.85	30.86	33.87	36.88	39.89	42.90	45.91	48.92
88	288.7139	27.74	30.75	33.76	36.77	39.78	42.79	45.80	48.81
89	291.9948	27.63	30.64	33.65	36.66	39.67	42.68	45.69	48.70
90	295.2756	27.52	30.53	33.54	36.55	39.56	42.57	45.58	48.59
91	298.5564	27.41	30.42	33.43	36.44	39.45	42.46	45.47	48.48
92	301.8373	27.30	30.31	33.32	36.33	39.34	42.35	45.36	48.37
93	305.1181	27.20	30.21	33.22	36.23	39.24	42.25	45.26	48.27
94	308.399	27.09	30.10	33.11	36.12	39.13	42.14	45.15	48.16
95	311.6798	26.99	30.00	33.01	36.02	39.03	42.04	45.05	48.06
96	314.9606	26.89	29.90	32.91	35.92	38.93	41.94	44.95	47.96
97	318.2415	26.79	29.80	32.81	35.82	38.83	41.84	44.85	47.86
98	321.5223	26.69	29.70	32.71	35.72	38.73	41.74	44.75	47.76
99	324.8032	26.59	29.60	32.61	35.62	38.63	41.64	44.65	47.66
100	328.084	26.49	29.50	32.51	35.52	38.53	41.54	44.55	47.56
101	331.3648	26.39	29.40	32.41	35.42	38.43	41.44	44.45	47.47
102	334.6457	26.30	29.31	32.32	35.33	38.34	41.35	44.36	47.37
103	337.9265	26.20	29.21	32.22	35.23	38.24	41.25	44.26	47.27
104	341.2074	26.11	29.12	32.13	35.14	38.15	41.16	44.17	47.18
105	344.4882	26.02	29.03	32.04	35.05	38.06	41.07	44.08	47.09
106	347.769	25.92	28.93	31.94	34.96	37.97	40.98	43.99	47.00
107	351.0499	25.83	28.84	31.85	34.86	37.87	40.88	43.90	46.91
108	354.3307	25.74	28.75	31.76	34.77	37.78	40.79	43.81	46.82
109	357.6116	25.65	28.66	31.67	34.69	37.70	40.71	43.72	46.73
110	360.8924	25.57	28.58	31.59	34.60	37.61	40.62	43.63	46.64
111	364.1732	25.48	28.49	31.50	34.51	37.52	40.53	43.54	46.55
112	367.4541	25.39	28.40	31.41	34.42	37.43	40.44	43.45	46.46
113	370.7349	25.31	28.32	31.33	34.34	37.35	40.36	43.37	46.38
114	374.0158	25.22	28.23	31.24	34.25	37.26	40.27	43.28	46.29
115	377.2966	25.14	28.15	31.16	34.17	37.18	40.19	43.20	46.21
116	380.5774	25.05	28.06	31.07	34.08	37.09	40.10	43.11	46.13
117	383.8583	24.97	27.98	30.99	34.00	37.01	40.02	43.03	46.04
118	387.1391	24.89	27.90	30.91	33.92	36.93	39.94	42.95	45.96
119	390.42	24.81	27.82	30.83	33.84	36.85	39.86	42.87	45.88
120	393.7008	24.73	27.74	30.75	33.76	36.77	39.78	42.79	45.80
121	396.9816	24.65	27.66	30.67	33.68	36.69	39.70	42.71	45.72
122	400.2625	24.57	27.58	30.59	33.60	36.61	39.62	42.63	45.64
123	403.5433	24.49	27.50	30.51	33.52	36.53	39.54	42.55	45.56
124	406.8242	24.41	27.42	30.43	33.44	36.45	39.46	42.47	45.48
125	410.105	24.33	27.34	30.35	33.36	36.37	39.38	42.39	45.40
126	413.3858	24.26	27.27	30.28	33.29	36.30	39.31	42.32	45.33
127	416.6667	24.18	27.19	30.20	33.21	36.22	39.23	42.24	45.25
128	419.9475	24.10	27.11	30.13	33.14	36.15	39.16	42.17	45.18
129	423.2284	24.03	27.04	30.05	33.06	36.07	39.08	42.09	45.10
130	426.5092	23.96	26.97	29.98	32.99	36.00	39.01	42.02	45.03
131	429.79	23.88	26.89	29.90	32.91	35.92	38.93	41.94	44.95
132	433.0709	23.81	26.82	29.83	32.84	35.85	38.86	41.87	44.88
133	436.3517	23.74	26.75	29.76	32.77	35.78	38.79	41.80	44.81
134	439.6326	23.66	26.67	29.68	32.69	35.71	38.72	41.73	44.74
135	442.9134	23.59	26.60	29.61	32.62	35.63	38.64	41.65	44.66
136	446.1942	23.52	26.53	29.54	32.55	35.56	38.57	41.58	44.59
137	449.4751	23.45	26.46	29.47	32.48	35.49	38.50	41.51	44.52
138	452.7559	23.38	26.39	29.40	32.41	35.42	38.43	41.44	44.45
139	456.0368	23.31	26.32	29.33	32.34	35.35	38.36	41.37	44.38

Road	Description	Segment	GP 2035 ADT	Project Trips	Notes	Traffic Distribution Notes	Residentia	Non-Resid	Total	Existing	E+P	dB Change	GP 2035	GP + P	dB Change		
Lennox Blvd	west of	Hawthorne Blvd	10871	860		Net Total **3441 ADT** from pa	9790	-6349	3441	10091	10951	0.4	10871	11731	0.3		
Lennox Blvd	east of	Hawthorne Blvd	8112	860		Net Total **3441 ADT** from pa	9790	-6349	3441	7832	8692	0.5	8112	8972	0.4		
Avalon Blvd	South of	El Segundo Blvd	17414	-5394		Since reduction of project tr	12620	-23408	-10788	16074	10680	-1.8	17414	12020	-1.6		
Avalon Blvd	North of	El Segundo Blvd	22824	-3560		75 % reduction applied for p	5667	-10413	-4746	18604	15045	-0.9	22824	19265	-0.7		
El Segundo Blvd	between	S main Street/ San Pedro Street	21020	-4711		Reduction of 827 ADT from	1011	-1838	-827	19010	14300	-1.2	21020	16310	-1.1		
El Segundo Blvd	between	San Pedro Street/ Avalon	24370	-4297		25% reduction assumed from parcels along north and south of Avalon Blvd/El Segundo				21180	16883	-1.0	24370	20073	-0.8		
El Segundo Blvd	between	Avalon blvd/ central	22951	-4297	Already inclu	25% reduction assumed from parcels along north and south of Avalon Blvd/El Segundo				21701	17404	-1.0	22951	18654	-0.9		
E Alondra Blvd	west of	S Atlantic Ave	10098	-231		148 ADT added assumed fro	-1412	-3453	-4865	10098	9867	-0.1	10725	9867	-0.4		
W Century Blvd	west of	S Normandie Ave	29560	-605		100%, 50%, 25% and 10 % reduction from parcels along Century Boulevard, Normandie				25660	25055	-0.1	29560	28955	-0.1		
Compton Ave	Between	E Florence Ave/ Nadeau St	18420	4343		100% from parcels along Co	2897	830	3727	16640	20983	1.0	18420	22763	0.9		
Compton Ave	Between	E Florence Ave/ E Gage Ave	18978	8338		50% from parcels n/o of Gag	3792	1096	4888	16998	25336	1.7	18978	27316	1.6		
E Gage Ave	west of	Compton Blvd	28750	3215		25% from parcels along Compton, Gage and Central near the Gage/Compton intersecti				26630	29845	0.5	28750	31965	0.5		
E Florence Ave	east of	Alameda St	30750	5154	Already inclu	25% from parcels w/o Florence and 25% from parcels e/o Florence and 100% from parc				31325	36479	0.7	30750	35904	0.7	15522	15803
Santa Fe Ave	south of	Broadway	19506	435		100% from parcels along Santa Fe s/o Broadway				16386	16821	0.1	19506	19941	0.1		
Santa Fe Ave	between	Broadway / E Florence Ave	22255	2187		100% from parcels along Santa Fe btw Florence Ave and Broadway, 25% from parcels a				22465	24652	0.4	22255	24442	0.4		
E Florence Ave	west of	Santa Fe Ave	35999	4313	This value is s	25% from parcels w/o Alameda and 50% from parcels along Florence and -50% from p				34175	38488	0.5	35999	40312	0.5	16793	17382
E Florence Ave	east of	Santa Fe Ave	35778	4313		25% from parcels w/o Alameda and 50% from parcels along Florence and -50% from p				35396	39709	0.5	35778	40091	0.5	17614	17782
E Florence Ave	east of	Pacific blvd	29540	2129		15% from parcels w/o Alameda and 25% from parcels along Florence and -50% from p				27460	29589	0.3	29540	31669	0.3		
E Florence Ave	east of	Seville Ave	27170	2129		15% from parcels w/o Alameda and 25% from parcels along Florence and -50% from p				25260	27389	0.4	27170	29299	0.3		
Telegraph Rd	west of	Leffingwell rd	25560	-2412		75% reduction from parcels along Telegraph and Leffingwell Rd.				30890	28478	-0.4	25560	23148	-0.4		
Hacienda Blvd	between	Halliburton/las lomitas	52115	-6293		65% reduction from parcels along Haceinda near Haliburton (check for Las Lomitas)				48866	42573	-0.6	52115	45822	-0.6	25998	22868
Whittier Blvd	between	Garfield Ave/S Atlantic Blvd	21305	-5200		Since reduction of project traffic would result in negative volumes, only 50% reduction				21745	16546	-1.2	21305	16106	-1.2		
Whittier Blvd	between	S Atlantic Blvd/ S Arizona Ave	29012	-4531		100% reduction from parcels along Whittier Blvd btw Atlantic and Arizona				26362	21831	-0.8	29012	24481	-0.7		
S Atlantic Ave	North of	Whittier blvd	26672	-2198	Already inclu	100% reduction from parcels along Atlantic Blvd and 20% from 3rd Street TOD				25177	22979	-0.4	26672	24474	-0.4	12563	12614
E Amar Rd	Between	Valinda Ave/ S Hacienda Blvd	17804	-2505		100% reduction from parcels along Amar Drive				17614	15109	-0.7	17804	15299	-0.7		
E Arrow Hwy	between	N Glendora Ave/ Bonnie Cove Ave	17380	-1302		10%, 25% and 100% reduction from parcels along Arrow Highway and Grand Avenue ba				19340	18038	-0.3	17380	16078	-0.3		
E Arrow Hwy	between	Bonnie Cove Ave/N Sunflower Ave	17440	-2021		10%, 25%, 50% and 100% reduction from parcels along Arrow Highway and Grand Aver				19030	17009	-0.5	17440	15419	-0.5		
E Arrow Hwy	between	N Sunflower Ave/ Valley Center Av	20640	-1832		10%- 100% reduction from parcels along Arrow Highway and Grand Avenue based on p				22550	20718	-0.4	20640	18808	-0.4		
Allen Avenue	north of	New York Drive	7972	143		25% reduction parcels from parcels at the Allen Ave/New York Dr intersection and 10%				7201	7344	0.1	7972	8115	0.1	3758	3443
Allen Avenue	south of	New York Drive	9249	143		25% reduction parcels from parcels at the Allen Ave/New York Dr intersection and 10%				8436	8579	0.1	9249	9392	0.1	4347	4089
N Lake Ave	Between	New York Drive/ E Altadena Dr	14184	761		100% addition from parcels along Lake Avenue and 10-20% from adjacent parcels.				10244	11005	0.3	14184	14945	0.2		
E Woodbury Rd	East of	Fair Oaks Ave	26925	1097		100% and 75% additon from parcels along Woodbury and Lake Ave, 25% and 10% redu				22483	23580	0.2	26925	28022	0.2	11752	10731
Fair Oaks Ave	north of	E woodbury rd	1022	-56		100% reduction from parcels along Fair Oaks and 10-25% addition from parcels along V				854	798	-0.3	1022	966	-0.2	280	574

	Road	Segment	Existing ADT	Existing plus Project ADT	Resulting Noise Increase /Decrease (dBA)
1	Lennox Blvd	West of Hawthorne Blvd	10091	10951	0.4
2	Lennox Blvd	East of Hawthorne Blvd	7832	8692	0.5
3	Avalon Blvd	South of El Segundo Blvd	16074	10680	-1.8
4	Avalon Blvd	North of El Segundo Blvd	18604	15045	-0.9
5	El Segundo Blvd	Between S main Street/ San Pedro Street	19010	14300	-1.2
6	El Segundo Blvd	Between San Pedro Street/ Avalon	21180	16883	-1.0
7	El Segundo Blvd	Between Avalon Blvd/ central	21701	17404	-1.0
8	E Alondra Blvd	West of S Atlantic Ave	10098	9867	-0.1
9	W Century Blvd	West of S Normandie Ave	25660	25055	-0.1
10	Compton Ave	Between E Florence Ave/ Nadeau St	16640	20983	1.0
11	Compton Ave	Between E Florence Ave/ E Gage Ave	16998	25336	1.7
12	E Gage Ave	West of Compton Blvd	26630	29845	0.5
13	E Florence Ave	East of Alameda St	31325	36479	0.7
14	Santa Fe Ave	South of Broadway	16386	16821	0.1
15	Santa Fe Ave	Between Broadway / E Florence Ave	22465	24652	0.4
16	E Florence Ave	West of Santa Fe Ave	34175	38488	0.5
17	E Florence Ave	East of Santa Fe Ave	35396	39709	0.5
18	E Florence Ave	East of Pacific Blvd	27460	29589	0.3
19	E Florence Ave	East of Seville Ave	25260	27389	0.4
20	Telegraph Rd	West of Leffingwell Rd	30890	28478	-0.4
21	Hacienda Blvd	Between Halliburton/Las Lomitas	48866	42573	-0.6
22	Whittier Blvd	Between Garfield Ave/S Atlantic Blvd	21745	16546	-1.2
23	Whittier Blvd	Between S Atlantic Blvd/ S Arizona Ave	26362	21831	-0.8
24	S Atlantic Ave	North of Whittier Blvd	25177	22979	-0.4
25	E Amar Rd	Between Valinda Ave/ S Hacienda Blvd	17614	15109	-0.7
26	E Arrow Hwy	Between N Glendora Ave/ Bonnie Cove Ave	19340	18038	-0.3
27	E Arrow Hwy	Between Bonnie Cove Ave/N Sunflower Ave	19030	17009	-0.5
28	E Arrow Hwy	Between N Sunflower Ave/ Valley Center Av	22550	20718	-0.4
29	Allen Avenue	North of New York Drive	7201	7344	0.1
30	Allen Avenue	South of New York Drive	8436	8579	0.1
31	N Lake Ave	Between New York Drive/ E Altadena Dr	10244	11005	0.3
32	E Woodbury Rd	East of Fair Oaks Ave	22483	23580	0.2
33	Fair Oaks Ave	North of E Woodbury Rd	854	798	-0.3

Appendix D

	Road	Segment	Existing ADT	Existing plus Project ADT	Resulting Noise Increase /Decrease (dBA)
1	Lennox Blvd	West of Hawthorne Blvd	10091	10951	0.4
2	Lennox Blvd	East of Hawthorne Blvd	7832	8692	0.5
3	Avalon Blvd	South of El Segundo Blvd	16074	10680	-1.8
4	Avalon Blvd	North of El Segundo Blvd	18604	15045	-0.9
5	El Segundo Blvd	Between S main Street/ San Pedro Street	19010	14300	-1.2
6	El Segundo Blvd	Between San Pedro Street/ Avalon	21180	16883	-1.0
7	El Segundo Blvd	Between Avalon Blvd/ central	21701	17404	-1.0
8	E Alondra Blvd	West of S Atlantic Ave	10098	9867	-0.1
9	W Century Blvd	West of S Normandie Ave	25660	25055	-0.1
10	Compton Ave	Between E Florence Ave/ Nadeau St	16640	20983	1.0
11	Compton Ave	Between E Florence Ave/ E Gage Ave	16998	25336	1.7
12	E Gage Ave	West of Compton Blvd	26630	29845	0.5
13	E Florence Ave	East of Alameda St	31325	36479	0.7
14	Santa Fe Ave	South of Broadway	16386	16821	0.1
15	Santa Fe Ave	Between Broadway / E Florence Ave	22465	24652	0.4
16	E Florence Ave	West of Santa Fe Ave	34175	38488	0.5
17	E Florence Ave	East of Santa Fe Ave	35396	39709	0.5
18	E Florence Ave	East of Pacific Blvd	27460	29589	0.3
19	E Florence Ave	East of Seville Ave	25260	27389	0.4
20	Telegraph Rd	West of Leffingwell Rd	30890	28478	-0.4
21	Hacienda Blvd	Between Halliburton/Las Lomitas	48866	42573	-0.6
22	Whittier Blvd	Between Garfield Ave/S Atlantic Blvd	21745	16546	-1.2
23	Whittier Blvd	Between S Atlantic Blvd/ S Arizona Ave	26362	21831	-0.8
24	S Atlantic Ave	North of Whittier Blvd	25177	22979	-0.4
25	E Amar Rd	Between Valinda Ave/ S Hacienda Blvd	17614	15109	-0.7
26	E Arrow Hwy	Between N Glendora Ave/ Bonnie Cove Ave	19340	18038	-0.3
27	E Arrow Hwy	Between Bonnie Cove Ave/N Sunflower Ave	19030	17009	-0.5
28	E Arrow Hwy	Between N Sunflower Ave/ Valley Center Ave	22550	20718	-0.4
29	Allen Avenue	North of New York Drive	7201	7344	0.1
30	Allen Avenue	South of New York Drive	8436	8579	0.1
31	N Lake Ave	Between New York Drive/ E Altadena Dr	10244	11005	0.3
32	E Woodbury Rd	East of Fair Oaks Ave	22483	23580	0.2
33	Fair Oaks Ave	North of E Woodbury Rd	854	798	-0.3

Calculate Groundborne Vibration using FTA Noise and Vibration Manual guidance (Chapter 12)

Distance (feet)	PPV_{equip} (inches/sec)		
	Dozer	Roller	Impact Pile Driver
1	11.125	26.250	80.500
2	3.933	9.281	28.461
3	2.141	5.052	15.492
4	1.391	3.281	10.063
5	0.995	2.348	7.200
6	0.757	1.786	5.477
7	0.601	1.417	4.347
8	0.492	1.160	3.558
9	0.412	0.972	2.981
10	0.352	0.830	2.546
11	0.305	0.720	2.207
12	0.268	0.631	1.937
13	0.237	0.560	1.717
14	0.212	0.501	1.537
15	0.191	0.452	1.386
16	0.174	0.410	1.258
17	0.159	0.375	1.148
18	0.146	0.344	1.054
19	0.134	0.317	0.972
20	0.124	0.293	0.900
21	0.116	0.273	0.837
22	0.108	0.254	0.780
23	0.101	0.238	0.730
24	0.095	0.223	0.685
25	0.089	0.210	0.644
26	0.084	0.198	0.607
27	0.079	0.187	0.574
28	0.075	0.177	0.543
29	0.071	0.168	0.515
30	0.068	0.160	0.490
31	0.064	0.152	0.466
32	0.061	0.145	0.445
33	0.059	0.138	0.425
34	0.056	0.132	0.406
35	0.054	0.127	0.389
36	0.052	0.122	0.373
37	0.049	0.117	0.358
38	0.047	0.112	0.344
39	0.046	0.108	0.331
40	0.044	0.104	0.318
41	0.042	0.100	0.307
42	0.041	0.096	0.296
43	0.039	0.093	0.285
44	0.038	0.090	0.276
45	0.037	0.087	0.267
46	0.036	0.084	0.258
47	0.035	0.081	0.250
48	0.033	0.079	0.242
49	0.032	0.077	0.235
50	0.031	0.074	0.228
51	0.031	0.072	0.221
52	0.030	0.070	0.215
53	0.029	0.068	0.209
54	0.028	0.066	0.203
55	0.027	0.064	0.197
56	0.027	0.063	0.192
57	0.026	0.061	0.187
58	0.025	0.059	0.182
59	0.025	0.058	0.178
60	0.024	0.056	0.173
61	0.023	0.055	0.169
62	0.023	0.054	0.165
63	0.022	0.052	0.161
64	0.022	0.051	0.157
65	0.021	0.050	0.154
66	0.021	0.049	0.150
67	0.020	0.048	0.147
68	0.020	0.047	0.144
69	0.019	0.046	0.140
70	0.019	0.045	0.137

$$Lv(D) = Lv(25\text{ ft}) - 30\log(D/25)$$

PPVequip = PPVref x (25/D)1.5

Screening Distance (feet) to Adjoining Receptor for 0.01 in/sec from 1-100 Hz		
Dozer	Roller	Impact Pile Driver
104	185	389

Input			Ouput
Equipment	$L_{v(25')}$ (VdB)	D (feet)	Lv (VdB)
Loaded Trucks	94	1600	39.8

Input			Ouput
Equipment	PPV_{ref} (inches/sec)	D (feet)	PPV (inches/se
Impact Pile Drive	0.644	250	0.020
Large Bulldozer	0.089	65	0.0212
Roller	0.21	25	0.2100

Table 12-2. Vibration Source Levels for Construction Equipment (From measured			
Equipment		PPV at 25 ft (in/sec)	Approximate Lv† at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58
† RMS velocity in decibels (VdB) re 1 micro-inch/second			

Table 8-1. Ground-Borne Vibration (GBV) and Ground-Borne Noise (GBN) Impact Criteria for General Assessment

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch /sec)			GBN Impact Levels (dB re 20 micro Pascals)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1:	65 VdB[4]	65 VdB[4]	65 VdB[4]	N/A[4]	N/A[4]	N/A[4]
Category 2: Residences and buildings where	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

Notes:

1. "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.

2. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.

3. "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

4. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research

5. Vibration-sensitive equipment is generally not sensitive to ground-borne noise.

Table 8-2. Ground-Borne Vibration and Noise Impact Criteria for Special Buildings

Type of Building or Room	Ground-Borne Vibration Impact		Ground-Borne Noise Impact Levels	
	Frequent 1 Events	Occasional or Infrequent2 Events	Frequent1 Events	Occasional or Infrequent2 Events
Concert Halls TV Studios	65 VdB	65 VdB	25 dBA	25 dBA
Recording Studios Auditoriums	65 VdB	65 VdB	25 dBA	25 dBA
Theaters	65 VdB	65 VdB	25 dBA	25 dBA
	72 VdB	80 VdB	30 dBA	38 dBA
	72 VdB	80 VdB	35 dBA	43 dBA

Notes:

1."Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category. 2."Occasional or Infrequent Events" is defined as fewer than 70 vibration events per day. This category includes most commuter rail systems.

3.If the building will rarely be occupied when the trains are operating, there is no need to consider impact. As an example, consider locating a commuter rail line next to a concert hall. If no commuter trains will operate after 7 pm, it should be rare that the trains interfere with the use of the hall.

71	0.019	0.044	0.135
72	0.018	0.043	0.132
73	0.018	0.042	0.129
74	0.017	0.041	0.126
75	0.017	0.040	0.124
76	0.017	0.040	0.121
77	0.016	0.039	0.119
78	0.016	0.038	0.117
79	0.016	0.037	0.115
80	0.016	0.037	0.113
81	0.015	0.036	0.110
82	0.015	0.035	0.108
83	0.015	0.035	0.106
84	0.014	0.034	0.105
85	0.014	0.033	0.103
86	0.014	0.033	0.101
87	0.014	0.032	0.099
88	0.013	0.032	0.098
89	0.013	0.031	0.096
90	0.013	0.031	0.094
91	0.013	0.030	0.093
92	0.013	0.030	0.091
93	0.012	0.029	0.090
94	0.012	0.029	0.088
95	0.012	0.028	0.087
96	0.012	0.028	0.086
97	0.012	0.027	0.084
98	0.011	0.027	0.083
99	0.011	0.027	0.082
100	0.011	0.026	0.081
101	0.011	0.026	0.079
102	0.011	0.025	0.078
103	0.011	0.025	0.077
104	0.010	0.025	0.076
105	0.010	0.024	0.075
106	0.010	0.024	0.074
107	0.010	0.024	0.073
108	0.010	0.023	0.072
109	0.010	0.023	0.071
110	0.010	0.023	0.070
111	0.010	0.022	0.069
112	0.009	0.022	0.068
113	0.009	0.022	0.067
114	0.009	0.022	0.066
115	0.009	0.021	0.065
116	0.009	0.021	0.064
117	0.009	0.021	0.064
118	0.009	0.020	0.063
119	0.009	0.020	0.062
120	0.008	0.020	0.061
121	0.008	0.020	0.060
122	0.008	0.019	0.060
123	0.008	0.019	0.059
124	0.008	0.019	0.058
125	0.008	0.019	0.058
126	0.008	0.019	0.057
127	0.008	0.018	0.056
128	0.008	0.018	0.056
129	0.008	0.018	0.055
130	0.008	0.018	0.054
131	0.007	0.018	0.054
132	0.007	0.017	0.053
133	0.007	0.017	0.052
134	0.007	0.017	0.052
135	0.007	0.017	0.051
136	0.007	0.017	0.051
137	0.007	0.016	0.050
138	0.007	0.016	0.050
139	0.007	0.016	0.049
140	0.007	0.016	0.049
141	0.007	0.016	0.048
142	0.007	0.016	0.048
143	0.007	0.015	0.047
144	0.006	0.015	0.047
145	0.006	0.015	0.046
146	0.006	0.015	0.046
147	0.006	0.015	0.045
148	0.006	0.015	0.045
149	0.006	0.014	0.044
150	0.006	0.014	0.044
151	0.006	0.014	0.043
152	0.006	0.014	0.043
153	0.006	0.014	0.043
154	0.006	0.014	0.042
155	0.006	0.014	0.042
156	0.006	0.013	0.041
157	0.006	0.013	0.041
158	0.006	0.013	0.041
159	0.006	0.013	0.040
160	0.005	0.013	0.040
161	0.005	0.013	0.039
162	0.005	0.013	0.039

Table 12-3. Construction Vibration Damage Criteria(11)

Building Category	PPV (in/sec)	Approximate L_v†
I. Reinforced-concrete, steel or	0.5	102
II. Engineered concrete and	0.3	98
III. Non-engineered timber	0.2	94
IV. Buildings extremely	0.12	90

† RMS velocity in decibels (VdB) re 1 micro-inch/second

163	0.005	0.013	0.039
164	0.005	0.012	0.038
165	0.005	0.012	0.038
166	0.005	0.012	0.038
167	0.005	0.012	0.037
168	0.005	0.012	0.037
169	0.005	0.012	0.037
170	0.005	0.012	0.036
171	0.005	0.012	0.036
172	0.005	0.012	0.036
173	0.005	0.012	0.035
174	0.005	0.011	0.035
175	0.005	0.011	0.035
176	0.005	0.011	0.034
177	0.005	0.011	0.034
178	0.005	0.011	0.034
179	0.005	0.011	0.034
180	0.005	0.011	0.033
181	0.005	0.011	0.033
182	0.005	0.011	0.033
183	0.004	0.011	0.033
184	0.004	0.011	0.032
185	0.004	0.010	0.032
186	0.004	0.010	0.032
187	0.004	0.010	0.031
188	0.004	0.010	0.031
189	0.004	0.010	0.031
190	0.004	0.010	0.031
191	0.004	0.010	0.030
192	0.004	0.010	0.030
193	0.004	0.010	0.030
194	0.004	0.010	0.030
195	0.004	0.010	0.030
196	0.004	0.010	0.029
197	0.004	0.009	0.029
198	0.004	0.009	0.029
199	0.004	0.009	0.029
200	0.004	0.009	0.028
201	0.004	0.009	0.028
202	0.004	0.009	0.028
203	0.004	0.009	0.028
204	0.004	0.009	0.028
205	0.004	0.009	0.027
206	0.004	0.009	0.027
207	0.004	0.009	0.027
208	0.004	0.009	0.027
209	0.004	0.009	0.027
210	0.004	0.009	0.026
211	0.004	0.009	0.026
212	0.004	0.009	0.026
213	0.004	0.008	0.026
214	0.004	0.008	0.026
215	0.004	0.008	0.026
216	0.004	0.008	0.025
217	0.003	0.008	0.025
218	0.003	0.008	0.025
219	0.003	0.008	0.025
220	0.003	0.008	0.025
221	0.003	0.008	0.025
222	0.003	0.008	0.024
223	0.003	0.008	0.024
224	0.003	0.008	0.024
225	0.003	0.008	0.024
226	0.003	0.008	0.024
227	0.003	0.008	0.024
228	0.003	0.008	0.023
229	0.003	0.008	0.023
230	0.003	0.008	0.023
231	0.003	0.007	0.023
232	0.003	0.007	0.023
233	0.003	0.007	0.023
234	0.003	0.007	0.022
235	0.003	0.007	0.022
236	0.003	0.007	0.022
237	0.003	0.007	0.022
238	0.003	0.007	0.022
239	0.003	0.007	0.022
240	0.003	0.007	0.022
241	0.003	0.007	0.022
242	0.003	0.007	0.021
243	0.003	0.007	0.021
244	0.003	0.007	0.021
245	0.003	0.007	0.021
246	0.003	0.007	0.021
247	0.003	0.007	0.021
248	0.003	0.007	0.021
249	0.003	0.007	0.020
250	0.003	0.007	0.020
251	0.003	0.007	0.020
252	0.003	0.007	0.020
253	0.003	0.007	0.020
254	0.003	0.006	0.020
255	0.003	0.006	0.020
256	0.003	0.006	0.020
257	0.003	0.006	0.020
258	0.003	0.006	0.019

259	0.003	0.006	0.019
260	0.003	0.006	0.019
261	0.003	0.006	0.019
262	0.003	0.006	0.019
263	0.003	0.006	0.019
264	0.003	0.006	0.019
265	0.003	0.006	0.019
266	0.003	0.006	0.019
267	0.003	0.006	0.018
268	0.003	0.006	0.018
269	0.003	0.006	0.018
270	0.003	0.006	0.018
271	0.002	0.006	0.018
272	0.002	0.006	0.018
273	0.002	0.006	0.018
274	0.002	0.006	0.018
275	0.002	0.006	0.018
276	0.002	0.006	0.018
277	0.002	0.006	0.017
278	0.002	0.006	0.017
279	0.002	0.006	0.017
280	0.002	0.006	0.017
281	0.002	0.006	0.017
282	0.002	0.006	0.017
283	0.002	0.006	0.017
284	0.002	0.005	0.017
285	0.002	0.005	0.017
286	0.002	0.005	0.017
287	0.002	0.005	0.017
288	0.002	0.005	0.016
289	0.002	0.005	0.016
290	0.002	0.005	0.016
291	0.002	0.005	0.016
292	0.002	0.005	0.016
293	0.002	0.005	0.016
294	0.002	0.005	0.016
295	0.002	0.005	0.016
296	0.002	0.005	0.016
297	0.002	0.005	0.016
298	0.002	0.005	0.016
299	0.002	0.005	0.016
300	0.002	0.005	0.015
301	0.002	0.005	0.015
302	0.002	0.005	0.015
303	0.002	0.005	0.015
304	0.002	0.005	0.015
305	0.002	0.005	0.015
306	0.002	0.005	0.015
307	0.002	0.005	0.015
308	0.002	0.005	0.015
309	0.002	0.005	0.015
310	0.002	0.005	0.015
311	0.002	0.005	0.015
312	0.002	0.005	0.015
313	0.002	0.005	0.015
314	0.002	0.005	0.014
315	0.002	0.005	0.014
316	0.002	0.005	0.014
317	0.002	0.005	0.014
318	0.002	0.005	0.014
319	0.002	0.005	0.014
320	0.002	0.005	0.014
321	0.002	0.005	0.014
322	0.002	0.005	0.014
323	0.002	0.005	0.014
324	0.002	0.005	0.014
325	0.002	0.004	0.014
326	0.002	0.004	0.014
327	0.002	0.004	0.014
328	0.002	0.004	0.014
329	0.002	0.004	0.013
330	0.002	0.004	0.013
331	0.002	0.004	0.013
332	0.002	0.004	0.013
333	0.002	0.004	0.013
334	0.002	0.004	0.013
335	0.002	0.004	0.013
336	0.002	0.004	0.013
337	0.002	0.004	0.013
338	0.002	0.004	0.013
339	0.002	0.004	0.013
340	0.002	0.004	0.013
341	0.002	0.004	0.013
342	0.002	0.004	0.013
343	0.002	0.004	0.013
344	0.002	0.004	0.013
345	0.002	0.004	0.013
346	0.002	0.004	0.013
347	0.002	0.004	0.012
348	0.002	0.004	0.012
349	0.002	0.004	0.012
350	0.002	0.004	0.012
351	0.002	0.004	0.012
352	0.002	0.004	0.012
353	0.002	0.004	0.012
354	0.002	0.004	0.012

355	0.002	0.004	0.012
356	0.002	0.004	0.012
357	0.002	0.004	0.012
358	0.002	0.004	0.012
359	0.002	0.004	0.012
360	0.002	0.004	0.012
361	0.002	0.004	0.012
362	0.002	0.004	0.012
363	0.002	0.004	0.012
364	0.002	0.004	0.012
365	0.002	0.004	0.012
366	0.002	0.004	0.011
367	0.002	0.004	0.011
368	0.002	0.004	0.011
369	0.002	0.004	0.011
370	0.002	0.004	0.011
371	0.002	0.004	0.011
372	0.002	0.004	0.011
373	0.002	0.004	0.011
374	0.002	0.004	0.011
375	0.002	0.004	0.011
376	0.002	0.004	0.011
377	0.002	0.004	0.011
378	0.002	0.004	0.011
379	0.002	0.004	0.011
380	0.002	0.004	0.011
381	0.001	0.004	0.011
382	0.001	0.004	0.011
383	0.001	0.004	0.011
384	0.001	0.003	0.011
385	0.001	0.003	0.011
386	0.001	0.003	0.011
387	0.001	0.003	0.011
388	0.001	0.003	0.011
389	0.001	0.003	0.010
390	0.001	0.003	0.010
391	0.001	0.003	0.010
392	0.001	0.003	0.010
393	0.001	0.003	0.010
394	0.001	0.003	0.010
395	0.001	0.003	0.010
396	0.001	0.003	0.010
397	0.001	0.003	0.010
398	0.001	0.003	0.010
399	0.001	0.003	0.010
400	0.001	0.003	0.010
401	0.001	0.003	0.010
402	0.001	0.003	0.010
403	0.001	0.003	0.010
404	0.001	0.003	0.010
405	0.001	0.003	0.010
406	0.001	0.003	0.010
407	0.001	0.003	0.010
408	0.001	0.003	0.010
409	0.001	0.003	0.010
410	0.001	0.003	0.010
411	0.001	0.003	0.010
412	0.001	0.003	0.010
413	0.001	0.003	0.010
414	0.001	0.003	0.010
415	0.001	0.003	0.010
416	0.001	0.003	0.009
417	0.001	0.003	0.009
418	0.001	0.003	0.009
419	0.001	0.003	0.009
420	0.001	0.003	0.009
421	0.001	0.003	0.009
422	0.001	0.003	0.009
423	0.001	0.003	0.009
424	0.001	0.003	0.009
425	0.001	0.003	0.009
426	0.001	0.003	0.009
427	0.001	0.003	0.009
428	0.001	0.003	0.009
429	0.001	0.003	0.009
430	0.001	0.003	0.009
431	0.001	0.003	0.009
432	0.001	0.003	0.009
433	0.001	0.003	0.009
434	0.001	0.003	0.009
435	0.001	0.003	0.009
436	0.001	0.003	0.009
437	0.001	0.003	0.009
438	0.001	0.003	0.009
439	0.001	0.003	0.009
440	0.001	0.003	0.009
441	0.001	0.003	0.009
442	0.001	0.003	0.009
443	0.001	0.003	0.009
444	0.001	0.003	0.009
445	0.001	0.003	0.009
446	0.001	0.003	0.009
447	0.001	0.003	0.009
448	0.001	0.003	0.008
449	0.001	0.003	0.008
450	0.001	0.003	0.008

451	0.001	0.003	0.008
452	0.001	0.003	0.008
453	0.001	0.003	0.008
454	0.001	0.003	0.008
455	0.001	0.003	0.008
456	0.001	0.003	0.008
457	0.001	0.003	0.008
458	0.001	0.003	0.008
459	0.001	0.003	0.008
460	0.001	0.003	0.008
461	0.001	0.003	0.008
462	0.001	0.003	0.008
463	0.001	0.003	0.008
464	0.001	0.003	0.008
465	0.001	0.003	0.008
466	0.001	0.003	0.008
467	0.001	0.003	0.008
468	0.001	0.003	0.008
469	0.001	0.003	0.008
470	0.001	0.003	0.008
471	0.001	0.003	0.008
472	0.001	0.003	0.008
473	0.001	0.003	0.008
474	0.001	0.003	0.008
475	0.001	0.003	0.008
476	0.001	0.003	0.008
477	0.001	0.003	0.008
478	0.001	0.003	0.008
479	0.001	0.003	0.008
480	0.001	0.002	0.008
481	0.001	0.002	0.008
482	0.001	0.002	0.008
483	0.001	0.002	0.008
484	0.001	0.002	0.008
485	0.001	0.002	0.008
486	0.001	0.002	0.008
487	0.001	0.002	0.007
488	0.001	0.002	0.007
489	0.001	0.002	0.007
490	0.001	0.002	0.007
491	0.001	0.002	0.007
492	0.001	0.002	0.007
493	0.001	0.002	0.007
494	0.001	0.002	0.007
495	0.001	0.002	0.007
496	0.001	0.002	0.007
497	0.001	0.002	0.007
498	0.001	0.002	0.007
499	0.001	0.002	0.007
500	0.001	0.002	0.007